#### **United Nations Development Programme**

Programme of Assistance to the Palestinian People برنامج الأمم المتحدة الإنمائي/ برنامج مساعدة الشعب الفلسطيني



Ref: UNDP/PAL 10-71646 04.08.2017

Your Excellency,

## Subject: Clearance of UXOs, Rubble Removal and Immediate Support for Improvement of Solid Waste Service Management in the Gaza Strip Completion Report

Reference is made to the approval of the Government of Japan dated 12 March 2010 to allocate USD 18,262,799.30 for the implementation of the above-mentioned project in the Gaza Strip.

I am pleased to submit herewith the narrative and financial completion report. The report summarizes the progress of the project as of 31 December 2016, and provides an overview of the achievements, and financial status. The project remaining balance after completion of all project activities is USD 817,714.39, and UNDP will refund the remaining budget through its HQ in NY.

I thank the Government of Japan for its contribution to UNDP and look forward to strengthening our partnership in support the Palestinian People.

Khaled Shahwan

Officer in Charge
UNDP/PAPP

H.E. Takeshi Okubo Ambassador for Palestinian Affairs Representation office of Japan to PA, Ramallah

Fax: 02-2413123

Attached: Clearance of UXOs, Rubble Removal and Immediate Support for Improvement of Solid Waste Service Management in the Gaza Strip Completion Report





# United Nations Development Programme Programme of Assistance to the Palestinian People

**Country:** occupied Palestinian territory

**Donor:** Government of Japan

**Project:** Clearance of UXOs, Rubble Removal and Immediate Support for Improvement of Solid Waste Service Management in the Gaza Strip PAL10-00071646



Completion Report
April 2017





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Programme of Assistance to the Palestinian People برنامج الأمم المتحدة الإنمائي/ برنامج مساعدة الشعب الفلسطيني



#### **UNDP Japan-Funded Project Completion Report**

#### 1. Introduction

**Title of the Project** Clearance of UXOs, Rubble Removal and Immediate

Support for Improvement of Solid Waste Service

Management in the Gaza Strip

Rehabilitating of Salah El-Din Regional Road in the

**Original Project Title** 

Gaza Strip

Award Number PAL 10-00050123

Project Number PAL10-00071646

**Approval Date of Funding** 12 March 2010

**Amount of the Approved Grant** USD 18,262,799.3

**Scheme of the Grant** Emergency Grant

**Expected Period of the Project** 6 Years

**Period covered by the report** (Completion Report) 12 March 2010 – 31 December

2016

Palestinian Authority Environment Quality Authority

**Responsible to the Project** Gaza Municipalities

Solid Waste Service Councils

United Nation Mine Action Services (UNMAS)

Mine Advisory Group (MAG)

Job Creation Programme-President Office (JCP)

Palestinian Environment Friends (PEF)

**Date of the report** 30 April 2017



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#### 2. Description of the Project

#### 2.1 Introduction

The Israeli military operations in December 2008, November 2012 and July 2014 in Gaza exacerbated further the already deteriorated living standards and the socioeconomic conditions of the residents of the Gaza Strip. UNDP field surveys estimated that 600,000 and 2,000,000 tons of concrete rubble were generated as a result of 2008 and 2014 Israeli invasions respectively.

In addition, mismanagement of solid waste has been identified as one of the key factors that contribute to environmental degradation in the Gaza Strip. Since the economic siege on the Gaza Strip, the services provided by the municipalities deteriorated rapidly. Due to the lack of solid waste equipment and transfer vehicles, municipalities have used several temporary dump sites located in dense populated areas. The daily collected waste was transferred to these sites, prior to final disposal. However, solid waste in these temporary dumping sites spread over the surrounding areas and remained for several days before final disposal. This practice posed serious threat to the population's public health, especially residents living close to these locations.

Based on the emerging needs after the December 2008 military invasion, UNDP submitted a request to the GoJ to re-programme the remaining fund of USD 18,262 million allocated for the rehabilitation of Salah El-Din street project to implement the following interventions: 1) removing rubble generated from the 2009 war affected areas, 2) improving collection of primary solid waste, 3) establishing composting facility in Rafah, and 4) rehabilitating solid waste landfill in Johr Al-Dik.

UNDP received the approval of Japan on 12 March 2010 and started the implementation of the above-mentioned interventions in June 2010. The following sections of the report provide background information, summarize the achievements made until December 2016 and provide an overview on the project financial status.







#### 2.2 Background

The project aimed to reduce threats to public health and safeguard the environment through clearance and safe disposal of UXOs, removal of accumulated rubble and improve solid waste collection in the Gaza Strip. Palestinian people's livelihoods in the Gaza Strip and their access to essential services were severely impacted as a result of the Israeli bombardment and military operations during the period from December 2008 until January 2009 and July 2014. A total of 600,000 tons of rubble was generated and more than 25,000 tons of municipal solid waste was accumulated in random dump sites close to residential areas as a result of December 2008-January 2009 military invasion.

The overall situation of solid waste management in the Gaza Strip is weak due to weakened local authorities, as a result of lack of financial and technical capacity, and inadequate infrastructure for proper collection, treatment and disposal of municipal solid waste.

The project intended to generate more than 400,000 work days to residents of the affected areas, improve farmers' accessibility to their fields; collection of solid waste and promotion of composting and recycling. In addition, and as agreed with the GoJ in August 2015, the project contributed to crushing around 200,000 ton of collected rubble after the July 2014 hostilities on Gaza and reuse it in road rehabilitation.

#### 3. Objectives

The overall objective of the project is to protect the population's public health in the targeted areas and safeguard the environment through:

- 1) Clearance and safe disposal of Unexploded Ordnance "UXOs"
- 2) Removal, crushing and reuse of accumulated rubble
- 3) Improvement of solid waste collection, recycling and disposal in the Gaza Strip

Moreover, the project contributed to generating more than 400,000 work days for the residents of the affected areas in the Gaza Strip through improving primary collection of solid waste, disposal and promotion of composting and recycling activities.







#### 3.1 Activities

The project supported the implementation of the following interventions:

#### 3.1.1 Component 1: UXOs Clearance, Safe Disposal and Destruction:

Under this component, Mine Action Group was contracted by UNDP to implement the following activities:

- 1) Carry out mine risk assessment, the process involved assessing if the site has been struck by ordnance and potential for remaining UXO hazard
- 2) Categorize the sites as either having a potential low, medium or high residual UXO risk
- 3) Recommend appropriate safety precautions for the site and clearance methodology
- 4) Provide an auditable report on the potential risk posed by UXOs with designated sites for use by client
- 5) Coordinate with related authorities to transport the required explosives for destruction of UXOs to the identified site
- 6) Undertake the appropriate measures as well as safeguard the environment

#### 3.1.2 Component 2: Rubble Crushing and Reuse

This component included implementing the following activities:

- 1) Carry out land survey and prepare detailed bill of quantities for rehabilitation of damaged roads
- 2) Prepare tender documents, including detailed design and technical specification for the rehabilitation of damaged roads
- 3) Procure and supervise local contractors for crushing of concrete rubbles and rehabilitation of roads

#### 3.1.3 Component 3: Solid Waste Management

The project supported the expansion of Johr Al-Dik Landfill and construction of solid waste material recovery facility in Rafah. The following activities were implemented under this component:

- 1) Finalize solid waste primary collection needs assessment in cooperation with the Municipalities
- 2) Sign MOU between UNDP and local environmental NGO" Friends of







- Environment" for the implementation of recycling and compost facility in Rafah
- 3) Clearance of random solid waste dumping sites from North and Gaza Governorates.
- 4) Develop a Feasibility Study and Detailed Design for Solid Waste Management in the Gaza Strip feasibility study. The study was co-financed by the Islamic Development Bank. In the feasibility study, the Consultant analysed three different alternative scenarios for solid waste management in Gaza until the year 2040. The three scenarios have been analysed in terms of technical, financial, environmental, organizational and political criteria, resulting in the Preferred Municipal Waste Management Scenario for Gaza until the year 2040. The study included an investment plan, with investment packages connected to the preferred solid waste scenario.
- 5) Supervise civil work related to rehabilitation and expansion of Johr Al-Dik landfil

#### 4. Expected Outputs:

The project was designed to deliver the following outputs:

- 1) Reduced risk associated with existence of UXOs and safely removed and disposed of accumulated rubble
- 2) Improved farmers' accessibility to their productive farms
- 3) Increased access to environmentally sound municipal solid waste services

#### 5. Budget Line

The following table summarizes the project budget:

Component	Original Budget USD	Revised Budget (2) by 17 April 2012 USD	Project Site
a. Component 1: UXOs clearance,	1,646,113	316,969	All Gaza Strip
safe disposal and destruction			
b. Component 2: Rubble crushing	3,261,300	615,868	All Gaza Strip
and reuse			
c. Component 3: Solid waste management	12,160,488	15,295,793	All Gaza Strip







Project implementation	832,858	1,115,200	
GMS	1,194,753	1,194,753	
Total	18,262,654	18,626,799	

#### 6. Implementation Process and Results

#### **6.1 Implementation Process**

Throughout the implementation of this project, UNDP worked in close coordination with the Environment Quality Authority, Ministry of National Economy, Gaza Strip Municipalities, Solid Waste Service Councils, United Nation Mine Action Services (UNMAS), Mine Advisory Group (MAG), Job Creation Programme - President Office (JCP) and Palestinian Environment Friends (PEF), to deliver the project results. The project, as per ROJ approval dated 12 March 2010, was originally planned to be completed by March 2012. However, the project time frame was extended until December 2016 to enable the completion of the project's planned outputs, see section 6.3.

#### 6.1.2 Procurement and List of Contracts

Project annual plan, including procurement plans, were prepared and approved at the beginning of each year. Over the implementation period, one letter of agreement was signed with an international NGO for clearance of UXOs, one letter of agreement was signed with local NGO for establishing waste recovery material, one letter of agreement was signed with the Palestinian Job creation programme for improving primary solid waste collection, and around 16 civil work contracts were signed with local contractors for the implementation of rubble removal and crushing, road rehabilitation and expansion of Johr Al-Dik landfill. The following table summarizes all contracts that were signed under each component for implementation of the project activities:







Name of Contractor	Type of Contract	Amount of Expense (US\$)	Duration (month)	Scope of Work	
	Component 1: UXOs clearance, safe disposal and destruction				
Mine Advisory Group (MAG)	Grant agreement	316,969	3	Identification, removal and safe disposal of UXOs and ERW in targeted areas, and conducting risk assessment and training before rubble removal activities started	
	Compo	nent 2: Rubble o	rushing and r	euse	
First Company for Contract for Civil Work		43,389.62	2	Rehabilitation of Al Dakhilia Road in Jabalia/ North Governorate	
First Company for Contracting	Contract for Civil Work	157,751.19	7	Rehabilitation of Al Rasheed road shoulders in Khan Younis by using crushed materials and rehabilitation of Anan, Al Kahlut and El- Baraka roads in Beit Lahia by using crushed materials	
First Company for Contracting	Contract for Civil Work	86,698.50	5	Rehabilitation of Al Adham, road No.1, and road No.2 in Beit Lahia by using crushed materials	





First Company for Contracting	Contract for Civil Work	154,206.18	6	Rehabilitation of Road No.10 and Al Iman Road in Rafah by using crushed materials
Abu Muaileq Company	Contract for Civil Work	173,566	3	Crushing of concrete rubble - Package 10 amendment 1
El Qa'oud Company for General Trading and Contracting	Contract for Civil Work	687,472.67	7	Rehabilitation of Solid Waste Road through Lot 2 (this road was completed in 2014)
Three Brothers Company and Al Tasamoh Company	Contract for Civil Work	675,178.08	6	Rehabilitation of Road No.10 through Lot 1
Rabitta Company for Engineering & Contracting	Contract for Civil Work	920,019.75	9	Crushing of concrete rubble
Farra Bros Co. For Engineering & Contracting	Contract for Civil Work	428,806.17	6	Rehabilitation of solid waste road using crushed material (During 2014 hostilities, this road that was rehabilitated early in 2014, was destroyed and rehabilitated again in 2016)
Saad Sons Co. For Trading and Contracting LTD	Contract for Civil Work	89,917.19	5	Rehabilitation of roads in different location in Gaza and Beit lahia using crushed materials



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	Compo	nent 3: Solid wa	aste managen	nent
First Company for Contracting	Contract for Civil Work	395,842.17	10	Removal of solid waste from random sites in Gaza Governorate through Lot 1
Abdel Hakim Ismail Company	Contract for Civil Work	135,243.50	4	Site preparation for composting site in Rafah
Job Creation Programme (JCP)	Grant Agreement	4,724,920.00	23	Job creation through community clean-up activities
Palestinian Environmental Friends (PEF)	Grant Agreement	770,003	16	Construction of the first sorting and recycling facility in the Gaza Strip, and the activities included sorting, composting of solid waste and marketing of the compost
Engineering and consultancy firm DHV	Contract for Consultancy Services	201,543.13	6	Consultancy services for undertaking feasibility study
Saqqa And Khudary Co. LTD. (SAK)	Contract for Civil Work	4,824,836.87	21	Rehabilitation and expansion of Johr Al Dik dump site in Gaza
Electro co. For trade and contracting	Contract for Civil Work	49,152.12	2	Electrical works at the composting site in Rafah
Kian Company for Contracting	Contract for Civil Work	385,274.82	9	Removal of solid waste from random sites in North Governorate through Lot 2



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### **6.2 Results of the Activities (Output of the Project)**

The following table summarizes the achieved results and obstacles that the project faced during the implementation of activities.

Results	Description	Obstacles	
Result #1 Secured and safe access to the destroyed houses and agricultural damaged facilities.	<ul> <li>By end of December 2010, around 1,851 sites, with some total direct beneficiaries of 11,106 residents, were assessed by Mine Action Group and risk assessment reports were produced and shared with UNDP, cleared and secured by the end of December 2010.</li> </ul>	delays due to delays in getting	
Result #2 Improved farmers' accessibility to their agricultural fields and productive farms.	<ul> <li>A total of 310,760 tons of collected concrete rubble were crushed according to technical specifications. The activity generated 2,400 working days for 12 people of whom one was female.</li> <li>22.4 kilometres of destroyed roads were rehabilitated using crushed material in Gaza, and Northern of Gaza Governorates.</li> <li>About 5 KM of Johr Al-Dik Landfill Street was rehabilitated using crushed materials as base course and about 3 KM of Johr Al-Dik was paved with asphalt</li> </ul>	The project experienced some delays due to: 1) the delay in finalizing and approving the detailed design and the bill of quantities for the identified roads by the municipalities, 2) lack of asphalt material in the local market.	





#### to enable solid waste vehicles to access the landfill sites. Result #3 o Development of the Feasibility Study and Detailed No substantial obstacles were Increased access to Design for Solid Waste Management in the Gaza Strip faced during implementation of environmentally sound municipal feasibility study. The study was co-financed by the iob creation activities and solid waste services. Islamic Development Bank. In the feasibility study, the clearing of the random dumping consultant analysed three different alternative sites. scenarios for solid waste management in Gaza until the Serious delays were year 2040. The three scenarios have been analysis in encountered during terms of technical, financial, environmental. rehabilitation of Johr-Al-Dik organizational and political criteria, resulting in the landfill site and the construction Preferred Municipal Waste Management Scenario for of waste recovery facility, mainly Gaza until the year 2040. The study included an due to: 1) delay in entering investment plan with investment packages connected construction materials into to the preferred solid waste scenario Gaza, and 2) suspension of o One major impact of the Feasibility Study that was works as a result of July 2014 developed under this project is the fact that other hostilities. donors joined forces with UNDP and used the Study to plan and mobilize resources for the Construction of Khan Younis and Rafah Sanitary Landfill. A coordination committee from the World Bank, AFD, the EU, the Islamic Development Bank and UNDP was formed to coordinate efforts and cooperate with





regard to improvement of the Solid Waste Management in the Gaza Strip. This resulted in the mobilization of more than USD 15 million from the EU, WB and AFD, for the construction of the Southern landfill in Rafah, procurement of solid waste equipment and capacity development of the Solid Waste Joint Service Council. Construction works started and the project is expected to be finalized in 2019. The project used the facts and detailed designs that were developed under this project.

- 300,085 work days were generated for 12,710 workers through the implementation of the job creation programme to improve solid waste primary collection in the Gaza Strip.
- More than 4,159 kilometres (a total of 12 roads) of municipal streets were cleaned, 63,532 square kilometres cleaned area and 38,024 cubic meters of debris were collected and removed.
- 12 Random dumping sites were cleared and a total of 159,000 tons of solid waste from these sites were transported to Johr Al-Dik landfill.
- A waste recovery and compost facility was constructed





- in Rafah. The project supported installing solid waste separation facility and provided operational cost for the first year.
- Expanded the capacity of Johr Al-Dik Landfill for additional 5 years. Work included a total of 90,000 square meters of the landfill were levelled, graded and covered by layers of clay, Polyethylene sheets and geotextile. A leachate collection system installed, a storm water system fixed and all electrical works needed for proper operation of the landfill completed. The landfill is currently serving around 60% of the population (around 1.2 million people) in the Gaza Strip where solid waste is being dumped in an environmentally accepted manner.



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#### 6.3 Remarks

During the implementation, period March 2010 to December 2016, the project faced several challenges that required re-visiting and re-adjusting the approved scope of work. The project performance was also critically affected by the Israeli invasion in 2012 and 2014.

The project was originally planned to be completed in June 2012. However, implementation experienced serious delays and was extended several times due to:

- Difficulties in entering construction material into Gaza due to prolonged closing of Gaza entry points.
- Completion of work at Johr Al\_Dik dumping site encountered serious delays as a result of the July 2014 hostilities.
- Delays in the process of finalizing land acquisition for short term intervention in Al Fukhari landfill in Rafah had led to freezing the rehabilitation of the landfill in Rafah and submit a new request for budget reallocation.
- During the last hostilities of July-August 2014, the asphalt layer of the entry road to Johr Al-Dik landfill was damaged again and rehabilitated for the second time through this project.
- A huge part of concrete rubble quantity was removed and crushed by local authorities. Therefore, the shortage of crushed materials impacted the implementation of the planned roads rehabilitation activities.







#### 7. Financial Report

Budget Item	Planned	Revised in 2014	Expense till 31 December 2016	Balance
Construction works	16,235,043.0	15,952,701.0	15,220,790.0	731,911.0
Personnel		889,828.0	819,980.5	69,847.5
Miscellaneous (including designs, surveys, tender docs, etc.)	832,993.7	225,507.7	263,047.17	-37,539.47
Sub-total	17,068,036.7	17,068,036.7	16,303,817.67	764,219.03
UNDP GMS (7%)	1,194,762.6	1,194,762.6	1,141,267.24	53,495.36
Total	18,262,799.3	18,262,799.3	17,445,084.91	817,714.39

#### Notes:

- Project Financial audit was carried out for 2013, 2014, 2015 and 2016 financial statements. No major financial issues were identified and the statements were in conformity of UNDP's financial policies and procedures.
- The project remaining balance after completion of all project activities is USD 817,714.39.







#### 8. Publicity of the Project

Media coverages on waste recovery facility in Rafah:

- o http://www.alhaya.ps/arch\_page.php?nid=224850
- o <a href="http://www.maannews.net/Content.aspx?id=527467">http://www.maannews.net/Content.aspx?id=527467</a>
- o <a href="http://www.qudsnet.com/news/View/228025//#.WPXGfliGOM8">http://www.qudsnet.com/news/View/228025//#.WPXGfliGOM8</a>
- http://www.archive.roayahnews.com/report-opening-the-first-factory-for-thesorting-and-recycling-of-waste-in-the-southern-gaza-strip/
- o <a href="http://www.greenline.com.kw/ArticleDetails.aspx?tp=4462">http://www.greenline.com.kw/ArticleDetails.aspx?tp=4462</a>
- o http://www.middle-east-online.com/?id=141283

#### Media coverage on expansion of Johr El Dik Landfill:

- http://felesteen.ps/details/news/103598/%D9%85%D8%B4%D8%B1%D9%88 %D8%B9-%D9%84%D8%AA%D8%AC%D8%AF%D9%8A%D8%AF-%D9%85% D9%83%D8%A8-%D9%86%D9%81%D8%A7%D9%8A%D8%A7%D8%AA-%D8 %AC%D8%AD%D8%B1-%D8%A7%D9%84%D8%AF%D9%8A%D9%83-%D9% 88%D9%81%D9%82-%D8%A3%D8%B3%D8%A7%D9%84%D9%8A%D8%A8-%D8%B9%D9%84%D9%85%D9%8A%D8%A9.html
- o https://www.alwatanvoice.com/arabic/content/print/452928.html
- o https://www.shasha.ps/news/83460.html

#### Local TV coverage of waste recovery facility:

- o <a href="https://www.youtube.com/watch?v=Rd8FSiUq5LA">https://www.youtube.com/watch?v=Rd8FSiUq5LA</a>
- o https://www.youtube.com/watch?v=2qtt-cqzz-c
- o <u>https://www.youtube.com/watch?v=E0IR\_rEPqKk</u>





#### 9. Pictures





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#### Names of UNDP Officers in charge

**Reporting person:** Hala Othman replaced **Amran** EL Kharouby / Project Manager

**Authorized Project Quality Assurance:** Husam Tubail / Deputy Team Leader, Environment and Natural Resources Unit

Date of submission:

**Supervisor staff with his / her signature:** Rima Abumiddain / Team Leader, Environment and Natural Resources Unit