



MoE



National Solid Waste Management Program

Lot B: Governorate of Kafr El-Sheikh and Governorate of Gharbia

Immediate Priority Measures Report (Final) Governorate of Gharbia August 2017

Lot B implemented by:

COWI A/S

COWI

Chemonics Egypt
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in association with
BC Berlin and Environics Egypt



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Officials at markaz and local unit levels across the Governorate of Gharbia.

1.0 Introduction

1.1 Background

The overall goal of the National Solid Waste Management Program (NSWMP) is, that the national solid waste management system contributes significantly to the sustainable protection of the environment and climate, the conservation of resources and the reduction of health-related hazards for the population in Egypt. The achievement of this goal is planned within the following broad actions:

- The identification and subsequent implementation of Immediate Priority Measures (IPM's) to address urgent solid waste management (SWM) priorities.
- The preparation and subsequent implementation of a Master Plan to guide investments and related accompanying measures that will secure a high quality of SWM over the long term.

Initially, the NSWMP focuses on the following Governorates:

- Assiut
- Qena
- Kafr El-Sheikh
- Gharbia

1.2 Purpose

The purpose of this document is to set out the proposed IPM's that are proposed for implementation in the Governorate of Gharbia, including the methodology that has been used to develop the proposed IPM's and the scope/scale of their design and implementation.

1.3 Context of Immediate Priority Measures

Waste management in the Governorate of Gharbia includes waste collection, treatment, transfer and disposal activities. Main issues associated with these activities include:

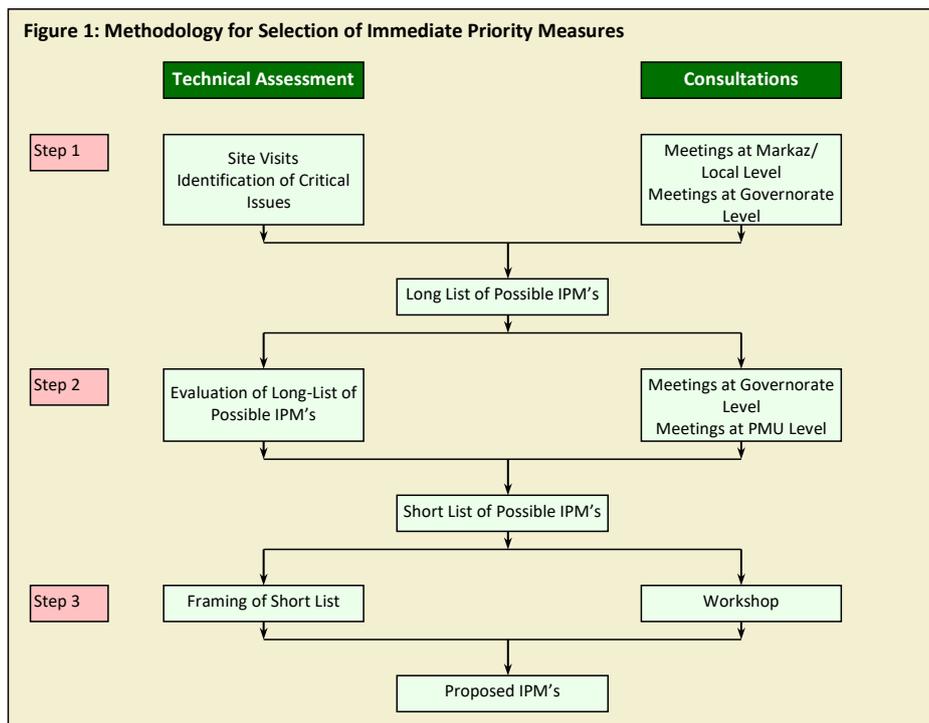
- Waste collection is undertaken at the local level. A key issue throughout the Governorate is a lack of spare parts to perform maintenance, with the result that equipment failure may mean that equipment is not operational for extended periods of time.
- Land use regulations place strict requirements on the location of waste disposal sites. These have resulted in the location of a landfill site to serve Gharbia Governorate in El-Sadat city (Menoufia Governorate). The landfill has significant remaining capacity and will therefore be a part of the Master Plan for the Governorate. The landfill is poorly operated, however, and do not adequately protect human health or the environment.
- The distance from all communities in Gharbia to the landfill is in the range of 40 - 100 km. Therefore transfer stations and long distance transport are required to reach the landfill. Where they exist, however, transfer stations are not properly equipped and are inefficient; the quantity of waste that is received at the transfer stations may greatly exceed the quantity that is transported to the landfill, with the result that large accumulations of waste have occurred at the transfer stations. The accumulations pose a direct threat to human health and the environment; in some cases, the accumulations are on fire.

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- Treatment facilities are also in place at Difra (near Tanta) and Al-Mahalla Al-Kubra. These are operated by the private sector under lease arrangements and bring several benefits: (i) treatment/recovery of waste so that residuals that require transportation and disposal are minimized; (ii) recovery of materials that are sold, therefore generating income; and (iii) creation of employment in accordance with government policy. These facilities will also be included in the Master Plan. However, renovation (Difra) and expansion (Al-Mahalla Al-Kubra) are required if their benefits are to be optimized.

2.0 Methodology

2.1 Overview

The identification of the proposed IPM's has included technical assessment in parallel with stakeholder consultations. Figure 1 illustrates the methodology.



As shown in Figure 1, the methodology for selecting IPM's has been an iterative, three-step process that has included technical assessment and consultation at each step. The methodology is further elaborated below.

2.2 Description of Step-By-Step Methodology

Step 1: Preparation of Long List of Possible IPM's

Site Visits At the outset, site visits have been made to all waste management facilities in the Governorate in order to collect data and identify waste management priorities "on the ground". This has provided the initial baseline from which to select Immediate Priority Measures.

Identification of Critical Issues Critical issues have been identified based on the data and information that has been gathered from site visits. Often, these issues were evident from the waste management situations that exist at the local level.

Meetings at Markaz/Local Level Meetings with markaz/local officials have been important in learning the reasons that problems have arisen, and how these can be avoided in the future. These meetings have also been an important source of information for the project team regarding where problems occur, and the assessment by the project team with local officials on the significance of problems that have been identified.

Meetings at Governorate Level The SWMU has accompanied the CPI on its site visits and at meetings with markaz/local officials throughout the Governorate. This has been of high importance in ensuring that the CPI understands issues in not only local unit terms, but also from the perspective of issues that must be addressed across the Governorate. Meetings have also been held with the Governor in order to share information and to gain perspective at this level.

Long List of Possible Immediate Priority Measures The “long list” of possible IPM’s has been developed based on the work described above. The “long list” describes the situations that exist and that should be considered for “immediate” action through the IPM mechanism. As described below, the selection of specific IPM’s has been subject to the application of selection criteria. Thus, the identification of a situation on the long list does not mean that it will necessarily be addressed through the IPM mechanism, but all IPM’s that are ultimately identified should be included within the long list.

The long list of possible IPM’s is identified in Table 1.

Table 1: Long List of Possible Immediate Priority Measures

No.	Name of City/ Markaz	Short Description of Possible IPM
1	Tanta	Dealing with accumulations located near Carrefour - Tanta Center
2	Al-Mahalla Al-Kubra	Dealing with accumulations in the intermediate station at Mahalla Al-Kubra
3	Zifta	Dealing with accumulations in the intermediate station at the center of Zifta
4	Sammanoud	Dealing with accumulations in the intermediate station at Samannoud Center
5	Zifta/Al-Santah	Development to raise the capacity / operational capacity of the plant to be able to absorb the rest of the remnants of the center of Tanta and the remnants of Zifta and Santah
6	Mahalla Al-Kubra	Develop and raise the operational efficiency of Mahalla Al-Kubra plant.
7	Al-Sadat	Rehabilitation of the landfill cells in Al-Sadat, raising the efficiency of the operation and conducting training courses for the workers and strengthening the necessary equipment
8	Sammanoud/ Mahalla Al-Kubra	Construction of an intermediate station for the separation and transport of waste to receive about 400 tons from the center of Samannoud and north of the center of Mahalla.
9	Zifta/Al-Santah	Construction of an intermediate station for the separation and transport of waste to receive the central wastes of Zifta and Al-Santah.
10	Qoutour, Basion and Kafr El Zayyat	Establishment of a factory for recycling the waste of Qoutour, Basion and Kafr El Zayyat centers
11	Meet El Haroun	Support and improvement of the recycling activities of the tires of the village of Meet El Haroun
12	Al-Mahalla Al-Kubra	Developing and upgrading the efficiency of the mechanical campaign and the maintenance workshops / training of the personnel to carry out the various maintenance in the center and city of Al-Mahalla Al-Kubra
13	Al-Mahalla Al-Kubra	Developing and raising the efficiency of collection / operational capacity / training of workers in the collection system center and the city of Mahalla al-Kubra

No.	Name of City/ Markaz	Short Description of Possible IPM
14	Al-Mahalla Al-Kubra	Repair of idle equipment and spare parts in Al-Mahalla Al-Kubra center and city
15	Tanta	Developing and raising the efficiency of the mechanical campaign and maintenance workshops / training of workers to carry out various maintenance in the center and city of Tanta
16	Tanta	Developing and raising the efficiency of collection / operational capacity / training of workers in the collection system in the center and city of Tanta
17	Tanta	Repair of idle equipment and spare parts in Tanta city center
18	Zifta	Developing and raising the efficiency of the mechanical campaign and maintenance workshops / training of workers to carry out various maintenance in the center and city of Zifta
19	Zifta	Developing and raising the efficiency of collection / operational capacity / training of workers in the collection system in the center and city of Zifta
20	Zifta	Repair of idle equipment and spare parts in the center and city of Zifta
21	Al-Santah	Developing and raising the efficiency of the mechanical campaign and maintenance workshops / training of the workers to conduct various maintenance in the center and city of Al-Santah
22	Al	Developing and raising the efficiency of collection / operational capacity / training of employees of the collection system in the center and city of Al-Santah
23	Al	Repair of idle equipment and provision of spare parts in the center and city of Al-Santah
24	Sammanoud	Developing and upgrading the efficiency of the mechanical campaign and the maintenance workshops / training of the workers on the maintenance of the various centers and city of Samannoud
25	Sammanoud	Developing and raising the efficiency of collection / operational capacity / training of workers in the collection system in the center and city of Samannoud
26	Sammanoud	Repair of idle equipment and spare parts in Samannoud center and city
27	Kafr El Zayat	Developing and upgrading the efficiency of the mechanical campaign and maintenance workshops / training of the workers to carry out various maintenance in the center and city of Kafr El Zayat
28	Kafr El Zayat	Developing and raising the efficiency of collection / operational capacity / training of workers in the collection system in the city and Kafr El Zayat
29	Kafr El Zayat	Repairing idle equipment and providing spare parts in Kafr El Zayat city center
30	Qotor	Developing and raising the efficiency of the mechanical campaign and maintenance workshops / training of the workers on the maintenance of various centers and city of Qotour
31	Qotour	Developing and raising the efficiency of collection / operational capacity / training of workers in the collection system in the center and city of Qotour
32	Qotour	Repairing idle equipment and spare parts in Qotour City Center
33	Basion	Developing and raising the efficiency of the mechanical campaign and maintenance workshops / training of the personnel to carry out various maintenance in the center and city of Basion
34	Basion	Developing and raising the efficiency of collection / operational capacity / training of workers in the collection system in the center and city of Basion
35	Basion	Repair of idle equipment and spare parts in Basion city center

Step 2: Preparation of Short List of Possible Immediate Priority Measures

Evaluation of possible IPM's Technical evaluation of the long list of possible IPM's has included the application of selection criteria to the situations identified on the long list. The following criteria have been applied:

- IPM's must be "no regret" measures that address a serious waste management problem. Thus, the IPM investments should be measures that will be consistent with the recommendations of the Master Plan, and the wider investments that will be made to implement the Master Plan.
- IPM's should be capable of being implemented within 12 months of approval to proceed with the identified measures.
- IPM's should address, as necessary, the underlying issues that caused the creation of the situation so that the situation will not recur following the completion of the IPM.
- IPM's should be feasible in terms of the operation and maintenance of equipment that may be implemented.
- Land should be available for the IPM, and should be under the ownership of the relevant entity.
- Implementation of the IPM should not be delayed because of an absence of environmental permits that may be required.
- IPM's should be agreed with relevant stakeholders.

A preliminary budget of 30 million LE (approx. 1.5 million Euro) was assigned to the IPM's in total, although it was understood that flexibility in this regard might be applied by PMU based on further consultations with stakeholders. As far as possible, it is also desirable that IPM's should create employment.

Meetings at Governorate Level The development of the proposed short-list of measures that have been proposed as IPM's has been undertaken in close collaboration with the SWMU. Upon request, the development of the proposed short-list has included discussion with, and advice from, the Governor.

Meetings at PMU Level Meetings have been held with PMU as part of the development of the short-list of measures that have been proposed as IPM's. Where appropriate, proposed measures have been adjusted and clarified in consultation with PMU.

Short-List of Measures Proposed as Immediate Priority Measures A short-list of measures that have been proposed as Immediate Priority Measures was developed as the outcome of the above actions. As indicated above, the proposed measures identified on the short list were included on the earlier "long list"; however, it was decided that:

- Spare parts and improved maintenance are required across the Governorate, as reflected in the "long list". Accordingly, the short-list included a provision for spare parts and maintenance at the Governorate level. The distribution of the provision will be determined based on further detailed survey as part of the implementation of the immediate priority measures.
- Accumulations of waste have arisen in many cases because transfer stations have not been properly equipped or operated. Accordingly, the short-list includes a provision for mobile

transfers that have the flexibility to address immediate problems while also providing flexible long term solutions for transportation of waste.

The short-list of proposed Immediate Priority Measures is presented in Table 2.

Table 2: Proposed Short-List of Immediate Priority Measures

Name of City/ Markaz	Short Description of Possible IPM
Zifta/Al-Santah	Development to raise the capacity / operational capacity of the Difra plant to be able to absorb the rest of the remnants of the center of Tanta and the remnants of Zifta and Santah
Mahalla Al-Kubra	Develop and raise the operational efficiency of Mahalla Al-Kubra plant to receive organic materials from Sammanoud and north of Al-Mahalla Al-Kubra markaz
Al-Sadat	Rehabilitation of the landfill cells in Al-Sadat, raising the efficiency of the operation and conducting training courses for the workers and strengthening the necessary equipment
Sammanoud/ Al-Mahalla Al-Kubra	Construction of an intermediate station for the separation and transport of waste to receive about 400 tons from the center of Samannoud and north of the center of Mahalla.
Zifta/Al-Santah	Construction of an intermediate station for the separation and transport of waste to receive the central wastes of Zifta and Al-Santah.
Multiple cities/ markaz	Allocation to provide spare parts to support improved maintenance of solid waste management equipment
Multiple cities/ markaz	Allocation for mobile transfer stations; specific locations to be determined

Step 3: Recommendation of Immediate Priority Measures

Framing of Short List The measures included in the Short List of proposed IPM's were framed to allow further discussion of their scope and cost. This included preliminary identification of, as appropriate: (i) the quantities of waste that would require management, (ii) equipment/facility requirements and (iii) cost.

Workshop A Workshop was held on 27 April 2017 in Cairo at which the proposed IPM's were presented and discussed. Agreement was reached between the Minister, Governor and other stakeholders on the measures that should be implemented as IPM's.

A further meeting with the PMU was held on 8 May 2017 in Tanta to further clarify and specify the recommended IPM's.

Proposed Immediate Priority Measures

Table 3 identifies the immediate priority measures that were agreed at the workshop and the subsequent meeting on 8 May 2017. The identified measures are further elaborated in Section 3.

Table 3: Immediate Priority Measures Agreed at Progress Workshop 1

Name of City/ Markaz	Short Description of Possible IPM
Difra	Developing Difra composting plant to improve its efficiency and remove accumulated waste
Al-Mahalla Al-Kubra	Developing Al-Mahala composting plant to increase its capacity/efficiency
Zifta/Al-Santah	Construction of sorting/transfer station for Zifta Markaz

Name of City/ Markaz	Short Description of Possible IPM
Multiple cities/ markaz	Provision of spare parts to support improved maintenance of SWM equipment
Multiple cities/ markaz	Remove the accumulation waste at Carrefour (Tanta), Al-Mahalla Al-Kubra ,Zifta and Samannoud Markaz by transporting wastes to Sadat Landfill. (Note: Initiative to be financed by the MoE and the Governorate of Gharbia).
Sadat landfill serving Gharbia	Rehabilitation , repairing the broken equipment (compactor-loader) , spare parts and training on good operation for Sadat landfill
Basion Markaz	Construction of transfer station for Basion Markaz
Samanoud Markaz	Construction of transfer station for Samanoud Markaz

The Master Plan that will be developed by the Consultant will address the problems/issues identified by possible measures (long-list) that have not been selected as IPM's.

3.0 Selected Immediate Priority Measures

3.1 Overview

The agreed Immediate Priority Measures are presented in this section using a standardized template for each measure. The following points are noted:

- All measures have been agreed between national-level (PMU) and Governorate stakeholders.
- Where required, the national-level (PMU) and Governorate stakeholders have indicated that they will provide strong support to facilitate the issuance of necessary permits.
- The time period estimated to be required for implementation is identified for each measure; the implementation period will begin when approval to proceed is received.

The estimated budget for the recommended immediate priority measures is also identified in Table 4.

Table 4: Selected IPM and Preliminary Estimated Budget of each measure

NO	Name of City/ Markaz	Short Description of Recommended IPM	Preliminary Estimated Budget (in EGP)
1	Difra	Developing Difra composting plant to improve its efficiency and remove accumulated waste	6,200,000
2	Al-Mahalla Al-Kubra	Developing Al-Mahala Al-Kubra composting plant to increase its capacity/efficiency	6,500,000
3	Zifta	Construction of sorting/transfer station for Zifta Markaz	7,100,000
4	Multiple cities/ markaz	Provision of spare parts to support improved maintenance of solid waste management equipment	3,000,000
5	Multiple cities/ markaz	Remove the accumulation waste at Carrefour (Tanta), Al-Mahalla Al-Kubra, Zifta and Samannoud Markaz by transporting wastes to Sadat Landfill.	9,000,000
6	El-Sadat Landfill serving Gharbia Governorate	Rehabilitation , repairing the broken equipment (compactor-loader) , spare parts and training on good operation for Sadat landfill	3,000,000
7	Basion Markaz	Construction of transfer station for Basion Markaz	8,100,000
8	Samanoud Markaz	Construction of transfer station for Samanoud Markaz	7,100,000
Total			50,000,000

Precise budgets for all measures will be established following agreement to proceed with the recommended IPM's, and based on detailed specification for the equipment and facilities (where needed).

3.2 Profiles of Recommended Immediate Priority Measures

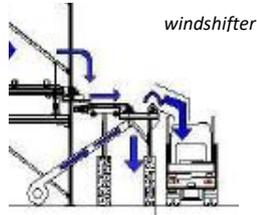
Profiles of each of the recommended Immediate Priority Measures are presented below.

Immediate Priority Measure 1			IPM code
Developing Difra composting plant to improve its efficiency and remove accumulated waste.			GHB - 01
Markaz/City	Village	Governorate	Project type
Tanta city and Markaz	Difra	GHB	Treatment and accumulation Removal
Problems to be addressed: <ul style="list-style-type: none"> Reduction of threat to human health and the environment caused by accumulations that occur because actual processing capacity is below design capacity, resulting in accumulations of waste that threaten human health and the environment. Reduction of quantity (and cost) of waste requiring disposal at Sadat landfill by increased recovery of resources. 			
Project description: <ul style="list-style-type: none"> Developing Difra composting plant for raising its efficiency to achieve its design capacity of 1,280 t/day and enhance the quality of RDF. Waste accumulation removal to provide enough space for composting the accumulation which are 20,000 t. The waste in the plant in the past was set on fire. Improve management to ensure that the environment and human health are not effected. Prepare procurement and tender document and implementation of the rehabilitation of Difra plant : <ul style="list-style-type: none"> Rehabilitation of Difra Plant to raise the current capacity to the design capacity and enhance the quality of RDF as follows : <ul style="list-style-type: none"> 3 wind sifter Loader 2.5 m³ Training program Repairing the equipment Waste accumulation removal to provide enough space for composting (20,000 t) 			
Project Objectives: <ul style="list-style-type: none"> Reorganize facility to improve capacity for fermentation and maturation of the compost. Prevent the waste accumulation in the future. Increase utilization of waste by produce RDF, Recyclables and compost. Minimize the quantity of waste going to Sadat landfill . Protect the human health and environment from the pollution from the accumulated waste that has burned in the past. Create new jobs. 			
Economic Profile: <ul style="list-style-type: none"> Creating new jobs. Private sectors participation in the operation. Local manufactures to modify the plants. Receive the waste from the city and villages in the Markaz. Utilization of waste treatment by produce RDF, Recyclables and compost Maximize the utilization of Recyclables and RDF. Minimize the waste sent to Sadat landfill. Proper environmental operating reducing the cost of final disposal. Save space of land for fermentation and maturation of the compost. 			

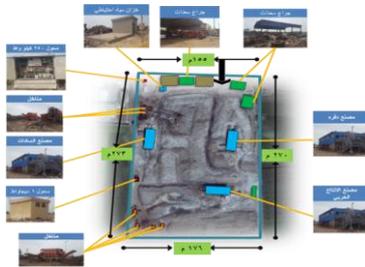
Project Maturity:

Availability of Existing Designs, Concepts, Studies or Other Documents to Justify or Facilitate Project Implementation

Plant exists and requires performance enhancement



IPM Project site:



Project Main Tasks		Responsibly Authority
Task 1	Waste accumulation removal (20,000 t)	Governorate
Task 2	Tender, Procurement documents	Project
Task 3	Purchasing process	MoE or Governorate
Task 4	Training	Project
Required Approvals/Permits		Competent Authority
Task 1	Waste accumulation removal (20,000 t)	Governorate
Tasks 2 and 3	Tender, Procurement documents, and Purchasing process	Ministry of Environment
Tentative Project Budget, EGP		
Waste accumulation removal from Difra Plant (20,000 t)		900,000
Rehabilitation of Difra plant		5,300,000
Total		6,200,000

Project timeline:

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8
Task 1								
Task 2								
Task 3								
Task 4								

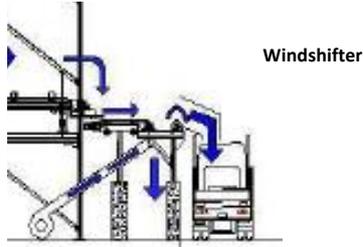
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Immediate Priority Measure 2			IPM code
Developing Al-Mahala composting plant for raising its efficiency			GHB - 02
Markaz/ City	Village	Governorate	Project type
Mahalla City and Markaz		GHB	Treatment
Problems to be addressed: Reduction of quantity (and cost) of waste requiring disposal at Sadat landfill by increased recovery of resources.			
Project description: <ul style="list-style-type: none"> • Development of Al Mahalla plant to increase its efficiency and capacity, and enhance the quality of RDF. • Prepare procurement and tender document and implementation of the rehabilitation of Mahalla plant • Development Al Mahalla Plant to raise the capacity of composting and enhance the quality of RDF as follows: <ul style="list-style-type: none"> • 2 wind shifter • 2 Loader 0.3 m³ • Trommel • 2 lines for processing fines 			
Project Objectives: <ul style="list-style-type: none"> • Prevent the waste accumulation in the future. • Creating new jobs. • Reorganize facility to create increased capacity for fermentation and maturation of the compost. • Utilization of waste by producing RDF, Recyclables and compost. • Minimize the quantity of waste going to Sadat landfill. • Protect the human health and environment from the pollution, which will coming from the burned waste. 			
Economic Profile: <ul style="list-style-type: none"> • Creating new jobs. • Private sectors participation in the operation. • Local manufactures to modify the plants. • Receive the waste from the city and villages in the Markaz. • Utilization of waste treatment by produce RDF, Recyclables and compost. • Maximize the utilization of Recyclables and RDF. • Minimize the waste going to Sadat landfill. • Proper environmental operating reducing the cost of final disposal. • Save space of land for fermentation and maturation of the compost. 			

Project Maturity:

Availability of Existing Designs, Concepts, Studies or Other Documents to Justify or Facilitate Project Implementation

Plant exists and can be more effectively used; project will maximize impact of existing infrastructure



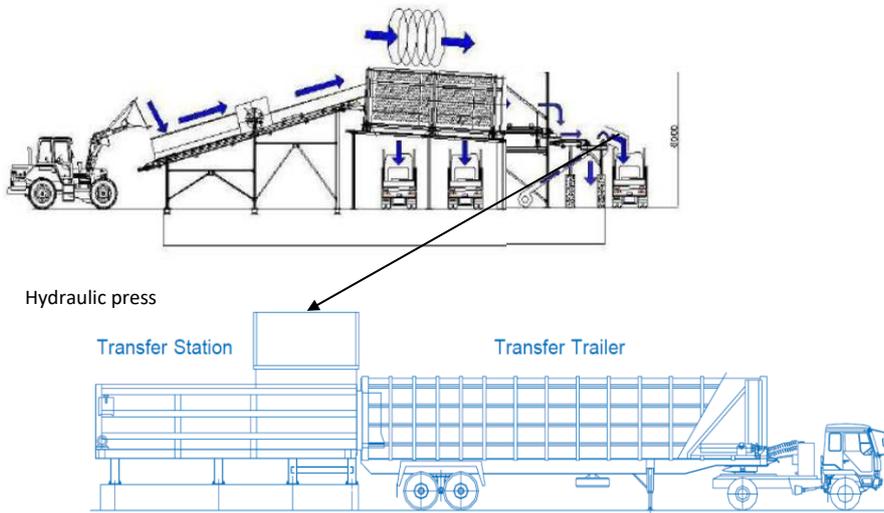
IPM Project site:



Project Main Tasks		Responsibly Authority
Task 1	Tender, Procurement documents	Project
Task 2	Purchasing process	MoE or Governorate
Task 3	Training	Project
Task 4	Land expansion	Governorate
Required Approvals/Permits		Competent Authority
Tasks 1 and 2	Tender, Procurement documents, and Purchasing process	MoE
Task 3	Training	Governorate
Task 4	Land expansion	Governorate
Tentative Project Budget, EGP		
Rehabilitation of Al Mahala plant		6,500,000
Total		6,500,000

Project timeline								
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8
Task 1								
Task 2								
Task 3								
Task 4								

Immediate Priority Measure 3			IPM code
Construction of sorting/transfer station for Zifta Markaz			GHB - 03
Markaz/City	Village	Governorate	Project type
Zifta city - Markaz		GHB	Transfer station - Sorting
Problem to be addressed:			
Reduction of quantity (and cost) of waste requiring disposal at Sadat landfill by: (i) increased recovery of resources; (ii) utilization of an efficient transfer station/long distance transport system.			
Project description:			
<ul style="list-style-type: none"> • Construction of one transfer station for Zifta Markaz; sorting capacity (recyclable materials and RDF) 20 tons /hour to meet waste generation of 280 tons/day. • Required equipment includes two small loaders, two tractors with trailer and head of truck and trailer for transferring materials. • Stationery equipment are conveyer, screen, wind shifter and hydraulic press. • Civil works. • The land in Zifta will be available after removing accumulations on site. 			
Project Objectives:			
<ul style="list-style-type: none"> • Daily transfer of waste from transfer station to prevent the waste accumulation in the city. • Reduction of the transfer cost. • RDF and recyclables to be recovered and sold • Transfer of remaining materials only to treatment site. • Protect the human health and environment from pollution. 			
Economic Profile:			
<ul style="list-style-type: none"> • Creating new jobs. • Private sectors participation in the operation. • Local manufactures of recycling plants. • Receive waste from the city and villages in the Markaz. 			
Project Maturity:			
<i>Availability of Existing Designs, Concepts, Studies or Other Documents to Justify or Facilitate Project Implementation</i>			
Concept (to be confirmed)			



IPM Project site:



Project Main Tasks		Responsibly Authority
Task 1	Site availability in one city	Governorate
Task 2	Site preparation	Governorate
Task 3	Designing, Tender, Procurement documents	Project
Task 4	Purchasing process	MoE or Governorate
Task 5	Storage of equipment & guards	Governorate
Task 6	Implementations	Project and Governorate
Task 7	Training	Governorate
Required Approvals/Permits		Competent Authority
Tasks 1 and 2	Site preparation	Governorate
Tasks 3 and 4	Design, Tender, Procurement documents, and Purchasing process	MoE
Tasks 5 and 6	Storage of equipment & guards and Implementations	Governorate

Tentative Project Budget, EGP								
Transfer Station -Sorting	7,100,000							
Total	7,100,000							
Project timeline								
	Month 2	Month 4	Month 6	Month 8	Month 10	Month 12	Month 14	Month 16
Task 1								
Task 2								
Task 3								
Task 4								
Task 6								
Task 7								

Immediate Priority Measure 4			IPM code
Provide spare parts and maintenance tools to maintenance the non working equipment and maintenance work in all Markaz and cities			GHB - 04
Markaz/City	Village	Governorate	Project type
All Markaz		GHB	Spare Parts and Maintenance
<p>Problem to be addressed:</p> <p>Inadequate supply and management of spare parts to ensure that SWM equipment is able to operate continually and efficiently.</p>			
<p>Project description:</p> <ul style="list-style-type: none"> • Provide the needed spare parts for maintenance the equipment to improve the primary and secondary collections. • Improve the efficiency of the collection and transportation system. 			
<p>Project Objectives:</p> <ul style="list-style-type: none"> • Maintenance the non-working equipment. • Increase the equipment efficiency. • Improve the primary and secondary waste collection. • Save time and efforts in the SWM. • Creating new jobs. • Protect the environment and human health from the equipment pollution. 			
<p>Economic Profile:</p> <ul style="list-style-type: none"> • Creating new jobs. • Private sectors participation in the operation. • Pollution prevention and environmental protections. 			
<p>Project Maturity:</p> <p><i>Availability of Existing Designs, Concepts, Studies or Other Documents to Justify or Facilitate Project Implementation</i> Documents to be prepared to specify precise spare parts requirements at local level</p>			
<p>IPM Project site:</p> 			

Project Main Tasks		Responsibly Authority						
Task 1	List of spare parts and broken equipment	Governorate						
Task 2	Tender, Procurement documents	Project						
Task 3	Purchasing process	MoE or Governorate						
Task 4	Training	Governorate						
Required Approvals/Permits		Competent Authority						
Task 1	List of spare parts and broken equipment	Governorate						
Tasks 2 and 3	Tender, Procurement documents, and Purchasing process	MoE						
Tentative Project Budget, EGP								
Spare parts and maintenance needs		3,000,000						
Total		3,000,000						
Project timeline								
	Month 2	Month 4	Month 6	Month 8	Month 10	Month 12	Month 14	Month 16
Task 1								
Task 2								
Task 3								
Task 4								

Immediate Priority Measure 5			IPM code
Remove the accumulations of waste at Carrefour (Tanta), Al-Mahalla Al-Kubra, Zifta and Samannoud Markaz by transporting it to Sadat Landfill.			GHB - 05
Markaz/City	Village	Governorate	Project type
Tanta, Mahala , Zifta and Samanoud		GHB	Accumulation Removal
Problem to be addressed:			
Large accumulations of waste in urban areas that are a direct threat to human health and the environment.			
Project description:			
<ul style="list-style-type: none"> Removal of the accumulated waste at Carrefour, Mahala, Zifta and Samannoud Markaz. The waste burns, and pollutes the environment and affects the human health. The total accumulation of waste are about 200,000 tons. 			
Project Objectives:			
<ul style="list-style-type: none"> Remove the accumulation from this areas. Find a free space for establishing new projects. Increase waste segregation efficiency and the quantity of recycling materials. Good operation for the new collection system. Prevent the burning of waste and protect the environment and human health. 			
Economic Profile:			
<ul style="list-style-type: none"> Creating new jobs. Private sectors participation in the operation of removing. Save space of land for new projects. Save the diseases and drugs expenses resulting from the pollution prevention and environmental protections. 			
Project Maturity:			
<i>Availability of Existing Designs, Concepts, Studies or Other Documents to Justify or Facilitate Project Implementation</i> Estimates of waste quantity that requires removal (200,000 tons) has been prepared.			
IPM Project site:			
			
Samanoud accumulation	Zifta accumulation	Al Mahala accumulation	

Immediate Priority Measure 6			IPM code
Rehabilitation, repairing the broken equipment (compactor-loader) , spare parts and training on good operation for Sadat landfill			GHB - 06
Markaz/City	Village	Governorate	Project type
Sadat city		GHB	Rehabilitation -repairing the equipment
Problem to be addressed: Poor operation of Sadat waste disposal site that does not adequately protect human health and the environment.			
Project description: <ul style="list-style-type: none"> • Rehabilitation of landfill cells at Sadat landfill. • Increase of the vertical extension of the cells so that the cells reach the design height. • Site operation rearrangement. • Repairing the non-working equipment. • Rehabilitation of the drying basins. • Rehabilitation of the leachate and gases nets. 			
Project Objectives: <ul style="list-style-type: none"> • To contain all the design capacity. • Apply the right environmental steps for filling the cells with waste. • Rehabilitation of the leachate and gases nets. • Rehabilitation of the drying basins. • Repairing the non-working equipment. • Creating new jobs. • Protect the human health and environment from the pollution coming from the burned waste. 			
Economic Profile: <ul style="list-style-type: none"> • Creating new jobs. • Private sectors participation in the operation • Local manufacture of modification cells. • Save the diseases and drugs expenses resulting from the pollution prevention and environmental protections. 			
Project Maturity: <i>Availability of Existing Designs, Concepts, Studies or Other Documents to Justify or Facilitate Project Implementation</i>			

IPM Project site:



Sadat landfill layout



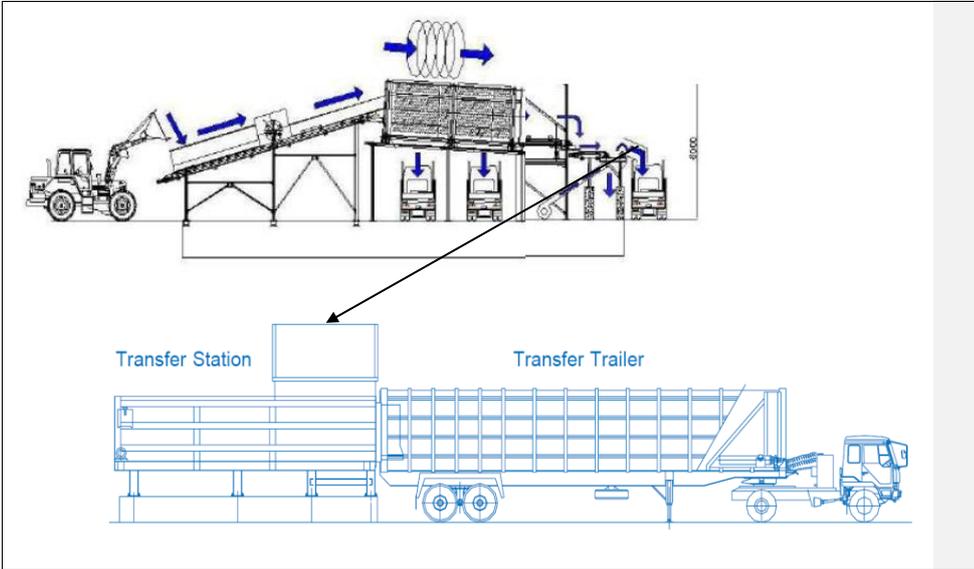
Leachate



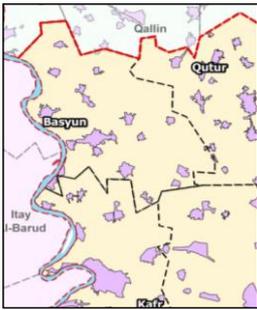
Sadat cells

4.1.1 Project Main Tasks		Responsibility						
Task 1	Site operation rearrangement	Governorate						
Task 2	Tender, Procurement documents for Rehabilitation the cells	Project						
Task 3	Purchasing and repairing process	MoE or Governorate						
Task 4	Implementations	Governorate						
Task 5	Training	Governorate						
4.1.2 Required Approvals/Permits		Competent Authority						
Task 1	Internal roadbed or road paving	Governorate						
Tasks 2 and 3	Studies, Tender, Procurement documents, repairing and Purchasing process	MoE and Governorate						
Tasks 4	Implementations	Governorate						
4.1.3 Tentative Project Budget, LE								
Repairing the equipment	1,000,000							
Rehabilitation of the cells	2,000,000							
Total	3,000,000							
4.1.4 Project timeline								
Time \ Activities	Month 2	Month 4	Month 6	Month 8	Month 10	Month 12	Month 14	Month 16
Task 1								
Task 2								
Task 3								
Task 4								
Task 5								

Immediate Priority Measure 7			IPM code
Construction of sorting/transfer station for Basion Markaz			GHB - 07
Markaz/City	Village	Governorate	Project type
Basion city and Markaz		GHB	Transfer station - Sorting
Problem to be addressed:			
Reduction of quantity (and cost) of waste requiring disposal at Sadat landfill by: (i) increased recovery of resources; (ii) utilization of an efficient transfer station/long distance transport system.			
Project description:			
<ul style="list-style-type: none"> • Construction of one transfer station for Basion Markaz. • Basion Transfer Station with sorting; capacity of 15 tons /hour. • The quantity of waste generated at Basion Markaz is 180 tons / day. • The equipment required for Basion transfer station with sorting are 2 small loader – 2 tractor with trailer, head of truck , trailer for transferring the RDF and fine line . • Stationery equipment are conveyer, screen, wind shifter and hydraulic press. • Civil work. • The land in Basion city will be available after removing of the accumulations on site. 			
Project Objectives:			
<ul style="list-style-type: none"> • Daily transfer of waste from transfer station to prevent the waste accumulation in the city. • Reduction of the transfer cost. • RDF and recyclables to be recovered and sold • Transfer of remaining materials only to treatment site. • Protect the human health and environment from pollution. 			
Economic Profile:			
<ul style="list-style-type: none"> • Creating new jobs. • Private sectors participation in the operation. • Local manufactures of recycling plants. • Receive waste from the city and villages in the Markaz. 			
Project Maturity:			
<p><i>Availability of Existing Designs, Concepts, Studies or Other Documents to Justify or Facilitate Project Implementation</i></p> <p>Concept (to be confirmed)</p>			



IPM Project site:

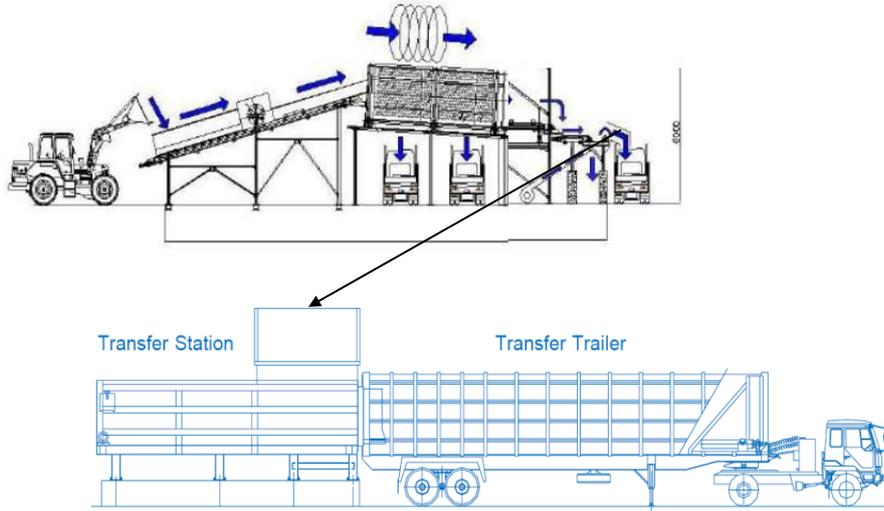


4.1.1 Project Main Tasks		Responsibly Authority
Task 1	Site availability	Governorate
Task 2	Site preparation	Governorate
Task 3	Designing, Tender, Procurement documents	Project
Task 4	Purchasing process	MoE or Governorate
Task 5	Storage of equipment & guards	Governorate
Task 6	Implementations	Project and Governorate
Task 7	Training	Governorate
4.1.2 Required Approvals/Permits		Competent Authority
Tasks 1 and 2	Site availability and Site preparation	Governorate
Tasks 3 and 4	Design, Tender, Procurement documents, and Purchasing process	MoE
Tasks 5 and 6	Storage of equipment & guards and Implementations	Governorate

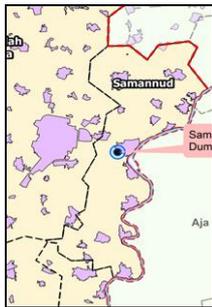
4.1.3 Tentative Project Budget, EGP	
Transfer Station -Sorting	8,100,000
Total	8,100,000

4.1.4 Project timeline								
	Month 2	Month 4	Month 6	Month 8	Month 10	Month 12	Month 14	Month 16
Task 1								
Task 2								
Task 3								
Task 4								
Task 6								
Task 7								

Immediate Priority Measure 8			IPM code
Construction of transfer station for Samanoud Markaz			GHB - 08
Markaz/City	Village	Governorate	Project type
Samanoud city - Markaz		GHB	Transfer station - Sorting
Problem to be addressed:			
Re Hydraulic press cost) of waste requiring disposal at Sadat landfill by: (i) increased recovery of resources; (ii) utilization of an efficient transfer station/long distance transport system.			
Project description:			
<ul style="list-style-type: none"> • Construction of one transfer station for Samanoud Markaz. • Samanoud transfer station with sorting: capacity 15 tons /hour. • The quantity of waste generated at Samanoud Markaz is 190 tons / day. • The equipment required for Samanoud transfer station with sorting are 2 small loader – 2 tractor with trailer, head of truck and trailer for transferring the RDF. • Stationery equipment are conveyer, screen, wind shifter and hydraulic press. • Civil works. • The land in Samanoud city will be available after removing accumulations on site. 			
Project Objectives:			
<ul style="list-style-type: none"> • Daily transfer of waste from transfer station to prevent the waste accumulation in the city. • Reduction of the transfer cost. • RDF and recyclables to be recovered and sold • Transfer of remaining materials only to treatment site. • Protect the human health and environment from pollution. 			
Economic Profile:			
<ul style="list-style-type: none"> • Creating new jobs. • Private sectors participation in the operation. • Local manufactures of recycling plants. • Receive waste from the city and villages in the Markaz. • Waste segregation into RDF, Recycling material, Organic material. 			
Project Maturity:			
<i>Availability of Existing Designs, Concepts, Studies or Other Documents to Justify or Facilitate Project Implementation</i> Concept (to be confirmed)			



IPM Project site:



Project Main Tasks		Responsibly Authority
Task 1	Site availability	Governorate
Task 2	Site preparation	Governorate
Task 3	Designing, Tender, Procurement documents	Project
Task 4	Purchasing process	MoE or Governorate
Task 5	Storage of equipment & guards	Governorate
Task 6	Implementations	Project and Governorate
Task 7	Training	Governorate
Required Approvals/Permits		Competent Authority
Tasks 1 and 2	Site availability and Site preparation	Governorate
Tasks 3 and 4	Design, Tender, Procurement documents, and Purchasing process	MoE
Tasks 5 and 6	Storage of equipment & guards and Implementations	Governorate

Tentative Project Budget, LE								
Transfer Station with - Sorting	7,100,000							
Total	7,100,000							
Project timeline								
Time \ Activities	Month 2	Month 4	Month 6	Month 8	Month 10	Month 12	Month 14	Month 16
Task 1								
Task 2								
Task 3								
Task 4								
Task 6								
Task 7								

4.0 Implementation of Proposed Immediate Priority Measures

Implementation of the proposed Immediate Priority Measures will begin immediately following approval of the proposed measures.

Annex A

List of Equipment (Preliminary) for Immediate Priority Measures

Preliminary estimated equipment requirements

IPMs	Code	Loader 2.5 m3	Loader 0.3 m3	Tractor with Trailer	Head of Truck and Trailer	Conveyor	Trommel	Wind Shifter	Fine Processing Line	Hydraulic Press
Developing Difra composting plant for Raising its efficiency and waste accumulation removal	GHB - 01	1	-	-	-	-	-	3	-	-
Developing Al-Mahala composting plant for raising its efficiency	GHB - 02	-	2	-	-	1	1	2	2	-
Construction of one transfer station for Zifta Markaz Zifta Transfer Station with Sorting with capacity 20 tons /hour	GHB - 03	-	2	2	1	1	1	1	-	1
Construction of one transfer station for Basion Markaz Transfer Station with Sorting with capacity 15 tons /hour	GHB - 07	-	2	3	1	1	1	1	1	1
Construction of one transfer station for Samanoud Markaz Transfer Station with Sorting with capacity 15 tons /hour	GHB - 08	-	2	2	1	1	1	1	-	1
Total		1	8	7	3	4	4	8	3	3
Procurement: Foreign (F) or Local (L)		F	F	Tractor: F Trailer: L	Truck:F Trailer: L	L	L	L	L	L

Notes:

1. Equipment requirements will be finally specified and budgeted following approval to proceed with the recommended immediate priority measures
2. Procurement will be finally specified based on final equipment specifications
3. Spare parts for maintenance (GHB-04), together with their procurement, will be specified following approval of the Immediate Priority Measures