



صندوق تطوير وإقراض الهيئات المحلية
Municipal Development & Lending Fund

**ENVIRONMENTAL AND SOCIAL
MANAGEMENT PLAN**

AL-NAMSAWI DUMPSITE CLOSURE PROJECT

PREPARED BY



ENGINEERING & MANAGEMENT CONSULTING CENTER (EMCC)

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ACRONYMS

ESIA	Environmental and Social Impacts Assessment
ESMP	Environmental & Social Management Plan
EQA	Environmental Quality Authority
GDP	Gross Domestic Product
GRM	Grievance Redress Mechanism
GS.	Gaza strip
GSWMP	Gaza Solid Waste Management Project
JSC	Joint Service Council
JSC-KRM	Joint Services Council of Khan Younis, Rafah and Middle area
JCP	The Job Creation Program
JD	Jordinian Dinar
L/C/D	Liter/ capita/ day
LGU	Local Government Unit
MDLF	Municipal Development & Lending Fund
MoH	Ministry of Health
MOLG	Ministry of Local Government
MOP	Ministry of Planning
MOPW	Ministry of Public Works
MOTA	Ministry of Tourism and Antiquities
MDLF	Municipal Development and Lending Fund
NIS	New Israeli sheqel
PHC	Primary Health Care
PCBS	Palestinian Central Bureau of Statistics
PAP	Project Affected People
PCR	Physical Cultural Resources
PWA	Palestinian Water Authority
SC	Solid Waste Secondary Collection
SWM	Solid Waste Management
UNDP	United Nation Development Programme
UNRWA	United Nation Relief and Works Agency
WHO	World Health Organization

PROJECT INFORMATION SHEET

REPORT	ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP).
PROJECT TITLE	AL-NAMSAWI DUMPSITE CLOSURE PROJECT.
PROGRAM	THE GAZA SOLID WASTE MANAGEMENT PROJECT (GSWMP).
LOCATION	AL-NAMSAWI DUMPSITE- KHAN YOUNIS- GAZA STRIP – PALESTINE.
BENEFICIARIES	THE POPULATION OF THE KHAN YOUNIS GOVERNORATE AND THE AL-NAMSAWI'S POPULATION PARTICULARLY.
PROJECT DURATION	TWO MONTHS FOR DESIGN/ESMP AND TWO MONTHS FOR CONSTRUCTION.
DONOR	<ul style="list-style-type: none">- THE WORLD BANK GROUP;- FRENCH DEVELOPMENT AGENCY (AFD);- THE EUROPEAN UNION (EU).
IMPLEMENTING AGENCY	MUNICIPAL DEVELOPMENT AND LENDING FUND (MDLF).
OWNER	<ul style="list-style-type: none">- MUNICIPALITY OF KHAN YOUNIS;- JOINT SERVICE COUNCIL FOR SOLID WASTE MANAGEMENT IN THE GOVERNORATES OF KHAN YOUNIS, RAFAH, AND MIDDLE AREA (JSC-KRM).
CONSULTANCY FIRM	ENGINEERING & MANAGEMENT CONSULTING CENTER (EMCC).

EXECUTIVE SUMMARY

Executive Summary

This Environmental and Social Management Plan (ESMP) was prepared for "The Al-Namsawi Dumpsite Closure" which is executed by the Municipal Development & Lending Fund (MDLF) as a component of the Gaza Solid Waste Management Project (GSWMP) which was initiated based on the partnership between the World Bank, French Development Agency (AFD), the European Union, and other donors, to satisfy the Palestinian Environmental Law and Palestinian Environmental Assessment Policy; in addition to the World Bank Safeguards requirements.

Al-Namsawi dumpsite will be closed properly in compliance with engineering and environmental and social standards; mainly, the embankments of the dump site will be enhanced to increase its stability; this will be made by reshaping (cutting large amount of waste and filling) to form an engineering stable shape. The dumpsite will be then covered accordingly by protection layers to ensure its stability and to isolate the waste body and to prevent forming of new leachate from the stormwater. As well, the site will be secured by a fence; unauthorized people will not be allowed to access to the site.

The project is categorized as a "A" project in accordance with the Palestinian Environmental Assessment Policy and WB Environmental Assessment Policy; it requires the preparation and implementation of and Environmental and Social Management Plan as an addendum to the prepared ESIA of the (GSWMP). The project will comprise activities that support rehabilitation and improvements of infrastructure of Al-Namsawi Dumpsite. MDLF contracted with the Engineering and Management Consulting Centre (EMCC) to carry out the EMSP.

The ESMP is prepared to ensure that the project will be Closed in a sound manner and will not cause negative impacts to the environmental resources and social issues. Also, to coordinate the policies, plans, programs and decisions of various parties involved in the project during implementation and monitoring. The ESMP includes a survey of the local applicable regulatory standards and guidelines, description of the existing environment, potential impacts of the development, mitigation measures

المخلص التنفيذي

تم إعداد خطة الإدارة البيئية والاجتماعية (ESMP) لمشروع إغلاق مكب النمسawi، المنفذ من قبل صندوق تطوير وإقراض البلديات (MDLF) كأحد مكونات مشروع إدارة النفايات الصلبة في قطاع غزة (GSWMP) والذي يهدف إلى تحسين خدمات إدارة النفايات الصلبة في قطاع غزة، والذي جاء امتداداً للشراكة بين البنك الدولي ووكالة التنمية الفرنسية (AFD) والاتحاد الأوروبي ومانحين آخرين، وذلك تلبية لمتطلبات قانون البيئة الفلسطيني وسياسة التقييم البيئي الفلسطينية بالإضافة لمتطلبات البنك الدولي البيئية والاجتماعية.

مكب النمسawi سوف يتم إغلاقه بشكل سليم وفقاً للمعايير الهندسية والبيئية والاجتماعية؛ سيتم تعزيز جوانب المكب لزيادة ثباته عن طريق عملية إعادة تشكيل كمية كبيرة من النفايات لتشكيل شكل هندسي مستقر. ومن ثم تغطية المكب بطبقات حماية لضمان ثباته وعزل النفايات ومنع تكون عصارة جديدة بفعل مياه الأمطار، كما سيتم تأمين الموقع بسياج ولن يُسمح للأشخاص غير المصرح لهم بالوصول إلى الموقع.

المشروع مصنف على القائمة "أ" حسب سياسة التقييم البيئي الفلسطينية وسياسة التقييم البيئي في البنك الدولي، وهذا يتطلب إعداد خطة إدارة بيئية واجتماعية (ESMP) ملحقاً لدراسة تقييم الأثر البيئي والاجتماعي لمشروع (GSWMP). المشروع يستهدف الأنشطة التي تدعم إعادة تأهيل وتحسين البنية التحتية لمكب نفايات النمسawi. وقد تعاقد صندوق تطوير وإقراض البلديات (MDLF) مع المركز الاستشاري في الإدارة والهندسة (EMCC) لإعداد خطة الإدارة البيئية والاجتماعية (EMSP).

أعدت خطة الإدارة البيئية والاجتماعية لضمان تنفيذ مشروع إغلاق المكب بطريقة ملائمة بيئياً دون التسبب في أي آثار سلبية على المصادر البيئية والمجتمعية. كذلك تضمن الدراسة اتباع السياسات والخطط والبرامج والقرارات الخاصة بالمؤسسات المعنية بالمشروع خلال مرحلة التنفيذ والمتابعة. وتشمل الخطة مراجعة السياسات والقوانين المحلية ووصف البيئة المحلية والآثار المتوقعة نتيجة التنفيذ والإجراءات الوقائية اللازمة

that needs to be implemented, required training program, schedule of implementation, and cost of implementing the recommendations.

The environmental resources and social issues that are of particular interest to the study are surveyed. A public consultation session was arranged by Khan Younis Municipality in cooperation of the neighborhood committee (Batten Al-Sameen committee). Also, site visits to the project site were conducted to assist in describing, assessing the existing conditions, and summarizing the related potential impacts.

Different significance levels for the impacts are reported. Most of the reported impacts are either negligible or minor impacts. However, the other potential impacts; moderate and major, are limited in nature and will be avoided by providing clear instructions and measures for the implementing and monitoring agencies. Most of the major negative impacts are related to construction-related activities include, rehabilitation, maintenance, levelling, installations, and other risks related to workers health and safety. The project activities are mainly limited to the project site and have minimal impacts on the surrounding environment and community.

The study details the impacts on each environmental and social issue or resource. The following are the key potential impacts during construction phase:

- Water resources: Contamination and pollution of groundwater due to some activities at the site.
- Air Quality and Noise: Dust generation and nuisance value that during dry days may affect health of population (due to trucks movement, reshaping works, cutting and backfilling, removing scattered waste and construction of peripheral embankments).
- Topography and soil: Risk of failure, erosion of soil and soil instability.
- Road and Traffic Safety: Impacts of heavy truck movement (importing sand/clay for coverage and other materials)
- The risk of relocation of some of residential units which are directly affected by the project activities.
- Sharing Information with the community: Negative publicity, misconceptions of neighbors, and lack of acceptance to the project from the side of the local communities.

تطبيقها وبرامج التدريب المطلوبة والجدول الزمني للتنفيذ بالإضافة إلى التكلفة المتعلقة بتطبيق توصيات التقييم والخطة.

تم دراسة الموارد البيئية والعناصر المجتمعية ذات الأهمية الخاصة بالنسبة لخطة الإدارة البيئية. ونظمت بلدية خان يونس لقاء تشاوريا عاما بالتعاون مع لجنة حي بطن السمين، وتم أيضا ترتيب زيارات ميدانية لموقع المشروع للمساعدة في وصف وتقييم الواقع الحالي وتحديد الآثار المحتملة.

وقد تم رصد مستويات ذات أهمية مختلفة للآثار المحتملة. معظم الآثار التي تم رصدها هي إما آثار طفيفة أو يمكن إهمالها. ومع ذلك، فإن الآثار الأخرى ذات الأهمية المتوسطة والكبيرة محدودة بطبيعتها ويمكن تجنبها من خلال توفير تعليمات وتدابير واضحة للمؤسسات المنفذة والمراقبة. معظم الآثار السلبية تتعلق بأنشطة الإنشاء وتشمل إعادة التأهيل والصيانة والتسوية والتركيبات والمخاطر الأخرى المتعلقة بصحة العمال وسلامتهم. معظم أنشطة المشروع محصورة بشكل أساسي داخل موقع المشروع ولها آثار محدودة على البيئة والمجتمع المحيط.

الدراسة تُفصل الآثار على العناصر والمواد البيئية والاجتماعية، وفيما يلي أهم الآثار المحتملة خلال فترة الإنشاء:

- الموارد المائية: تلوث المياه الجوفية نتيجة الأعمال في الموقع.
- جودة الهواء والضوضاء: من المتوقع أن ينتج الغبار و التلوث الضوضائي التي قد تؤثر في أقصى الحالات على صحة الإنسان (تنتج بسبب حركة الشاحنات و إعادة تشكيل المكب وأعمال القطع والردم وإزالة النفايات المتناثرة وإنشاء حواجز على الأطراف).
- التضاريس والتربة: مخاطر الإنهيار، تآكل وعدم استقرار للتربة.
- المواصلات وحركة المرور: الآثار الموقعة من حركة الشاحنات الثقيلة (نقل الطين للتغطية ومواد أخرى).
- مخاطر نقل وإزاحة عدد من البيوت التي تتأثر بشكل مباشر من أعمال المشروع.
- مشاركة المعلومات مع المجتمع: الإشاعة السلبية، والمفاهيم الخاطئة للجيران، وعدم قبول المشروع من جانب المجتمعات المحلية.

- Community Health & safety: Risk of accidents, risk of exposing so health problems due to the dust emission, the gas emission, and the existing of the rodents and other risks related to COVID-19.
- Local Community properties and Infrastructure: Damage any of the properties for the local inhabitants (houses, animal sheds, water tanks, and livelihood materials).
- Occupational and Public Health / Safety for workers: Risk of accidents and injuries due to loading up and loading down (lifting), trucks movement, using of sharp materials, falling, , explosion resulted from exposure of methane gas, suffocation from toxic gases such as methane, hydrogen sulfide and nitrogen gases emitted from the site during levelling and reallocating the solid wastes and risks of transmitted diseases including COVID-19, and infection with infectious diseases.

In spite of some concerns and limited impacts, the project includes several benefits would accrue to the environment and socioeconomic conditions after the implementation of the project. The identified positive environmental impacts would include a healthy environment. This will enhance the quality of life, health and well-being of the citizens. The incidence of pollution-borne diseases among the community would be reduced. This, in turn, will improve the environmental health situation concerning the reduction of health problems associated with solid wastes.

After the closure, the implemented project will have limited impacts, on most of the physical environment factors such as land, water, noise, dust, and air pollution. Economic benefits are gained as short-term job opportunities for local skilled and unskilled laborers.

The main potential impacts (Positive and negative) of the project on physical, biological and socioeconomic aspects were expected during the construction and post-closure phases.

The Environmental and Social Management and monitoring plan was proposed based on the conducted field visits, baseline environmental and social data and the interviews with Municipal development and Lending Fund (MDLF), Joint service council for Solid Waste Management in Khan Younis, Rafah, and Middle

- صحة المجتمع المحلي: مخاطر الحوادث، إمكانية تعرض المجتمع لمشاكل صحية بسبب انبعاثات الأتربة والغازات وانتشار القوارض ، والمخاطر الأخرى المتعلقة بوباء كوفيد19 .
- تضرر المجتمع المحلي والبنية التحتية: قد يحدث إضرار بممتلكات السكان المحليين (منازل ، حظائر للحيوانات، خزانات المياه ، وغيرها من أدوات سبل العيش).
- السلامة والصحة المهنية للعمال: مخاطر الحوادث والإصابات بسبب التحميل والتنزيل (الرفع) ، وحركة الشاحنات، واستخدام المواد الحادة، والسقوط، الانفجارات المتوقعة بسبب غاز الميثان، الإختناق نتيجة تسرب غازات الميثان وكبريتيد الهيدروجين و غازات النيتروجين ، ومخاطر الأمراض المنقولة بما في ذلك وباء كوفيد19 والأمراض الناتجة نتيجة التعامل مع النفايات

بالرغم من بعض الاعتبارات والآثار المحدودة، يشمل المشروع مجموعة من المنافع التي ستعود على البيئة والظروف الاجتماعية والاقتصادية بعد تنفيذ المشروع. الآثار البيئية الإيجابية التي تم تحديدها تشمل بيئة صحية، سيؤدي ذلك إلى تحسين نوعية حياة المواطنين وصحتهم ورفاهيتهم. سيتم تقليل حدوث الأمراض بفعل الملوثات بين المجتمع. وهذا بدوره سيحسن حالة الصحة البيئية فيما يتعلق بالحد من المشاكل الصحية المرتبطة بالنفايات الصلبة.

بعد الإغلاق ، سيكون للمشروع المنفذ تأثيرات محدودة على معظم عوامل البيئة المادية مثل الأرض والمياه والضوضاء والغبار وتلوث الهواء. سيتم توفير فرص مؤقتة للعمال المحليين المهرة وغير المهرة، مما سيؤدي إلى تحقيق فائدة اقتصادية لهم.

وقد تم خلال الدراسة توقع مجموعة الآثار البيئية التي قد تنجم عن المشروع والتي قد تكون إيجابية أو سلبية.

يحتوي هذا التقرير أيضا على خطة إدارة ومراقبة بيئية واجتماعية للمشروع أثناء فترات الإنشاء وما بعد الإغلاق، وقد تم صياغة الخطة بعد عقد عدة زيارات لموقع المشروع، و مراجعة البيانات البيئية والاجتماعية المتوفرة حول طبيعة الموقع، وكذلك بعد عقد لقاءات مع صندوق تطوير وإقراض الهيئات المحلية ومجلس

Area (JSC-KRM), Khan Younis Municipality, and related stakeholders from the local community.

In the event that monitoring indicates that any environmental quality is deteriorating to unacceptable levels, MDLF will coordinate with (JSC-KRM), Khan Younis municipality and the supervision team to correct the procedures that are contributing to the problem and/or undertake necessary engineering procedures.

The mitigation measures should be incorporated into the construction and supervision contracts.

The monitoring management plan includes the responsibility of conducting the mitigation measure, monitoring responsibility, approach of monitoring, and frequency of monitoring. It is the responsibility of contractor in addition to JSC-KRM and MDLF to conduct all mitigation measures in the construction phase, while the MDLF and JSC-KRM monitor the compliance with the mitigation measures frequently. During the post-closure phase, JSC-KRM and Municipality of Khan Younis will be responsible on conducting the mitigation measures.

The contractor is requested to report periodically to the supervision team about the environmental and social compliance at the site, whereas the supervision is requested to review the submitted ES reports and report to MDLF. The MDLF as usual summarizes the compliance measures during the mission of World Bank.

Clear complaint system will be activated for receiving any complaints from the local community during construction and post-closure phases.

الخدمات المشترك وبلدية خانيونس، و عقد ورشة عمل لذوي العلاقة من المجتمع المحلي.

في حالة بينت الرقابة أن أيا من عناصر جودة البيئية قد تدهور إلى مستويات غير مقبولة ، فإن طواقم الصندوق ستقوم بالتنسيق مع المجلس وبلدية خان يونس بالتعاون مع إدارة الإشراف على موقع المشروع لتصحيح إجراءات العمل التي تساهم في المشكلة / أو اتخاذ الإجراءات الهندسية اللازمة.

يجب دمج الإجراءات التخفيفية للآثار البيئية في عقود الإنشاء والإشراف.

إن خطة المراقبة البيئية اشتملت على الإجراءات التخفيفية المطلوبة والجهات المسؤولة عن تنفيذ كل منها، كما اشتملت على طريقة مراقبة ورصد تنفيذ الإجراءات التخفيفية و الجهات المسؤولة عن إجراء المراقبة وكذلك عدد مرات المراقبة. إن من مسؤولية شركة المقاولات إلى جانب المجلس والصندوق القيام بكافة الإجراءات التخفيفية خلال فترة الإنشاء، بينما على صندوق تطوير وإقراض الهيئات المحلية و مجلس الخدمات المشترك مراقبة مدى إمتثال شركة المقاولات للإجراءات المطلوبة بشكل دوري. أما فيما يتعلق بمرحلة متابعة المشروع في مرحلة ما بعد الاغلاق، فإن مسؤولية إجراء الوسائل التخفيفية تقع على عاتق مجلس الخدمات المشترك بالشراكة مع بلدية خانيونس.

على المقاول أن يقوم بتقديم تقارير الإمتثال للإجراءات البيئية والاجتماعية لفريق الإشراف بشكل دوري، حيث يقوم الإشراف بمراجعتها وإعادة تقديمها لصندوق البلديات. وكما جرت العادة يقوم الصندوق بتقديم ملخص الإمتثال للإجراءات في الموقع خلال زيارة فريق البنك الدولي.

سيتم تفعيل نظام تلقي شكاوي من المواطنين لتلقي أي شكاوي خلال مرحلة الإنشاء أو بعد الإغلاق.

1. INTRODUCTION

Solid waste management constitutes a major public service provision that touches the daily lives of the Palestinians having both short and long-term effects on public health and wellbeing. The situation in Gaza Strip is facing alarming technical, environmental, social, institutional and financial challenges within a context of already underfunded service providers. The lack of appropriate sanitary disposal sites is threatening further deterioration to the environment and higher risks of contamination of precious groundwater resources.

1.1 Gaza Solid Waste Management Project Background

The Gaza Solid Waste Management Project (GSWMP) was designed to improve solid waste management services in the Gaza Strip through the provision of efficient and environmentally and socially sound waste management schemes through four components: (i) Solid Waste Transfer and Disposal Facilities, (ii) Institutional Strengthening, (iii) Primary Collection and Resource Recovery, and (iv) Project Management.

Under component one, a new sanitary landfill and its access road were constructed in the southern region of Gaza Strip with a capacity to serve 3 out of Gaza's 5 governorates until year 2027; and it is proposed to serve the entire Gaza Strip until the year 2040. In addition, it would construct transfer stations, two of these transfer stations has already been constructed, one in Khan Younis and the other in Rafah. As well sanitary closure of old disposal sites will be carried out in two locations; Al-Fukhary (Sofa) old dumpsite and Dier Al-Balah Landfill. Both previous disposal sites were stop receiving waste since July 2019. As well to close a third dumpsite (Al-Namsawi dumpsite) in Khan Younis which stop receiving the waste since 2012.

Under component two, citizen engagement activities and awareness programs were conducted, in addition to the establishment of the technical operation unit (TOU) which was responsible on operating JSC-KRM facilities.

Under component three, waste dumping trucks and waste containers were supplied to JSC-KRM in order to optimize the waste collection system. Two studies were also carried out about waste collection optimization and waste recovery.

1.2 Objectives and Scope of the ESMP

The ESMP is necessary to comply with the Palestinian Environmental Law and World Bank safeguards policies; the World Bank Operational Policy 4.01 (January 1999 and revised April 2013) and (OP.4.12). The project will invest in activities that support the improvements of an existing facility. Construction-related activities include, rehabilitation, , levelling, installations and other construction activities such as construction of the storm water lagoon and its related channels. Cut and fill activities, re-disposal of wastes inside the site will be handled and managed through the ESMP. The project is expected to have an overall positive impact the surrounding environment. Potential negative impacts that are localized and limited in nature will be avoided by providing instructions in the contract document, which specifically address environmental

issues in a manner acceptable to the World Bank Policies, as well as following Good Management Practices during construction and post closure phases.

The features of the ESMP are an assessment of the proposed project components with an assessment of potential impacts and mitigation measures. Based on the assessment, an ESMP is prepared highlighting the following main elements:

- Outline key environmental and social issues through an environmental and social assessment of the proposed activities during planning, construction and post closure phases;
- Review the applicability of World Bank safeguard policies, taking into consideration the environmental and social regulations of the Palestinian Environment Quality Authority (EQA), and comply with the World Bank Environmental, Health, and Safety (HSE) guidelines (2007);
- Ensure adequate public consultation during the assessment process (in general and in specific events, i.e., World Bank Group's Operational Response to COVID-19, 2020);
- Define the potential environmental and social impacts at different project stages;
- Develop the ESMP and propose the necessary mitigation measures to cover the various stages of construction, with defined timelines and specific roles and responsibilities.

The Final draft of the ESMP will be disclosed in electronic format on MDLF website; JSC Facebook page; and the World Bank InfoShop.

1.3 Methodology of the ESMP

In order to prepare the ESMP and achieve its objectives, the consultant carried out the following activities:

Data Collection

Desk Review and Field Investigation

The review includes the preliminary rehabilitation plans, post-rehabilitation management plans, alternatives, the associated cost estimates, laws, regulations, guidelines, standards, existing studies conducted on the environmental situation in the project area, and other related GSWMP documents.

Consultation

The study team conducted consultations with different groups and entities in order to collect the necessary information and complete the project description and its impacts; facilitate consideration of alternatives, mitigation measures and tradeoffs; reduce conflict through the early identification of contentious issues; provide an opportunity for the public to influence project design in a positive manner (thereby creating a sense of ownership of the proposal); improve transparency and accountability of decision-making; and increase public confidence in the ESMP process. The consultation activities included:

- a) Meetings with the JSC-KRM, Khan Younis municipality, local engineers, and municipal staff to get more details about the project area, priorities, level of services, and to arrange the site visits to project locations and understand the local environment and community behavior.
- b) In close coordination with JSC-KRM representatives, site visits were arranged to the proposed project site; the site visit included conducting interviews with local citizens. The site visits were very essential in order to observe the current conditions and practices, and to draw a comprehensive overview of the project site and its surrounding environment.
- c) Workshop with the key stakeholders and community representatives, to present the project objectives, alternatives, action plans as well as the potential impacts. On 24th Feb 2022, a public consultation session was conducted to discuss the Rehabilitation of Al-Namsawi Dumpsite project details, the expected environmental and social effects and the corresponding mitigations measures during construction phase and the operational phase. The session was arranged by Khan Younis Municipality in cooperation with the neighborhood committee (Batten Al-Sameen committee), it was held in the committee office, the affected people who live in Naher Al-Bared community (near the dumpsite), the farmers from the nearby farms, the residents of the close residential area, municipality employees, JSC-KRM employees and the neighborhood committee members were invited. 42 persons attended the public consultation; 59% of the attendees were females. A presentation about the project was provided; it includes the general overview of the new design of the dumpsite, the project activities, and the GRM channels including the channels for Gender Based Violence (GBV) complaints. Moreover, the participants were consulted to highlight their expectations for other potential impacts and mitigation measures that could minimize any impact in the project vicinity. More information is detailed in Chapter 5.

Impact Assessment

The study team conducted the environmental and social assessment, and evaluated the environmental impacts of the projects during all development stages; Planning and Design, Construction and Operation Stages.

The potential impacts of each activity / phase are described and evaluated, mainly for the construction and post-construction stages of the project in order to identify the mitigation measures which should be stated in the project contract documents and must be enforced by the responsible authorities.

ESMP Development

Based on the collected data and reports, site visits, consultations, interviews with involved staff and consultant's experience, the ESMP was developed for the proposed project activities, which includes measures to minimize or mitigate negative impacts and the actions to be adopted during the screening process and construction phases of the project. This ESMP of the project construction and operation phases will mitigate the risks to humans, the impacts on ecology and natural resources. Also, the ESMP is prepared to integrate the environmental and social concerns into the design and implementation of the proposed project.

2. PROJECT DESCRIPTION

2.1 Site Location and Description

The site is not a landfill by technical definition, it is rather a random temporary solid waste storage/accumulation point that started as an intermediate point (primitive transfer station) because of instances of inaccessibility to the near-border official landfills by SW service provider. Site use continued over the years, out of convenience, with SW being stored for various periods of time, then transferred, leading to a resulting accumulation of leftover compacted mixed waste (on an unlined area), filling a depression of land located between the higher road (west) and lower land occupied by illegal dwellings (east). Hereafter, the term “dumpsite” will be used for Al-Namsawi storage/accumulation point.

Al-Namsawi Dumpsite is Located in the southern west side of Khan Younis city, Gaza Strip; The site is located in an area designated for “recreational services” according to the municipal zoning (not solid waste facilities), noting that entire parcel is public land that was historically part of or adjacent to former Israeli settlements (before the 2005 Israeli unilateral disengagement). The site stopped receiving municipal waste since 2012, but in 2014 it received unknown quantity of demolition wastes resulted from the aggression on Gaza Strip. The site is no longer used for waste dumping, but some of individuals throw dead animals at the site as it is not secured and it is opened. The site was cleaned up and stopped being used as either dumpsite or temporary storage with the last major campaign done with the support of UNDP in 2014. Evacuating the site in 2014 from the bulk of SW was an important step, however it kept the site in a shape that appeared inviting to illegal dumping, such dumping was significantly reduced with commissioning of the new sanitary landfill in Al-Fukhari (Sofa) area supported by the WBG, AFD, and the EU. No fires were reported at the site as it is almost mixed with soil and demolition wastes.

The dumpsite is located over a cliff over an area 22,000 m² and has an irregular shape and topography. It's bounded from the West by a local asphalt road, and by scattered residential units from the other directions forming a land depression adjacent to the road with about 9-12 m difference in levels.

The site is bounded by a street from the western side, vacant public land from the southern area, and illegal residential units at the northern and eastern sides. As shown in figure (2), the site is surrounded by illegal residential units in a diameter of about 500 m; whereas the nearest legal residential area is far more than 500 m. The nearest agricultural area is far about 100 m from the boundary of the dumpsite.

Hence, no waste pickers were noticed at the site, as well the municipality of Khan Younis informed that in the past (before 2012), waste pickers were visiting this dumpsite on a daily basis, but they are not now because the dumpsite is not receiving new waste.

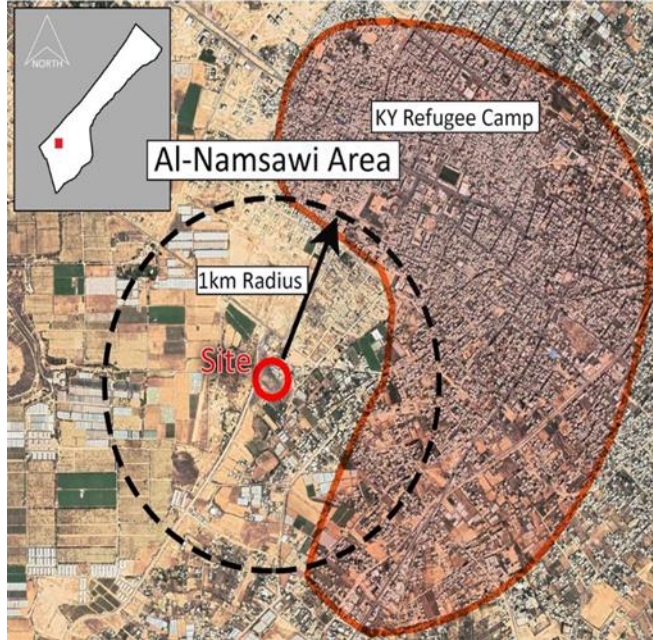


Figure 1: Nearest residential area to the dumpsite



Figure 2: Al Namsawi Dumpsite



Figure 3: Three Illegal Residential Units Are Inside the Dumpsite

The solid waste is scattered randomly around the site as shown in Figure (4), the different topography within and around the site make it necessary to applying all required designs to ensure the site is permanently closed to any illegal dumping, and to eliminate the environmental and safety concerns.



Figure 4: Solid Waste Dumpsite, Al-Namsawi

The present intervention aims at preventing this site to be ever used as temporary dumping area, by rehabilitating the site, add fence and green area, and that can reinforce the original intent of the municipal zoning of the area “recreational services”.

2.2 The Rehabilitation Activities

Based on the findings of the previous activities, the consultant carried out the conceptual and detailed design for the closure of the existing dumpsite. To properly close a dumpsite, two basic goals must be kept in mind. These are 1) to minimize the need for aftercare; and 2) to leave the dumpsite in a condition that will minimize future environmental impacts.

The design approach eliminated the first theoretical solution represented in evacuating all mixed, depleted SW and transfer it to the landfill for two reasons: (a) not to use precious volume at the new sanitary landfill, and (b) avoid altering the existing settled body of old depleted mixed waste which could likely pose serious stability risk give that topography of the vicinity.

Al-Namsawi dumpsite will be closed properly in compliance with engineering and environmental standards; mainly, the embankments of the dump site will be enhanced to increase its stability; this will be made by cutting large amount of waste (about 50,000 m³) and filling it to form an engineering stable shape. The dumpsite will be then covered accordingly by clay and soil protection layers to ensure its stability and to isolate the waste body and to prevent forming of new leachate from the stormwater, and it will be cultivated to form a green area. As well, the site will be secured by a fence; unauthorized people will not be allowed to access to the site. The stormwater will be collected by gravity to the stormwater lagoon, which will be constructed in the eastern side of the dumpsite. Figure (5) shows the main proposed activities of the project.



Figure 5: Project site and proposed main activities

The final cover: The final cover will consist of two sandy clay layers (about 12,000 m³ of sandy clay will be applied on the top and slopes), the first layer is the compacted leveling layer (30 cm), and the second layer is the re-cultivation layer (30 cm). The surface of the final cover will be planted by Ice Plants. Forty Kenia trees will be planted at the eastern and northern sides of the site as a buffer; both ice plants and kenia trees are indigenous species and available in Gaza Strip. Hence, irrigation network will be also installed to be used for irrigation of the green cover area and the Kenia trees. The Municipality of Khan Younis will be responsible for post management of the site: noting that one chief design criteria for plant selection considered a minimum after care and irrigation requirements on medium and long terms.

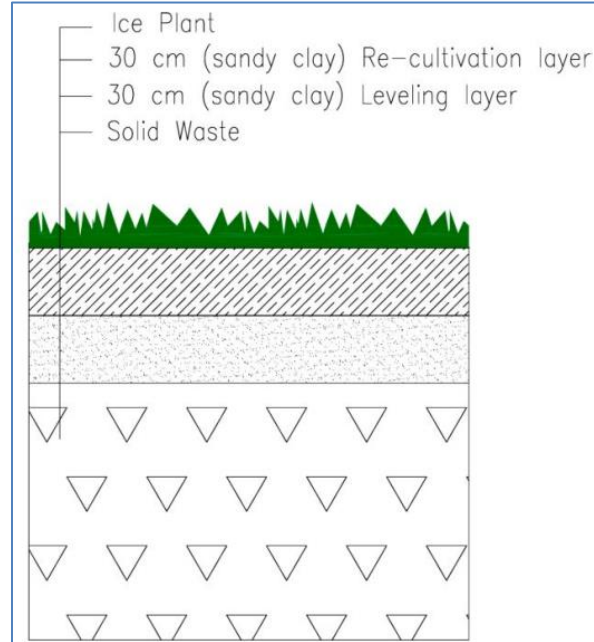


Figure 6: Proposed sealing cover for Al-Namsawi site



Figure 7: Ice Plant which will be used for vegetation the final cover



Figure 8: Capnella (Kenia) trees will be planted around the site

Geotechnical stability: Based on the Janbu method, Hristov drew up the diagram that allows direct verification of the slopes of values from relatively homogeneous and nonhomogeneous lands. According to this method, it is estimated that a slope is stable if

$$\text{Coefficient of Safety } \eta > 1.3$$

The results of the geotechnical stability calculations of the final cover show coefficient of Safety (2.1) which is more than 1.3.

Stormwater and Collection System: In addition of the cut, fill and rehabilitation activities of the dumpsite, a stormwater collection Lagoon will be constructed. The rational method ($Q = CIA$) used to predict the peak runoff rate, is proposed for this step. The Rational Method is perfectly acceptable for calculating storm drain and inlet peak discharges as well as calculating street surface flow peak discharges. Rainfall intensity "I" is the average rainfall rate in mm per hour, and was selected based on design rainfall duration and design frequency of occurrence (for the proposed channel around the dumpsite: the considered return period is 20 years). The Runoff Coefficient (C) was estimated to be 0.8 for the reshaped/covered deposit. Hence, the average annual rainfall for Khan younis is around 280 mm (0.28m). The slope area is around 10,000 m². So, the generated annual runoff quantity = $10,000 \times 0.28 \times 0.8 = 2240$ m³.

Taking into account the potential evaporation and surface infiltration a pond of 1,800 m³ will be sufficient to sustain the accumulated runoff.

The total design volume of the lagoon is about 1,800 m³ . It will collect the flooded and collected stormwater from and around the dumpsite by gravity as shown in Figure (9).

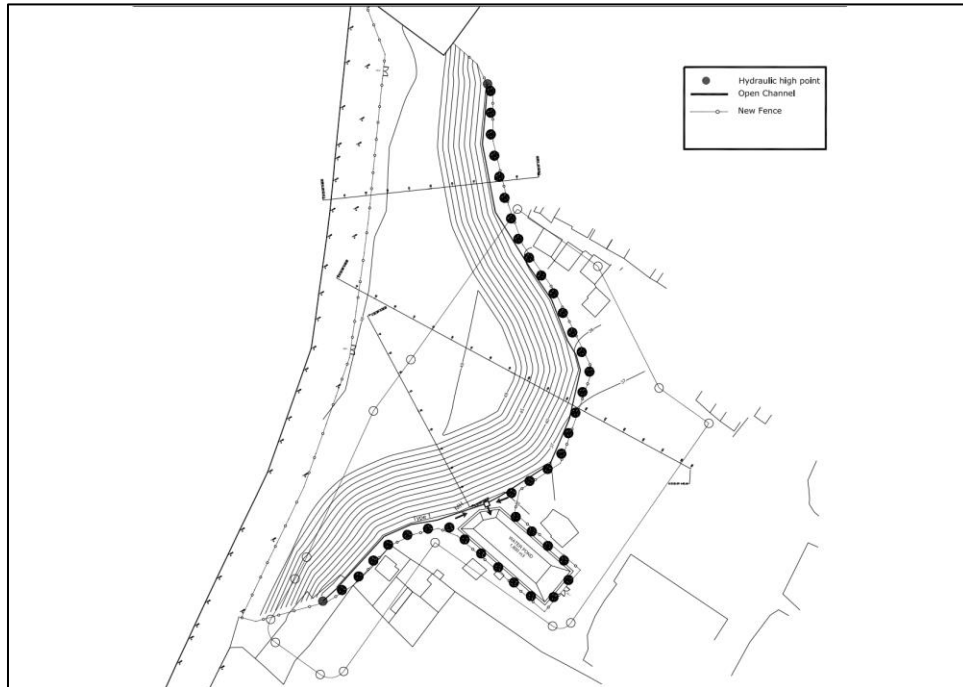


Figure 9: The Final Shape of the Proposed Design

The volume of the stormwater lagoon is 1,600 m³; it will collect the stormwater by gravity through an open channel. The reinforced concrete open channel will be constructed around the site with a total length of 330m. The stormwater lagoon will be constructed over an area 580 m², and with a depth 2.5m under the ground level.

Direction of flow of rainwater at the site area: The stormwater lagoon was located at the lowest area of the site; it will collect the stormwater from the inside site by gravity. Figure (10) Shows the direction of flow of the rainwater based on the field surveying results.

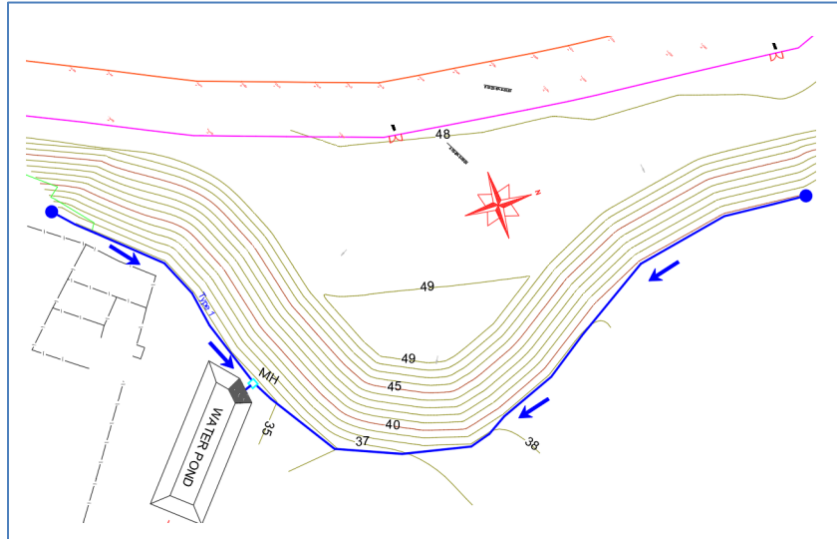


Figure 10. Direction of flow of rainwater at Al-Namsawi site

Estimated Leachate: The Estimated Annual Infiltration of rainwater to the waste body without using a standard an impermeable capping system was calculated using SCS methods:

- For Average Annual Rainfall = 280 mm/year
- Assuming that this rainfall quantity could be a total of 6 storm events; each one with 47mm (1.9 in).
- Considering CN = 95 (Soil group D and bare soil with grass)

The direct runoff ~ 1.5 in (80% from the rainfall) see Figure (11). The infiltration to the topsoil will be around 20% of the total rainfall. Part of this infiltrated rainfall will be evaporated through the following days of the event (Sandy clay soil can keep most of the infiltrated rainfall in the soil layer $K_s = 1e^{-6}m/s \approx 0.1$ m/day making it possible for evaporation rather than deep infiltration).

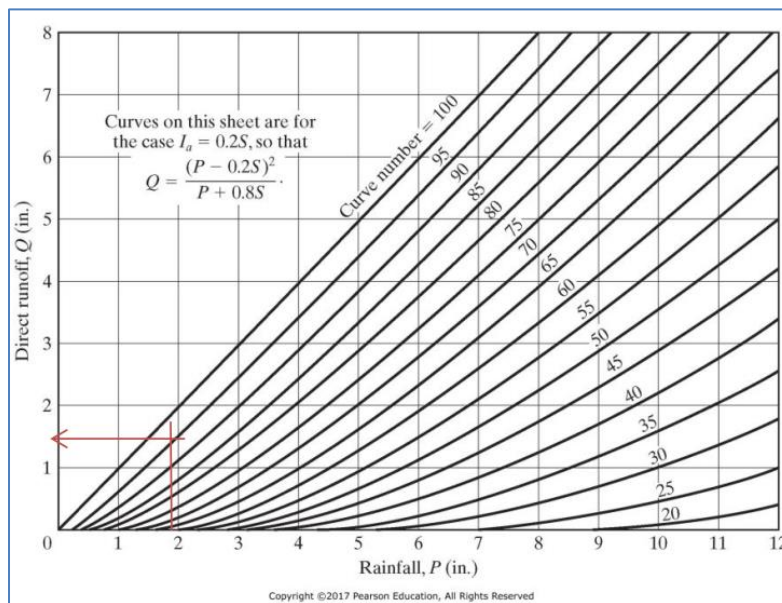


Figure 11. Direct runoff of rainfall

The evaporation rate is higher than the soil deep infiltration. It could be assumed that 35% will go to the waste body and 65% will evaporate into the atmosphere. So, the total deep infiltration could be $0.2 \times 0.35 = 0.07$ of the total rainfall.

The estimated annual infiltration volume to the waste body could be around = $0.07 \times 280 = 20$ mm depth per year which is not significant, making the proposed sealing cover suitable for this situation at the Al-Namsawi dumpsite.

Fencing the site: The site will be secured by a chain link fence from all sides; 820m of HOT-DIP Galvanized double twisted fence will be installed to prevent the access of unauthorized people to the site. During the project construction phase, the site should be also secured temporarily. The contractor has to close the site from the northern side by metallic sheets, these sheets can be replaced by the permanent fence at the last stage of construction.

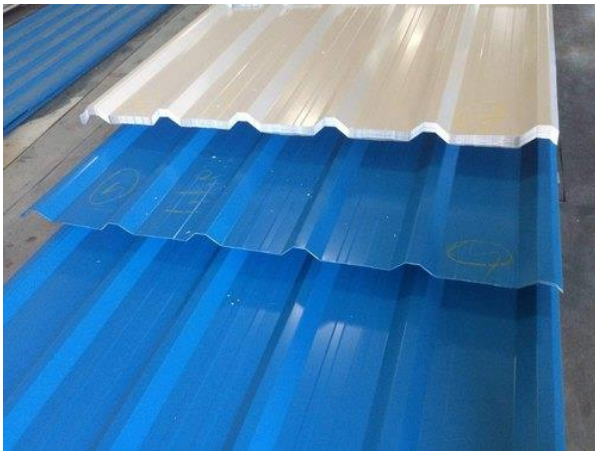


Figure 12: Sheets to be used for temporary closure of the site



Figure13: Permanent chain link fence

Gas Calculations: The gas potential at the site was estimated by using a model “LandGEM”; it is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills.

According to the results of the modelling, for 2022, the Methane content is estimated to be **10,000 m³** (1.2 m³/h). In General, this quantity of Gas is not significant So, no need for any gas collection system.

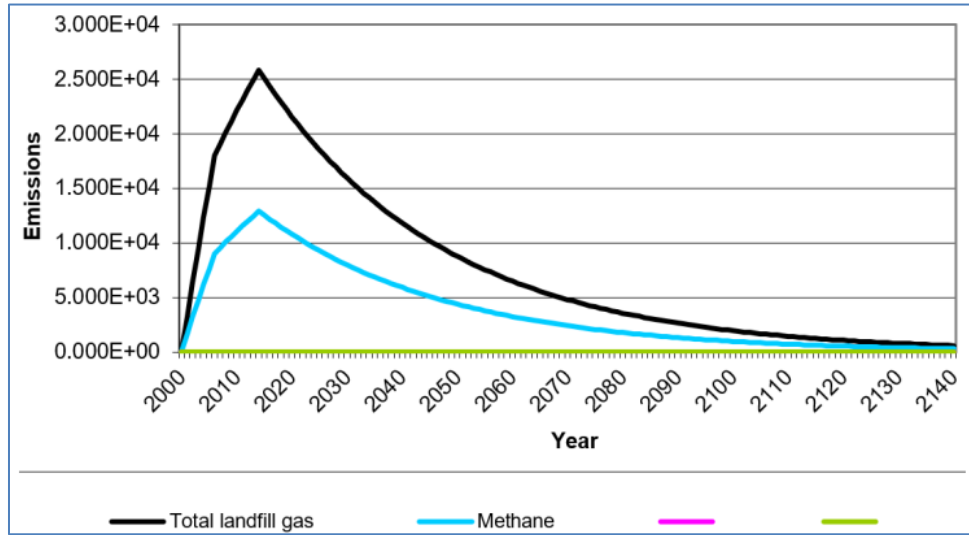


Figure 14: Gas generation in Al-Namsawi site

The construction works are expected to last for 90 days. The construction works include some excavations, cutting, filling, leveling, reshaping of the edges, fencing, planting but all are limited to the project site. During the construction phase, about 10 workers are expected to work in construction works, The Contractor will be encouraged to hire workers from the local area. All construction materials are available in the local market and can be reached anytime.

The post-closure plan will be managed by the gardens department in Khan Younis Municipality. The Municipality of Khan Younis Plan is to close the dumpsite area, even after the closure as it could pose some risks such as falling from high levels or falling in the stormwater lagoon. The Municipality will hire a guard; they will select a person from the area to be a guard. The guard will follow up and report to the Municipality. All post closure measures will be managed by the gardens department on time. Hence, the site is located in the service area of Khan Younis Municipality. The site is located in an area designated for “recreational services” according to the municipal zoning (not solid waste facilities).

Labor influx: following Gaza Strip geography and size, in addition to the political context, there is no presence of labor influx between governorates, and the only case of labor influx record is of Palestinian labor moving toward the Israeli market. There are no labor camps in Gaza Strip.

2.3 Alternative Options for Avoidance and Minimization

Al-Namsawi dumpsite is considered as a source of pollution in addition to the safety concerns at the site due to the sever side slopes of the waste body and the high height of waste. The design approach eliminated the first theoretical solution represented in evacuating all mixed, depleted SW and transfer it to the landfill for two reasons: (a) not to use precious volume at the new sanitary landfill, and (b) avoid altering the existing settled body of old depleted mixed waste which could likely pose serious stability risk give that topography of the vicinity. The following choices were discussed in order of priority:

1. **Minimization of the environmental impacts to the minimum:** This choice is valid and could be achieved if the risk of side slopes is resolved, and the source of pollution is minimized, and the place is transformed to a green area instead of the cumulative waste. Hence, to implement this choice, some people at the area will be affected adversely during the project construction phase, but they will be affected positively after completing the project works. The short-term impacts during the construction phase of the project will be reviewed and mitigated through this environmental and social management plan (ESMP).
2. **Mitigation:** to secure the site by a fence and prevent people from throwing any dead animals at the place and to prevent people to come around due to its safety concerns. This choice is not preferred because the risk and source of pollution will not be resolved.
3. **No project choice:** to do nothing and leave the site as it is with its safety concerns and pollution. This choice is not preferred because the risk and source of pollution will not be resolved.

Selected Optimized Choice: after reviewing all of the above choices, it is clear that the minimization choice is the best choice with the less impact on the environment and greater impact on the surrounding localities and environment. The optimum selected choice is not only the choice with less cost estimations, but also it is the choice with less environmental and social impacts. Technically, two alternatives could be possible as the following:

- **Technical Alternative One:** Reshaping of the waste towards the **Northern side**, and in this case more than ten residential units will be requested to relocate to another place to implement the project.
- **Technical Alternative Two:** Reshaping of the waste towards the **Southern side**, and in this case only three residential units will be requested to relocate to another place to implement the project. This choice is preferred, as less people will be affected.

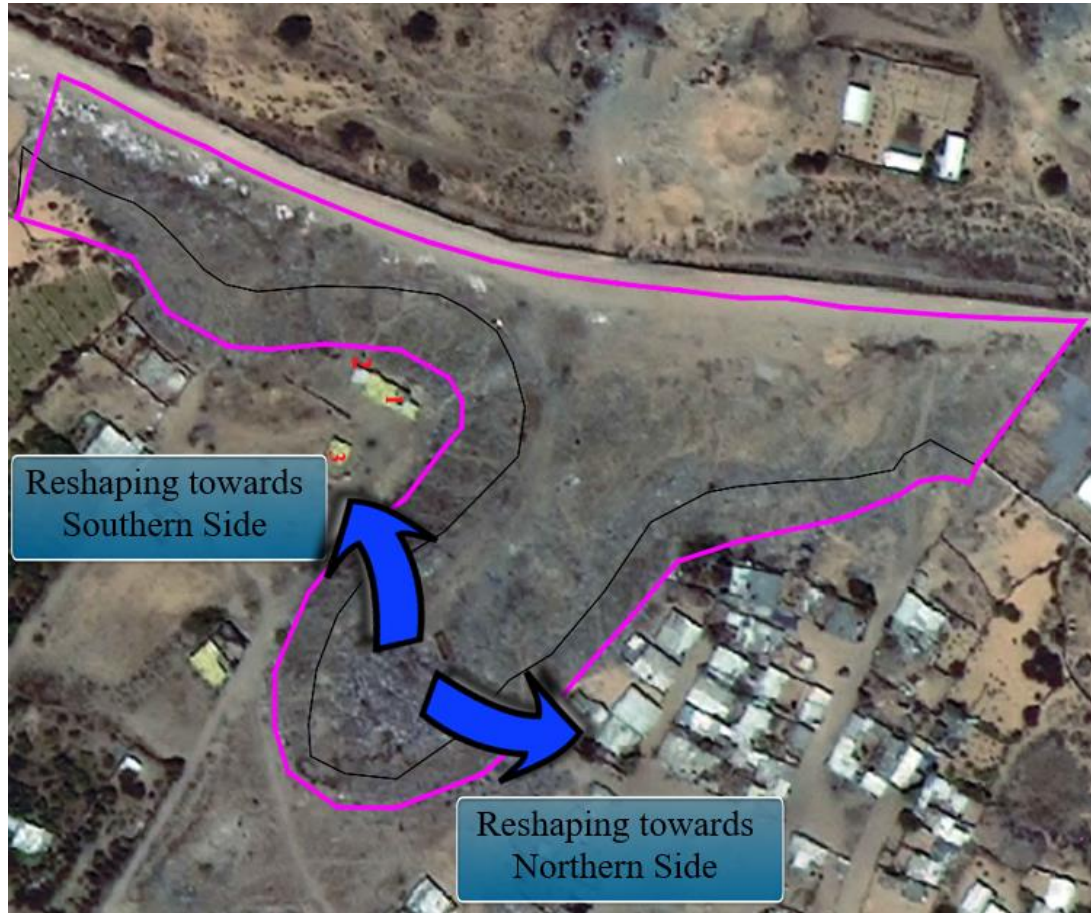


Figure 15: Technical alternatives of reshaping within the site area

2.4 Social & Economic Screening

Site visits have been carried out to Al-Namsawi site by MDLF, JSC-KRM and Khan Younis Municipality, as well, the site was screened by the Environmental and Social Experts from the Consultant side.

The site was investigated, and referring to the optimized alternative as discussed in section (2.3), it was found that three illegal residential units are located inside the dumpsite area, and need to move to another place in order to implement the closure project.

Additional citizens are living illegally near the site especially at the northern side, but they will not be requested to remove their residential units. Those citizens are expected to be influenced during the construction phase, but the project is essential for them to enhance the environmental conditions at their area. Those people accepted to implement the project, knowing that additional measures will be detailed in the ESMP to decrease the environmental risks on them during the construction works.



Figures 16, 17: Screening site visit by Consultant, MDLF, JSC and Khan Younis Municipality

It was also found that no shops or any livelihood sources will be relocated or affected due to the project construction. In the past, few waste pickers were working at the area, but they left since 2012 once the dumpsite stopped to receive any waste. It was confirmed through frequent site visits and the neighbors' observations that no waste pickers at the area since long time.

3. DESCRIPTION OF LEGAL AND INSTITUTIONAL FRAMEWORK

The current institutional framework has been reviewed concerning related ministries, governmental and non-governmental organizations. The organizations concerned with the planned project have been consulted and their regulations, standards, and requirements were thoroughly studied. Also, the future plans for the areas and solid waste management sector in the Gaza Strip were considered.

Closure or rehabilitation of dumpsites is relatively new practice in Palestine, therefore exiting laws and statutes addresses general considerations for SWM sector on design and operations level, with no particular law addressing the subject at hand in extensive manner. The design had therefore adopted best practice approach based on engineering requirements.

Solid waste management (SWM) in the West Bank (WB) and Gaza Strip (GS) is regulated by several laws, reflecting the national strategy and waste management policy of the Palestinian Authority. In 2019, the most related policy documents and laws are as follows:

3.1 Description of the Relevent Legal Framework

The Municipal and Local government Law or Local Authorities Law No. 1 (1997)

It defines the roles and responsibilities of the local authorities (Local Government Units and Joint Service Councils – LGU and JSC), supervised by the MoLG. According to its Article 15, local authorities are responsible for the waste management in their own jurisdiction: the collection of SW in public spaces, its transportation and disposal, the management of a landfill facility, as well as the option to provide services through a private contractor, or to join with other municipalities through a JSC (GIZ, 2014). Article 15 mentions furthermore the need to take precautionary measures in public health in order to prevent any future pollution or epidemic outbreaks (Soufan, 2012).

The Environmental Law No. 7 (1999, revised in 2003)

It establishes the general legal framework for SWM in Palestine, including also hazardous waste management. It aims to reduce the negative effects of waste, to protect the environment and public health, to promote sustainable development, to develop inter-ministerial cooperation and standards, and to increase information and awareness. The most important provisions of this law related to SW are:

- Article 1: definition of the notions of solid waste and hazardous waste;
- Articles 7 and 9: the national role of the Environment Quality Authority (former Ministry of Environmental Affairs-MEnA) as the responsible entity to set up a strategic plan and to technically specify disposal sites;
- Article 8: Relating to the 3Rs (reduce, reuse and recycle), this article asks for the reduction of SW generation at the lowest level possible, as well as implementing re-use and recycling measures where possible;

- Article 10: asks the relevant actors for precautionary measures in storage and transportation of construction and demolition waste;
- Regarding hazardous waste: Article 11 proposes a listing of hazardous waste; article 12 forbids the use, treatment, storage and disposal of any type of hazardous waste, except under certain conditions and article 13 forbids any importation and limits crossing of hazardous waste on the OPT;
- Article 23: forbids dumping waste in non-designated sites;
- Articles 74 and 76 refer to the « polluter pays » principle (Soufan, 2012; GIZ, 2014).

The Palestinian Environmental Impact Assessment Policy (2000)

It describes the conditions, through standards and guidelines, under which any private or public development activity, in terms of environment protection, shall be implemented. Its aims are to protect Palestine environment's sustainability, as well as to prevent any irreversible or to mitigate any reversible damage from development activities. It gives a list of activities needing to conduct an Environmental Impact Assessment (EIA) or an Initial Environmental Evaluation (IEE).

The Palestinian Law (2003)

It asserts the right, in its article 33, to a “clean and a balanced environment as a basic right of every Palestinian” and the national duty for “preservation of the Palestinian environment for the sake of both present and future generations” (Soufan 2012, page 70).

The Public Health Law No. 20 (2004)

It defines the Ministry of Health (MoH) as the institution responsible for licensing SWM facilities (article 2.12). The MoH is also in charge of taking all the “necessary and precautionary measures” to confiscate and destroy all contaminated or potentially contaminating materials (article 10). In cooperation with other competent bodies, it is responsible for the determination of the work conditions for people in craft and industries that might affect their health (article 34). Finally, the MoH is in charge of regulating, in coordination with other institutions, the collection, storage, transport and disposal of hazardous wastes (article 42) (PNA, 2004; GIZ, 2014).

The Medical Waste Management Bylaw (2012)

It gives a definition of medical waste and a classification of its different types (articles 9 and 10), as well as instructions for its identification (art.12). The Bylaw also describes the procedures related to medical waste's separation and collection (by waste types in chapter 3); the conditions for storage inside the health institution and for transportation outside (chapters 4 and 5). In its chapters 6 and 7, the Bylaw presents the treatment measures to be applied and specifies the locations' requirements for treatment within and outside the institution, as well as the conditions

for disposal of solid medical waste and waste water. The document furthermore describes the responsibilities of the Ministry of Health, the EQA, the local authorities and the licensee (chapter 8) and mentions the duties to exchange information between the stakeholders, and to prepare an emergency/contingency plan (PNA, Bylaw 2012; GIZ, 2014; ARIJ, 2015).

The Law on the Encouragement of Investment in Palestine Law No. (1) of 1998

It was amended in 2004, 2011 and in 2014 (decree No. (7) Of 2014)¹ aims to provide guarantees and incentives to private investment, through the Palestinian Investment Promotion Agency. Investment is protected from expropriation or nationalization in general (art. 7) and free transfer of all financial sources is guaranteed (articles 10-11). Income taxation exemption is provided to agricultural projects while tax reduction incentives for at least 5 years, through an incentive package contract, is allowed to any investment (articles 23-25)².

The Solid Waste Management Bylaw

It was drafted in 2018 and adopted in March 2019. This regulation describes the rights and obligations of the following actors:

- the “competent authorities” are responsible for developing a comprehensive plan for SWM, standards, procedures and strategies (art 3), for supervising SWM (art.25), for control/inspection (art. 31);
- waste producers’ obligations (art.6) and polluter pays principle (art.36);
- service providers take safety and health measures (art.7), collection and transportation processes (art. 8,9), build/operate transfer stations (art.10), treat and dispose the waste (art.11), 30), and keep records (art.30);
- the landfill owner (art.13,14);
- the MoH, in monitoring the separation, collection and transportation of medical waste (art. 25)
- the EQA, in terms of hazardous waste treatment approval (art.26);
- the MoLG, regarding the establishment of a national waste registry compiling all information about waste management (art.29).
- Special conditions are required for landfills regarding operation, closing and rehabilitation (art. 12, 15, 16, 17) and for automated burning (articles 19,20,21), whereas random burning is forbidden (art.18). Reuse and recycling shall be encouraged (art.27). Waste management fees shall be proposed by service providers and approved by the MoLG (art.35).
- Hazardous waste should not be mixed (art.33) and its import submitted to the approval of competent authorities (art. 34);

¹ <https://investmentpolicyhub.unctad.org/InvestmentLaws/laws/201>

² Solid waste management was mentioned in the Law of 1998, requiring the approval of the Council of Ministers (art.4). In the amended Law of 2014, the sector is not explicitly mentioned.

- Municipalities and Joint Service Councils submit waste management fees to the Minister for approval (art.35);
- The Ministry of Local Government is entitled to give fines (art.36) (PNA, 2018).

Palestinian Legal and Policy Framework for Land Acquisition

In Gaza the law of expropriation is governed by the Land Ordinance, No. 24 of 1943 (Acquisition for Public Purposes). The law covers the power of the High Commissioner³ to acquire land or any interest in it for a public purpose. It sets out the notice procedures and the rules for assessing compensation. The government may take over possession on the date specified in the notice, which must be at least two months after Gazette publication, unless the land is required urgently. Rules are set out for the court in assessing compensation. It is to be based first of all on market value. No compensation is payable for taking up to 25% of an owner's land for roads, playgrounds or recreation grounds. The government may claim betterment of 25% of the increase in value due to making or widening a road, set off against compensation for any land taken.

The law is compatible with the Town Planning Ordinance, in that where land is destined for expropriation in a detailed planning scheme, the High Commissioner is deemed to have certified the scheme to be an undertaking of a public nature. Also, provisions concerning betterment and 25% taking without compensation are similar.⁴

In case of pressing time demands to expropriate land to a specific project serving public interest, the Government is entitled to expropriate required lands immediately and then to initiate compensation negotiations with owners/users (Amendment Law No. 34 of 1946, Article (7)).

Legal instrument: Land acquisition is regulated by Law No. 24 issued in the year 1943 on Expropriation and its amendments issued in 1946.

The expropriator (Condemner): Article (22) of the Amendment Law 34/1946 specifies that the expropriator of the property is the Governmental organization, any municipal or local council, or any private body such as a company, organization, society or individual implementing a project, and the government if acting as one of the previously mentioned entities.

Landowner: Article (18) of Law 24/1943 states that the owner/s of the property is/are the person/s in whose name the property is registered at the Land Registry Office. This stipulation does not preclude anyone else from claiming ownership through the courts. The entitlements of legally established renters are also confirmed. Nonetheless, all owners (shareholders) will be entitled to property compensation according to their shares, and payments will be made directly to each individual landowner.

³ Refer to Palestinian National Authority Law no. (5) of 1995 concerning transfer of powers and authorities; section 1 and section 3

⁴ Legal Report, PNA Land Administration Project – Ministry of Planning, Hesseini, Hiba – 2008

3.2 Description of the Relevant Institutional Framework

The National Strategy for Solid Waste Management (NSSWM) in Palestine (2017-22)

The National Strategy for Solid Waste Management NSSWM was adopted in August 2017, following the first National Strategy for SWM 2010-2014. The first strategy was set up in 2004 by the Ministry of Local Government (MoLG). It is considered as the global framework of all “decisions, programs, activities and medium-term investment plans, aiming at developing the SW sector in Palestine” (PNA 2010, page 5).

The Environment Sector Strategy 2017-2022

In its strategy 2010-2013, the EQA planned to focus on 4 interventions: the upgrade of SW collection and landfill disposal services, the closure/rehabilitation of random dumpsites, the implementation of the NSSWM and the development of an initiative promoting separation and 3Rs principles (GIZ, 2014). In reference to the last adopted strategy (Sectoral Environment Strategy 2017-22 (EQA, 2017)), EQA focuses on the same previous four interventions generally, but the 4 directions taken by the Agency related to SWM are: 1) reduction of the pollution (reduction of solid waste included); 2) encouraging reuse, recycling and recovery; 3) investing into the legal framework and institutional capacities; and 4) developing waste awareness and education through campaigns and various activities.

The National Development Plan 2014-2016

The National Development plan (NDP) is a tri-annual plan presenting the Palestinian Authority’s strategy in Economic Development and Employment; Good Governance and Institutions Building; Social Protection and Development and Infrastructure. The priority objectives in the SWM sector are to “improve solid, liquid and hazardous waste management system, including collection, transportation and safe disposal” and “where possible to encourage recycling” (PNA, 2014, p.78).

The basic regulation on the Joint Service Councils of year 1996 (updated in 2006):

It defines the role and responsibilities of Joint Service councils. According to the (JSCs) official Statute, it is in charge of the followings:

- Planning for and supervising the sound implementation of solid waste collection and disposal;
- Founding and operating a sanitary landfill with provision of the necessary facilitations to ensure smooth daily operations;
- Provision of waste containers in the served governorates and maintaining regular maintenance;
- Organizing and implementing public awareness activities to raise the environmental sense of the public community;

- Organizing cleaning campaigns regularly;
- Guidance of the member local government units in whatever related to solid waste management in the fields of technical, legal, public health, environmental or social issues;
- Representation the member local government units in any events related to solid wastes;
- Planning for and implementing the methodologies of solid waste pollution reduction, proactive prevention, and waste recovery and recycling (GIZ, 2014).

In 2016, a new JSC Bylaw was adopted, which describes the conditions for forming/ending a JSC, the roles of the different members and representatives of the JSC, as well as the tasks and activities of the JSC (PNA 2016c; JSC Today, March 2018). A national Guideline on SW Tariffs was also produced the same year.

Construction and Demolition Waste

the MoLG, with the support of JICA, finalized the draft of a new Bylaw in 2018, which was adopted in spring 2019, as well as a Guideline Manual on Construction and Demolition Waste (C&D) in the West Bank. The purpose is to ensure the proper regulation and reduction of any new C&D waste. The Bylaw and the Manual describe the conditions for a C&D permit, the requirements for a waste disposal and recycling services plan, a hazardous material report about monitoring, collection, transportation and disposal, as well as the obligation to keep record and to report during and after any construction and demolition activities (MoLG-JICA, 2017b).

Lately, the Palestinian Environment Quality Authority has prepared a list about hazardous waste and drafted a hazardous bylaw⁵, which shall be adopted in 2019 also. The EQA is also in the process to update the status of random dumpsites, landfills as well as transfer stations (PNA, 2017).

3.3 Description of the Relevant Institutional Players

3.3.1 At the National Level

- **The Ministry of Local Government (MoLG):** sets general policies about solid waste management and coordinates the activities of the Local Government Units (LGUs) and Joint Service Councils (JSCs). It provides them with the financial and technical support, it is involved in several awareness projects with other ministries, and it monitors the execution of infrastructure projects including solid waste projects (GIZ, 2014). It is currently chairing the National Team responsible for the implementation of the adopted NSSWM⁶. The MoLG also approves municipal master plans through the Central Planning

⁶ Following the Cabinet Resolution, no 05/49/13 of May 2010, the National Team replaces the Steering Committee in charge of the implementation of the Solid waste national strategies.

Committee, including public land use within city limits, according to the City Planning Law No. 28 of 1936 and in coordination with all relevant ministries and land authority.

- **The Environment Quality Authority (EQA):** elaborates SWM at the strategic level; it develops the standards, procedures and guidelines for sustainable SWM (including hazardous waste management), determines the SW sites specificities, and promotes the reduction, recycling and reuse of solid waste. It has also a monitoring and inspection role in the application of adopted laws and standards. It is responsible for the approval of Environmental Assessment Impacts and for promoting environmental awareness among the Palestinian public. It furthermore provides expertise and ensures the implementation of the environmental protection (ARIJ, 2015; GIZ, 2014). Finally, the EQA has also an international role, as the institution responsible for the application of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal in the OPT (Palestine is a member since 2015).
- **The Ministry of Health (MoH):** is responsible for licensing and monitoring health institutions in general, and facilities responsible for medical waste management (article 2; Public Health Law-PHL, 2004). In addition, its Environmental Health department carries out research and data collection on water, air, hazardous waste and pollution. As mentioned above, the MoH has the role of issuing the conditions related to “transport, store, treatment, and dispose of the hazardous waste” (article 42, PHL, 2004), a role which is in conflict with the EQA’s responsibility (GIZ, 2014). The Medical Waste Bylaw adopted in 2012 attempts to clarify the responsibilities of each stakeholder.
- **Land Authority:** The land authority established by presidential Decree No.10 of 2002 as a legal entity with its own budget, subordinate to the Council of Ministers, with the responsibility for both the Survey and Registration Departments. Its mandates are 1) Surveying department responsible for examining maps and plans prepared in connection with land adjudication process, partition, subdivision, first registration and other transaction; and 2) Land registration department responsible for register all types of dispositions of immovable property.
- **The Palestinian Central Bureau of Statistics (PCBS):** collects and disseminates the national data about SWM, through its website and regular surveys like the household, environmental, economic and medical environmental surveys.
- **The Municipal Development and Lending Fund (MDLF):** ensures the provision of funds for different projects (among which SW activities) to the local authorities and occasionally to the joint service councils (GIZ, 2014). MDLF is managing the Southern component of the Gaza Solid Waste Management project (GSWMP) since 2012 covering 3 of 5

governorates in Gaza Strip, namely the Middle Area, Khan Younis, and Rafah Governorates comprising approximately 64% of Gaza Strip's total geographic area inhabited by 46% of the total Gaza Strip's population, or approximately 800,000 people according to the 2014 Palestinian Central Bureau of Statistics (PCBS) projections⁷. As well, MDLF is managing a grant for enhancing the primary solid waste collection and transport (secondary collection) through Municipal Development Program (MDP) since 2008.

3.3.2 At the Operational Level

- **The Local Government Units (LGUs):** they include the municipalities, village councils and project committees. LGUs are the main responsible local authorities for the collection, transportation and disposal of municipal waste. In 2018 there were 412 LGUs in the WB and 25 in GS⁸.
- **Joint Service Councils (JSCs):** an association of several LGUs to provide one or more services to all member municipalities with the aim to reduce costs and to efficiently coordinate services. There are currently *13 JSCs responsible for SWM in the West Bank (including one Higher Council)*: 12 are in charge of SW collection, 9 are responsible also for transferring SW. JSC Jenin, JSC Jericho and the Higher Council of Bethlehem and Hebron supervise the management of the three main landfills. Two JSCs for solid waste management operate in the Gaza Strip.
- **The United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA):** supervises the waste management of the 19 refugee camps in the West Bank and the 8 camps in Gaza, in coordination with municipalities and JSCs. Under its area of jurisdiction, the UNRWA support's role is to provide services and manage the camps. The organisation is responsible for collecting waste from the refugee camps, which will be disposed of at sites run by municipalities against monthly payment to the dumpsite operating organization. UNRWA has also given assistance to municipalities in the Gaza Strip by being the channel through which equipment, provided by bilateral donors, has been provided to the municipalities.
- **The private sector:** some companies can be contracted by municipalities/JSCs for the collection, transportation or/and disposal of waste or the management of certain facilities (like transfer stations) and private companies own and directly manage recycling/recovering activities.

3.4 Environmental Assessment Laws and Guidelines

In this section, the Palestinian Environmental Assessment Laws will be referred to, in addition to the World Bank Safeguard Policies and Guidelines as the following:

⁷ MDLF Website: www.mdlf.org.ps

⁸ Figure adapted from MoLG-JICA 2017a data. JSC Ramallah informed that 2 of their LGUs split in two, thus there are now 70 LGUs and not 68 (interview on 6.2.2019).

3.4.1 Palestinian Environmental Laws

The Palestinian environmental legal and administrative framework has taken major strides towards protecting environmental resources and institutionalizing their sustainable management. The Environment Law of Palestine is comprehensive, covering the main issues relevant to environmental protection and law enforcement. Among the objectives of the law are:

- Protecting the environment from all sorts and types of pollution;
- Protecting public health and social welfare;
- Incorporating environmental resources protection in all social and economic development plans and promote sustainable development to protect the rights of future generations;
- Conserving ecologically sensitive areas, protecting biodiversity, and rehabilitating environmentally damaged areas;
- Setting inter-ministerial cooperation regulations and standards various environmental protection areas and jurisdictions;
- Promoting environmental information collection and publication, public awareness, education and training.

The law addresses various environmental issues including:

- Management and protection of various resources. Issues covered are related to land environment, air environment, water resources and aquatic environment, and natural, archeological, and historical heritage protection.
- Environmental Impact Assessment (EIA) and auditing, permitting of development projects, monitoring of environmental resources and their parameters.
- Penalties to be applied in case of violation of any article presented under the law.
- Other issues addressed by the legislation include emergency preparedness, public participation, research training and public education.

The Environment Law of Palestine of 1999 has stated in Chapter 1 (of section III), article 45, "The Ministry, in coordination with the competent agencies, shall set standards to determine which projects and fields shall be subject to the environmental impact assessment studies. It shall also prepare lists of these projects and set the rules and procedures of the environmental impact assessment".

Article 47 of the Environmental Law states that "The Ministry, in coordination with the competent agencies, shall determine the activities and projects that have to obtain an environmental approval before being licensed. This includes the projects that are allowed to be established in the restricted areas".

The Palestinian Ministerial Council approves *the Palestinian Environmental Assessment Policy*, through resolution No: 27-23/4/2000. This Policy shall be interpreted and implemented to

support the sustainable economic and social development of the Palestinian people through assisting in meeting the following goals:

- Ensuring an adequate standard of life in all its aspects, and not negatively affecting the basic needs, and the social, cultural and historical values of people as a result of development activities;
- Preserving the capacity of the natural environment to clean and sustain itself;
- Conserving biodiversity, landscapes and the sustainable use of natural resources;
- Avoiding irreversible environmental damage, and minimizing reversible environmental damage, from development activities.

3.4.2 World Bank Safeguard Policies and Guidelines

The current environmental and social policies of the World Bank are known as the “Safeguard Policies”, the mechanism for addressing environmental and social issues in the project design, implementation and operation, and they provide a framework for consultation with communities and for public disclosure. The World Bank’s environmental and social policies, consisting of 10 Operational Policies.

The (GSWMP) project is guided by the World Bank Policies and it is complying with the **Environmental Assessment Policy OP 4.01** and the **Involuntary Resettlement Policy OP 4.12**. The (GSWMP) was assessed at Category (A) according to Operational Policy (OP) 4.01 Environmental Assessment (EA), as well an ESIA has been carried out and disclosed in 2012⁹. The Additional Finance (AF) project is complying with the EA Policy OP 4.01, Pest Management OP 4.09, and the Involuntary Resettlement Policy OP 4.12. Pest Management OP 4.09 is triggered in AF project due to the expected use of pesticides during the operation of JSC-KRM facilities. The proposed additional activities in AF project are similar to those of the original project (GSWMP) and the activities are not expected to pose additional environmental and social safeguards risks or impacts that would require a change in the project safeguards category (A) and covered by the set of World Bank safeguards policies effective at the time of appraisal.

As according to the World Bank Operational Policy on Environmental assessment, an environmental and social category is assigned to an investment project after appraisal and before public disclosure during the International Finance Corporation project/investment cycle. Projects are assigned a category of A, B, or C, in descending order of environmental and social sensitivity. Types of projects that require a detailed ESIA should include the following:

- Environmental and social baseline describing the existing environmental and social conditions prior to the project being constructed and operating
- Identification of potential environmental and social impacts resulting from the project of concern.
- Comparison of alternatives sites, scenarios, technologies and designs.
- Mitigation Plan for potential impacts including monitoring.

⁹ Environmental and Social Impact Assessment of the Gaza Solid Waste Management Project
http://www.mdif.org.ps/Files/Docs/GSWM%20ESIA_FINAL_19sep2012.pdf

As previously mentioned, An ESIA was prepared for the Gaza Solid Waste Management Project in 2012 and updated in 2020, with site specific addendum ESMPs prepared for the different sub-projects such as construction of Rafah Transfer Station, Rehabilitation of the Landfill Access Road ...etc. This sub-project follows the same approach.

3.4.3 Environmental, Health, and Safety (EHS) Guidelines

The Environmental, Health, and Safety (EHS) Guidelines prepared by World Bank are technical reference documents with general and industry-specific examples of Good International Industry Practice. The EHS Guidelines contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable costs (WB, 2007).

The project will comply with all applicable Palestinian laws, policies and regulations that correlate the project planning, implementation and operations to environmental and social standards, as well as the applicable World Bank safeguard policies and relevant ratified international laws and treaties as the following:

- General EHS Guidelines on cross-cutting environmental, health, and safety issues;
- Environmental, Health, and Safety (EHS) guidelines for contaminated land;
- Environmental, Health, and Safety (EHS) guidelines for Waste Management Facilities.

3.4.4 Managing Labor Influx:

The principles of the Guidance Note [for Managing the Risks of Adverse Impacts on Communities from Temporary Project Induced Labor Influx](#) (2016) should apply to the project in case external and large number of labor are mobilized to work in the project area. Although this is not anticipated, the principles of this note include the avoidance of the risks, assessing its implication on local communities particularly women and setting mitigation measures will be ensured.

4. ENVIRONMENTAL AND SOCIAL BASELINE CONDITIONS

Most of the environmental and social baseline data were obtained through the review of information of previous documents. The environmental baseline data that was studied including meteorological conditions; ambient air quality; soil characteristics; geological survey; water resources; geophysical survey as well as fauna and flora. The social baseline covered the neighboring communities to Khan Younis area.

4.1 Physical Aspects

4.1.1 Khan Younis City Location

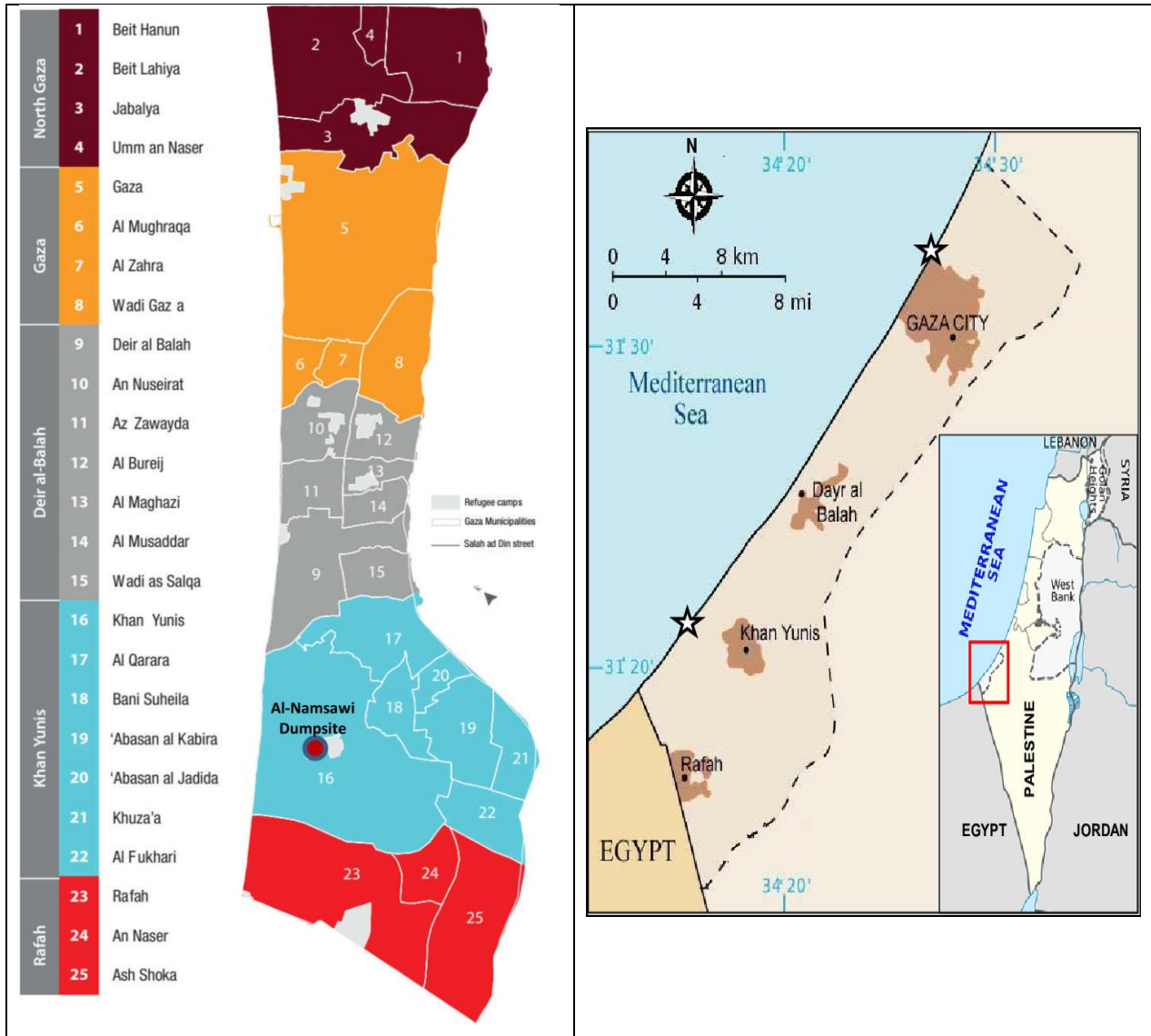
The Gaza Strip is a small Palestinian territory on the eastern coast of the Mediterranean Sea that borders Egypt on the southwest for 11 Km and Israel on the east and north along a 51 Km border. The territory is 41 Km long, and from 6 to 12 Km wide, with a total area of 365 square Km.



*Figures 18: Gaza Strip Location and Basic Data Sheet,
Source: (2021, Public space Assessment Report, UN-Habitat)*

4.1.2 Topography

Khan Yunis is located in southern area of Gaza Strip. Khan Yunis, which lies only 25 km from the center of Gaza city, and 4 Km east of the Mediterranean Sea, has a semi-arid climate with temperature of 30 degrees Celsius maximum in summer and 10 degrees Celsius maximum in winter, with an annual rainfall of approximately 260 mm. The Gaza Strip is relatively flat, with elevations ranging from 0-110 meters above sea level. As shown in Figure (21).



Figures 20: Khan Yunis Location among the Gaza Municipalities

Gaza Strip topographical area is characterized by, elongated ridges and depressions, dry streambeds and shifting sand dunes. The ridges and depression generally extend in a NNESSW direction, parallel to the coastline. They are narrow and consist primarily of sandstone (Kurkar).

The ridges and depressions show considerable vertical relief, in some places up to 60 m. Surface elevations of individual ridges range between 20 m and 90 m AMSL. Two high ridges appear on the topography map in the southern Gaza strip. The highest areas are found in eastern parts of Khan Younis Governorate. The lowest areas are in the west, and along the border between Gaza and Deir Albalah governorates (Wadi Gaza).

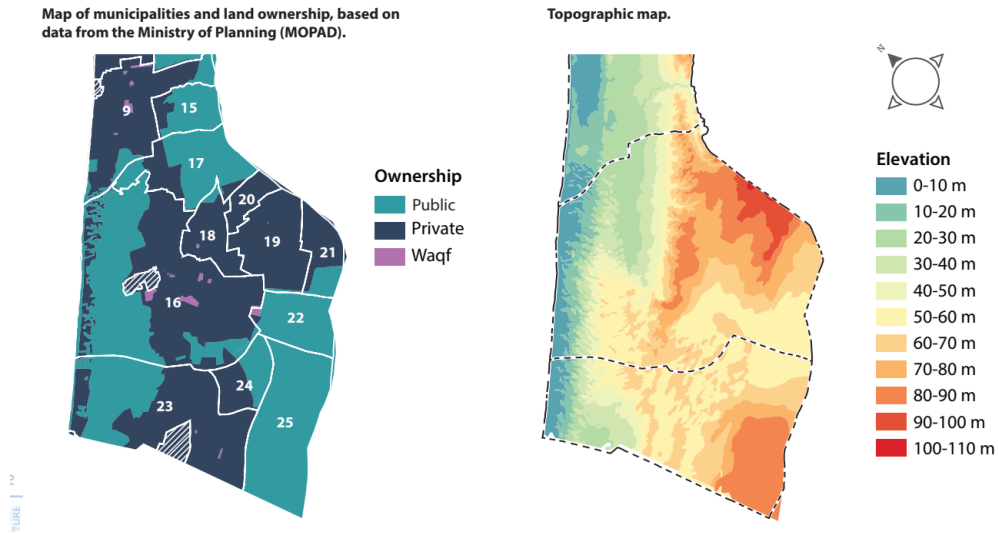


Figure 21: Elevation of lands in the southern governorates of the Gaza Strip

4.1.3 Soil

Soil in the Gaza Strip is mainly composed of six types: loess soil, dark brown/reddish brown, loess sandy soil, loess sandy soil, loess sandy soil over loess and sandy rhyosol (PEPA-EQA, 1996).

The sand dunes that lie along the coast of the Gaza Strip are the main soil type in the Strip. The thickness of the sand dunes ranges from 2 m to about 50 m and expands up to 4-5 km in the northern and southern regions and less in the heart of the strip.

Soil in the Khan Younis is mainly composed of sandy soil in Al-Mawasi and Qizan an Najjar in West Region and Batn As-Sameen, and yellow clay soil in Head East.

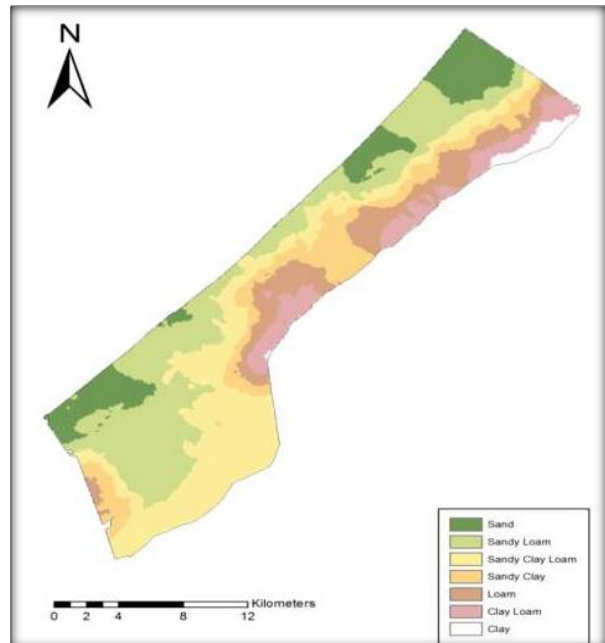


Figure 22: Soil Texture in Gaza Strip

4.1.4 Meteorological Conditions

Climate: The Gaza Strip has a semi-arid climate with a short and mild rainy season and dry summer. Khan Yunis has a typical Eastern Mediterranean climate with hot dry summers and mild winters.

Temperature: The temperature gradually changes during the year. The main findings of the time series indicate that the daily mean of air temperature ranges between 12°C and 25°C. The temperature gradually reaches its maximum in August (summer) and its minimum in January (winter); the average daily maximum temperature ranges from about 18°C in January to 31 °C in August while the average daily minimum temperature for January is about 7.0 °C and 20 °C for August (Weather statistics for North Gaza, 2018).

Humidity: Daily relative humidity fluctuates between 60% and 85% in the daytime in the summer and between 60% and 80% respectively in winter (CMWU, 2016).

Wind: At summer time, sea breeze blows all day long while the land breeze blows only at night. At noon, wind speed value reaches its peak and starts to decrease at night. Whereas in winter wind stream blows mostly from the Southwest. The average wind speed reaches 15.12 km/hr. In summer wind stream blows roughly only at precise hours. The average wind speed in summer can reach 14.04 km/hr. daily coming from the Northwest direction. On the other hand, in winter a maximum hourly wind speed of 18 m/s have been observed (CMWU, 2011).

Evaporation: In Gaza Strip, evapotranspiration measures based on 25 established records, mark that the strip has possible evapotranspiration of almost 1,291 mm/yr. The highest evaporation rate was observed and measured during July and August, the hottest months in the Gaza Strip with an evaporation rate of nearly 138 mm. whereas the minimum evaporation rate happens in January with a rate of 63 mm. (Sirhan, 2014).

Rainfall monitoring networks: The winter is the rainy season, which stretches from October up to March. Rainfall is the main source of recharge for groundwater. The average annual rainfall declines from 400 mm/yr in the north to 200 mm/yr in the south.

In Gaza strip there are 18 manual rainfall stations distributed through different governorates as shown in figure (23). Data from these stations are collected on a daily basis, these stations are operated by ministry of agriculture and data obtained from these stations are entered manually in Palestinian water authority database.

Air Quality: In general, air quality, with the exception of fugitive particulate emissions, the ambient air quality appears to be acceptable. This is because the Gaza Strip is well ventilated with ample dispersion of

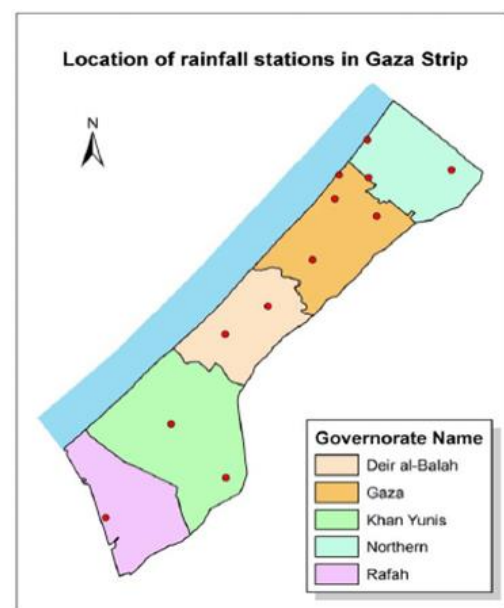


Figure 23: Rainfall Stations in G.S

emissions from the primary air emission sources, namely trucks and automobiles. Winds are either from the Mediterranean or from the Negev desert, neither of which is a source of anthropogenic emissions. Particulate matter appears to be principally in the form of dust from disturbed surfaces. The streets, paved and unpaved, are sources of particulates that are entrained into the air from motor vehicle tires and the wind. This occurs because the streets are not cleaned, there is little groundcover, and street drainage is poor, resulting in thick layers of silt deposits. In the project area, the main sources of dust or particulate matters in general is the traffic, agriculture activities. There are several noise sources due to human activities and nature in the area of concern.

Table 1: Gaza Strip Climatic Data, (CMWU, 2016)

Months	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Tmax oC	18.0	18.4	19.6	24.7	24.8	27.1	29.8	31.9	30.0	27.6	24.2	20.8
Tmin oC	10.3	11.4	11.9	15.8	18.6	21.6	23.2	25.0	22.7	20.4	17.4	12.7
Mean rainfall (mm/month)	75.9	71.7	27.7	5.5	0.2	0.0	0.0	0.0	0.0	26.2	55.8	52.0
Dew oC	8.0	9.0	9.0	14.0	17.0	20.0	22.0	23.0	20.0	17.0	16.0	10.0
Mean relative humidity %	66.0	69.0	64.0	67.0	73.0	77.0	76.0	75.0	65.0	66.0	72.0	62.0
Wind (m/s) (10m height)	2.7	2.8	2.72	2.8	2.52	2.4	2.3	2.1	2.2	2.2	2.24	2.4
Pan evaporation (mm/day)	2.5	2.9	3.7	4.6	5.4	6.0	6.3	6.1	5.6	4.2	3.3	2.6
Global solar radiation, (MJ/m2/day)	9.5	12.5	16.9	21.2	25.2	27.4	26.5	24.0	20.8	15.4	11.4	9.0

4.1.5 Land use

The total area of Khan Younis city is 54.56 km². The majority of land in Gaza is privately owned (57%), 41% are public lands and around 2% of the land is classified as Waqf (properties donated for religious or charitable purposes). The general land use of Khan Younis city is divided into Residential - urbanized areas, bare and arable areas.

In 2014, Un Habitat reported 45% of Gaza Strip is covered by buildings and roads, while 42% is agricultural land. Bare land (12%) is found mainly in the Access-restricted Area (ARA) along the border.

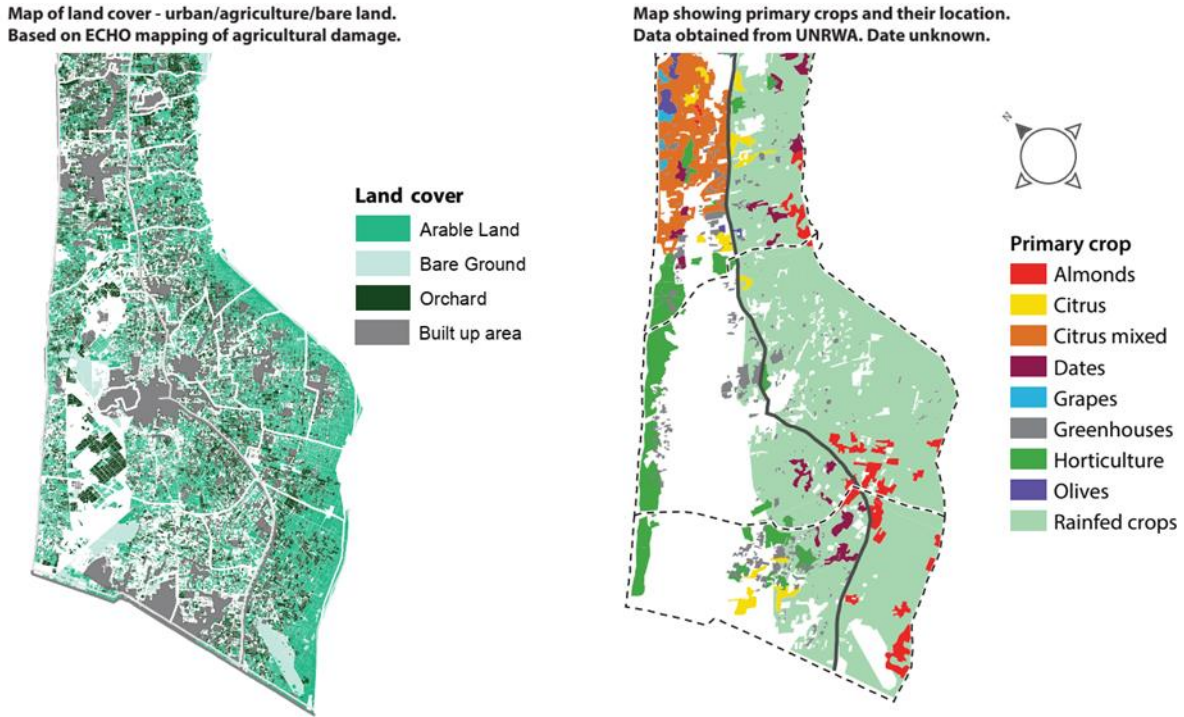


Figure 24: land cover & primary crop in Gaza Strip

4.1.6 Roads and Transportation

The road transport sector represents the backbone of Palestinian transportation; all types of movements – people/ goods, private/ public, systematic/ occasional – occur along the existing road network both in West Bank and Gaza Strip where no other modes of transport are supplied.

The current road network is far from adequate in terms of responding to the accessibility and mobility needs of Palestinian society. A general lack of resources for land acquisition and infrastructure upgrades has resulted in outdated road networks and transport modalities, the absence of major infrastructure interventions (i.e. building of tunnels, bridges, bypass roads, ring roads etc.) and the absence of sustainable mobility solutions (i.e. city buses, trams, cycling routes, etc.). The current Palestinian road network is composed of:

- Main Roads;
- Regional (arterial) Roads, and;
- Local Roads (Paved and Unpaved Roads).

The roadway condition varies from one targeted Urban Area to another. In general, main roads and regional roads are in fair to good condition, and local roads tend to be at a lower condition level. However, the rehabilitation and maintenance efforts in all the study areas are on-going and the roadway conditions are been upgraded continuously.

The public transport services in Gaza Strip are perceived as poor; public transportation infrastructure is poor. The public transport system in the Gaza Strip consists primarily of bus

services, shared-taxis, and cab taxis, whereas shared-taxi is the most used and common mode. All public transit modes are privately owned and operated.

Regional transportation (north-south) is limited to Salah El-Din Road and Al-Rasheed Coastal Road. The percentage of total Paved Roads in Khan Younis is 27.1%.

Khan Younis has an average of thirteen Km of street length per square Km. The town center is the most connected, with a higher connectivity.

Besides street connectivity, intersection density is another measure of how walkable a city is. Street intersection density is a measure of the number of intersections (nodes) per square Km of land. Adequate number of intersections within an urban area increase points where vehicles, cyclists and pedestrians can join streets moving in different directions across blocks, therefore reducing connection distance.

The survey shows that the number of street intersections per square Km is 156 as shown in Figure (25). Overall, the municipality needs to strengthen street connectivity in order to ease congestion and improve walkability.



Figure 25: Streets connectivity in Khan Younis city

4.1.7 Public and Open Spaces

Aggregately, the area of open public space measures in Khan Younis city 0.9 square Km, representing only 1.7% of urban land. This is against the internationally recommended optimum of 15 - 20%. Computed against the population, the per capita open public space in the city is 3.5 square meters which is below the national standard of 5 square meter per capita. This is projected to reduce to 2.5 square meters by 2030. This is a wakeup call for the city to embark on providing more public spaces.

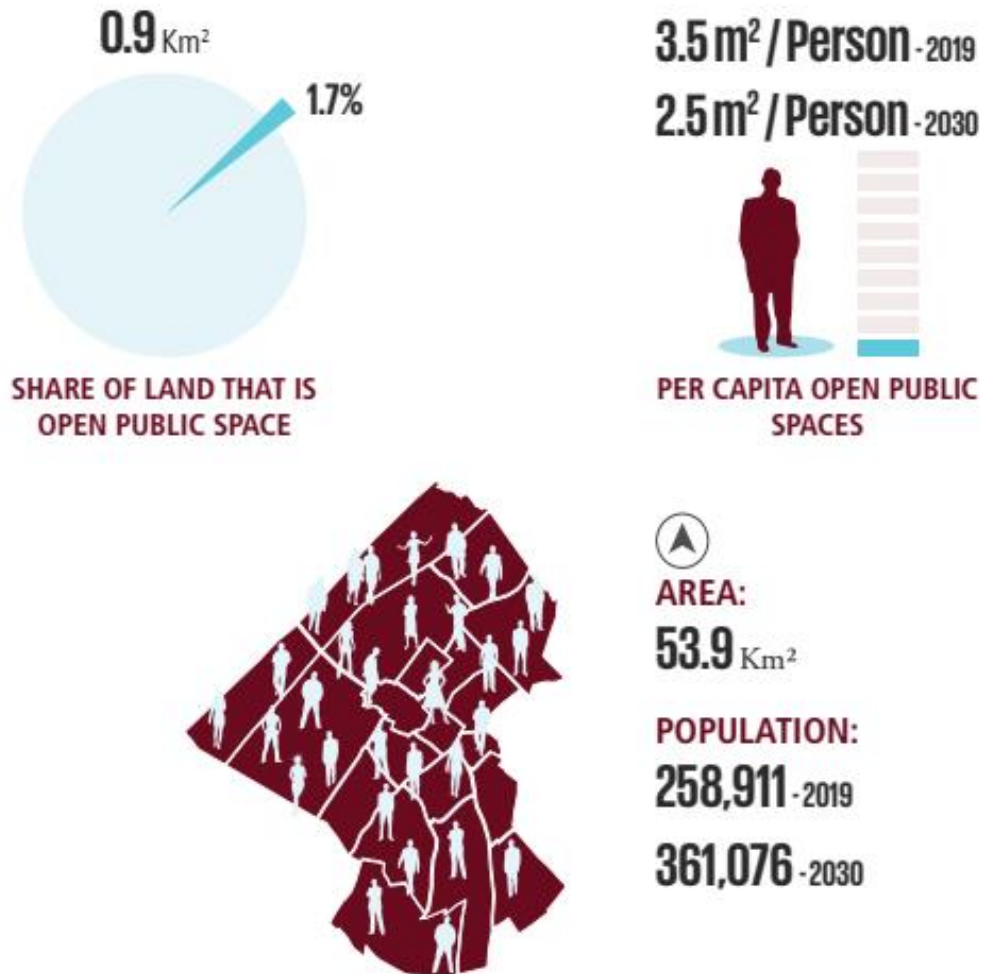


Figure 261: Open Public Spaces in Khan Younis city

4.1.8 Solid Waste Management in Palestine

Palestine has been facing many of the escalating environmental threats occurring over the decades associated with the instability to financial and economic stress reflecting the development of the infrastructure sector.

Palestinians from West Bank and Gaza generated about 1.59 million tons or nearly 4,356 tons/day in 2018. Average production per capita is about 0.9 kg/day. Most of municipal waste (94%) is collected by municipalities, the UNRWA (in refugee camps especially) and JSCs. The JSCs collect about 65% of the municipal waste; the remaining waste is taken care off by the previously mentioned service providers and the private sector.

Disposal methods are mainly landfilling and dumping (random or controlled). It is estimated that about 30-35% of municipal waste is illegally dumped and 65-70% is disposed in one of the six operational landfills existing in Palestine. These landfills face the risk of over-capacity in the short term, due to land restrictions, low primary separation and an increase trend in waste quantities.

The use of solid waste transfer stations (TS – a place where solid waste is temporarily deposited and often separated to be later transferred to the final disposal site) is a relatively new approach in the OPT. There are currently 12 operational Palestinian TS (11 in West Bank; 1 in Gaza Strip) and 3 newly constructed (in WB and GS). These TS have a good potential for waste segregation and recycling activities, thus helping to reduce the amount of waste finally disposed in landfills; however, their use is still underdeveloped.

Gaza’s two million people produce nearly 2,000 tons of waste a day. SWM services to this population are provided by the municipalities and UNRWA along with two Joint Service Councils. Most of the collected solid waste in the Gaza Strip is disposed of in two main disposal sites; Johr Al-Deek Landfill east of Gaza City, El-Fukhary Landfill east of Rafah City. Figure (27) shows the landfills distribution in Palestine.

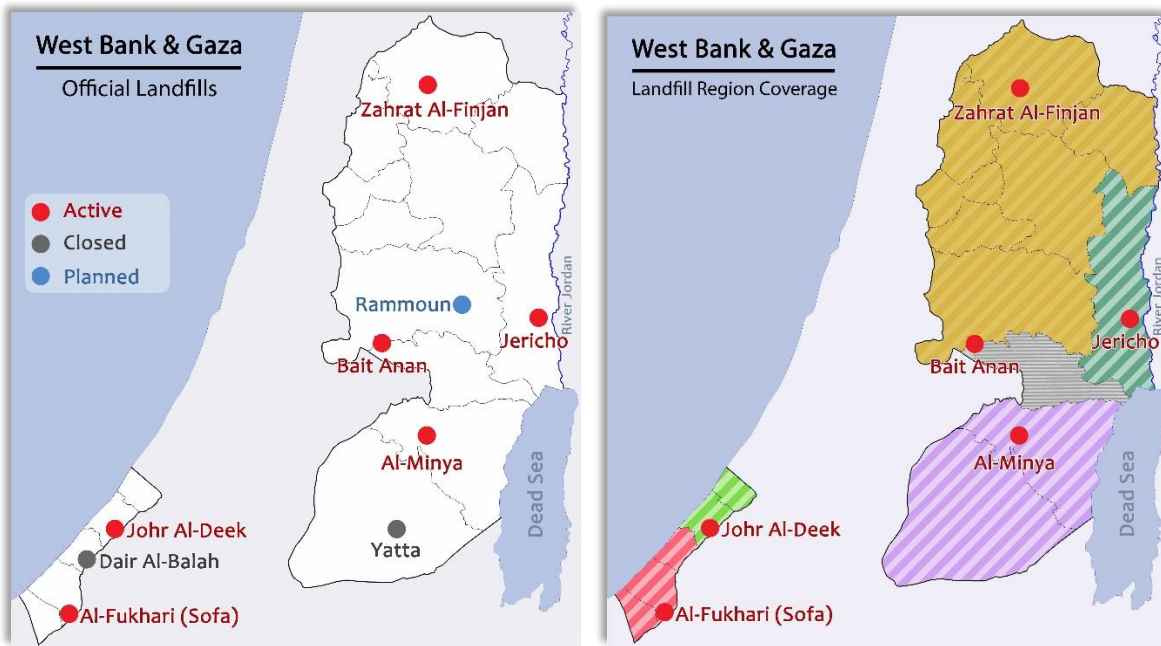


Figure 27: The locations of landfills and service area in Palestine

Random dumping is still a practice in the Palestine, especially for special waste, such as construction and demolition debris, used tires or agricultural waste for example, are disposed

along roads or in empty plots, with burning in some places. It is difficult to have an up-to date list of all the uncontrolled dumpsites. In the last few years, thanks to the opening of sanitary landfills and several rehabilitation efforts, many illegal dumpsites could be closed.

4.1.9 Solid Wastes Generation and Composition

Khan Younis Municipality provides hygiene and public health services for the citizens of the city, and as a result of geographic expansion in the collection and deportation process of waste, the total daily quantity of waste exceeded 150 tons.

The total municipal waste generation in the Khan Younis governorate is about 0.67 kg per person per day (ESIA, 2012). 92% of the generated wastes in Khan Younis governorate is domestic wastes.

In 2012, UNDP has performed 116 physical sampling analyses of about 100 kg each at different locations in Gaza, and has compared these with the compositions measured directly by other researchers. The average composition figures of municipal waste streams in Gaza are presented in Table below. The municipality of Khan Younis provides 1 m³ and 4 m³ containers on the streets. The municipality is responsible for the primary collection. The Municipality is a member of JSC-KRM which provides the solid waste management services for 17 municipalities in the middle and south of Gaza Strip. The solid wastes are collected and disposed in Al Fukhary sanitary landfill (11 km from the center of Khan Younis).

Khan Younis solid waste transfer station site is located in the southern of Khan Younis city, about 2.3 KM from the local of Al Namsawi Dump Site. And it is bounded from the east by 18 m road (structural street No. 30).

Khan Younis Transfer Station was constructed by United Nations Relief and Works Agency for Palestine Refugees (UNRWA) and currently hosts the medical waste treatment facility which is operated by the JSC-KRM. The medical waste treatment facility is located at Khan Younis Transfer Station and it started operation since 2018 with some stops due to technical issues. It receives the wastes from the Health Care Units and hospitals. The treatment facility expanded the services after operating the new microwave.

There is no separation from source of the wastes. Limited practices of reuse and recycle of some materials (mainly plastic and steel) are privately owned.

Table 2: Waste Composition in Gaza Strip and South Area (wet weight %)

Component	South Area %	Average for Gaza Strip %
1. Paper	6.24	7.31
2. Plastic	10.52	13.95
3. Yard waste (non wood)	4.17	7.6
4. Organic Food waste	37.78	31.84
5. Wood	0.63	0.77
6. Textile	3.92	3.72

Component	South Area %	Average for Gaza Strip %
7. Diapers	11.49	9.9
8. Other Organics	4.05	2.73
9. Ferrous	2.25	2.27
10. Aluminum	0.28	0.13
11. Glass	1.9	1.96
12. Sand/fine materials	12.05	13.44
13. Other inorganics	4.72	4.37
Total	100	100
Total Organic (3-8)	62	56.6
Total Organic (percentage of total waste, excluding sand / fine materials)	70.5	65.4

Source: TECC, DHV ENFRA. 2012. Feasibility Study and Detailed Design for Solid Waste Management in the Gaza Strip. 2012

Medical Waste: In the past (before 2018), the incineration was used for medical waste; it was used for the hazardous waste inside Naser Hospital in Khan Younis, it was a cheap method and there were no indications that medical waste was dumped in Al Namsawi dump site.

Construction and Demolition Waste: The Municipality confirmed that Al-Namsawi site had historically received municipal SW as an intermediate storage location only, whereas the storage of C&D is another place which is located in another area.

4.1.10 Water Resources and Quality

In General, Gaza Strip is located on the extreme western edge of a shallow coastal aquifer. The water resources in Gaza are limited. The coastal aquifer is considered the only source of freshwater for the Palestinian population in the Gaza Strip with the thickness of the water bearing strata ranging from several meters in the east and south-east to about 120-150 m in the western regions and along the coast.

The population of Khan Younis receives a water supply through the CMWU water supply system. Water in the Gaza Strip is sourced primarily from the coastal aquifer, which has been infiltrated by the Mediterranean Sea, leading to increased salinity in the groundwater. Extraction from the coastal aquifer (for municipal use) is estimated to be 88.6 million m³/year (CMWU, 2020), but the annual sustainable yield of the aquifer within the Gaza Strip is estimated to be 55 million m³/year. Gaza Strip has a water crisis and faces serious challenges for the future sustainability of water resources. Khan Younis as the same to the whole strip, the Coastal Aquifer is the only natural source of water supply for all activities (domestic, irrigation and industrial supply).

Khan Younis, according to the classification of cities in the sector currently according to its water conditions from the areas of surplus water where the population gets their water needs continuously from local or municipal sources. The amount of water extracted in Khan Younis is about 30 million annually for agricultural and human consumption purposes. The groundwater

quality is monitored through all municipal wells and some agricultural wells distributed all over the Gaza Strip by CMWU, UNRWA, PWA and others.

Contamination of water resources with fertilizers, pesticides and solid waste, as well as a lack of adequate water and sewage treatment options, including desalination facilities, has further compromised the quality of the water. The water extracted from the coastal aquifer is not suitable for drinking and unusable in several locations of Gaza Strip. The majority of the observed chemical parameters of all wells are well above the WHO water quality standards and all water quality values indicate that the water quality is problematic. According to the Palestinian Water Authority (PWA report June 2018), the groundwater quality is far in excess concerning the WHO standards. Since over, 96.1% of the pumped groundwater in the Gaza Strip does not meet the standards for drinking water. The groundwater in a large area along the coastline is unsuitable for human consumption and comparison of the maps of 2010 and 2020 shows an obvious seawater intrusion.

Gaza Strip is experiencing serious wastewater-driven problems, characterized by high levels of nitrates in the groundwater. Hence, the Palestinian Standard of Chloride concentration is 600 mg/L, whereas the major parts of the aquifer have a chloride concentration ranging between 600-2000 mg/l, while along the coastal line chloride concentration exceeds 2000 mg/l and can reach more than 10,000 mg/l at some spots due to effect of the seawater intrusion related to the type of aquifer and soil formation of the area (PWA. 2017) (WHO's guidelines specify a maximum of 250 mg/L and the PWA specifies 600 mg/L). Nitrate levels up to 528 mg/L also exceeded the recommended limits in both guidelines (WHO's guidelines: maximum 50 mg/L; PWA guidelines: 70 mg/L). The groundwater salinity is increasing significantly in most of the water wells. The magnitude as well as the attitude of that increase varied from well to well as well as from area to area, depending on different hydrogeological factors.

In the Gaza Strip, the average per capita consumption from the total water supply is about 140 l/c/d, while the actual consumption after considering the system efficiency is 86 l/c/d.

The PWA developed a strategic plan to meet growing water demands, to save the aquifer and provide sustainable solutions to Gaza's water crisis through a Rolling Program of Interventions (RPI) consisting of: construction of central desalination plant, 3 Short-term low volume (STLV) desalination plants, reduction of the non-revenue water, wastewater treatment plants, pilot and large-scale wastewater reuse schemes, increased imported water from the Israeli side and improvement of water management in agriculture. The PWA's strategic plan faces several implementation challenges including the blockade, as well as constrained financial resources, and limited energy sources. Therefore, only 50% of the proposed capacity for the STLV plan is completed and connected with the water supply system. The Central Gaza Sea Water Desalination plant (with 55MCM/y capacity) and the associated works (with an estimated cost of US\$450 M) were planned originally for operation by 2016, but still suffers a delay until today.

According to a 2015 survey conducted by PWA, about 160 brackish water desalination plants in Gaza Strip desalinate water from the aquifer for drinking purposes. Half of these plants are privately owned, the other half are public, NGOs, or school-owned. These plants distribute to the

Gaza population via tanker trucks, which is a very expensive method of water transmission, a cost burdening the average consumer.

There are currently 48 private and NGOs (drinking water vendors) owned small water desalination plants in Khan Younis Governorate. The production rates of the plants range between less than 5 m³/day and 200 m³/day.

Ground water is the most precious natural resource in the Gaza Governorates as it is the only source of water supply for domestic and agricultural use. Under natural conditions, groundwater flow in the Gaza Strip is towards the Mediterranean Sea, where it discharges to the sea. However, pumping over 50 years has significantly disturbed natural flow patterns. Large cone of depression was formed in the south where water levels reach 18 m below mean sea level near southern area of Khan Younis.

Water quality of the coastal aquifer underlying Gaza has deteriorated harshly. The main groundwater quality problems are elevated chloride and nitrate concentrations. Chlorides are indication of the water salinity, and nitrates are indication of the presence of organic fertilizers, wastewater, sewage sludge and artificial fertilizers. In this report the water quality is reviewed with respect to chloride and nitrate. For simplicity, the reference level over which the water is to be considered a source and under which the water is to be considered a sink is set as follows based on the World Health Organization drinking water guidelines:

- 50 mg/l for NO₃
- 250 mg/l for Cl⁻

PWA with coordination with MoH analyzes groundwater samples for a set of chemical parameters which includes Cl⁻ and NO₃ in addition to other parameters. Figures (28) and (29) show the Chloride and Nitrate concentration respectively in the groundwater of Gaza Strip Governorates for the year 2017.

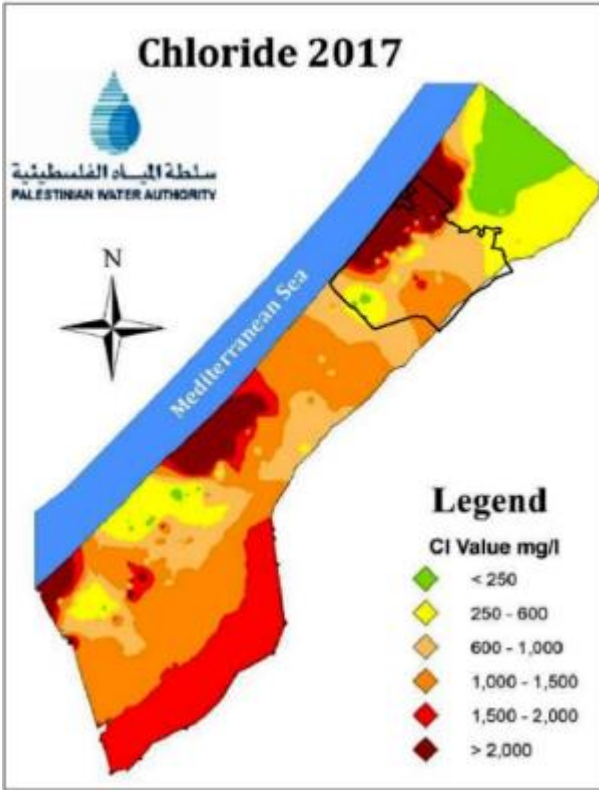


Figure 28. Chloride concentration (PWA, 2017)

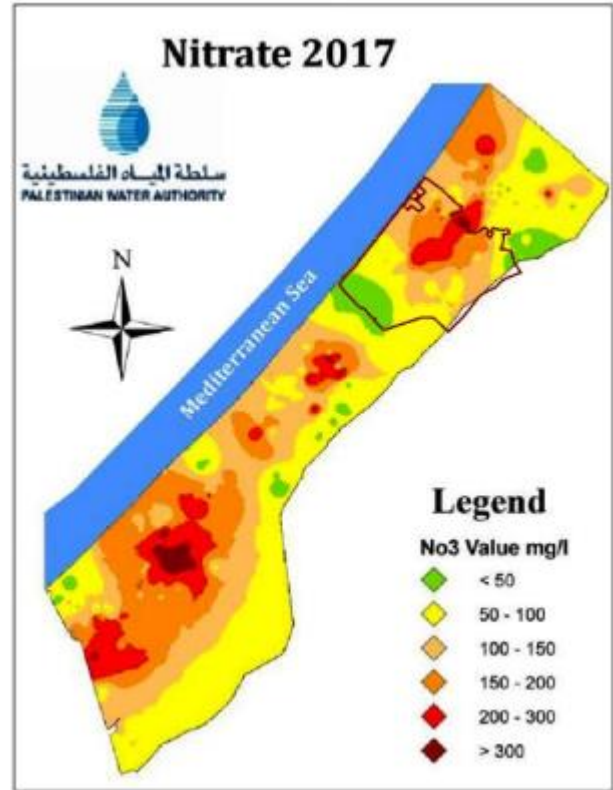


Figure 29. Nitrate concentration (PWA, 2017)

From the above Figure (28), the chloride concentration of the groundwater in the site of Al-Namsawi is varying from 600-1000 mg/l, in which Nitrate is varying from 200-300 mg/l as shown in Figure (29).

Khan Younis municipality owns 34 municipal groundwater wells, only 29 of them in service to cover all the city. The nearest groundwater well (Al-Shaer well) is about 350 m, and Kuwaiti well which is 800 m far from Al-Namsawi Site. There are no groundwater wells within radius 250 m of the site. Table (3) shows the chloride (CL), nitrates (NO₃), and Total Dissolved Substance (TDS) results in this well from 2018 – 2022. No significant changes at the results over the time. Hence, the high concentration of nitrates could be due to the agricultural activities at the area and the use of fertilizers.

Table 3. Groundwater quality in Al-Shaer groundwater well (300 m from the site)

2018			2020			2021			2022		
Cl	NO ₃	TDS	Cl	NO ₃	TDS	Cl	NO ₃	TDS	Cl	NO ₃	TDS
668	229	1,868	700	271	2,003	758	190	2,102	727	246	1,965

4.1.11 Wastewater Services

Khan Younis Governorate is located at the southern part of the Gaza Strip and is currently inhabited by more than 340,000 residents. It has been sustaining for a long time an absolute absence of a functional wastewater treatment plant. The raw sewage is still being disposed off in the environment without treatment through cesspits and ad-hoc lagoons, which is posing serious risks to the residents’ public health as well as contaminating the ground water aquifer.

Khan Younis Municipality supervises three sewage pumping stations, four wastewater pools, and the recently constructed and operated Khan Younis central wastewater treatment plant in Al-Fukhari area with a total budget of which is 56 million dollars. The Municipality manages a sewage network of length of about 85 km. The Municipality is working hard to completely get rid of cesspits, and it separated municipal sewage networks from rain water drainage networks.



Figure 30: Wastewater Treatment Plant in eastern of Khan Younis Governorate

4.2 Biological Habitat and Species (Fauna and Flora)

There are approximately 51,000 living species in Palestine, constituting approximately 3% of global biodiversity. There are more than 30,850 animal species, as presented in Table (4).

Table 4. Fauna species in Palestine

Fauna Species	Birds	Mammals	Amphibians	Reptiles	Fish	Invertebrates	Total
Number	373	92	7	81	297	30,000	30,850

Source: State of Environment and Outlook Report for the occupied Palestinian territory 2020, <https://reliefweb.int/sites/reliefweb.int/files/resources/SEORP.pdf>

Of the 1,938 wild plant species in Palestine, 102 (5.3%) are classified as endangered species and constitute the 'red list'. These species belong to 83 genera and 39 plant families. Palestine has 54 endemic plants that do not exist in any other part of the world.

Based on the International Union for Conservation of Nature global guidelines, criteria and Red List publications, there are 24 fauna species in Palestine listed as globally threatened. There are no plant species recorded on the International Union for Conservation of Nature Red List. The categorization of the Red List fauna species that are listed as globally threatened is presented in Table (5) below.

Table 5. Globally threatened fauna species in Palestine

Fauna Species	Birds	Mammals	Amphibians	Reptiles	Fishes	Molluscs	Other Inverts	Total
Number	10	3	1	4	2	2	2	24

Source: IUCN Red List version, 2015

Based on site visits to Al-Namsawi Site Visit and the desk review, it is expected that there will be no impact on the flora and fauna due to the project activities.

4.3 Socio-Economic Aspects

Life for nearly all residents of Gaza Strip has become increasingly difficult because of the blockade on Gaza, which has caused a dramatic deterioration of socioeconomic conditions, including ever growing unemployment and poverty rates.

It should be noted that poverty in Gaza Strip is not limited to low levels of income. It is rather characterized by serious shortfalls in other dimensions. There is a serious level of insecurity of income, food, access to infrastructure and vulnerability resulting from the strong reliance on external assistance, with very limited ability to attain sustainability of livelihoods for a large portion of households. Many families are suffering from the consequences of war and blockade, and are generally overwhelmed by the economic and political situation.

4.3.1 Population Density

Khan Younis City locates to the south west of Gaza Strip; it is 15 km to the north of the Egyptian borders, with total area 54.5 km². To the west of the city there is a refugee camp called "Khan Younis Refugee Camp", it is one of the crowded camps in Gaza Strip. According to the PCBS the population in Khan Younis city was 228,972 persons and the population in the refugee camp was 45,970 persons in the Mid of 2021. (Show Table 6: Projected Mid -Year Population for Khan Yunis Governorate by Locality 2017-2021).

Table 6: Projected Mid -Year Population for Khan Yunis Governorate By Locality 2017-2021

Locality Name	Mid-Year Population				
	2017	2018	2019	2020	2021
Khan Yunis Gov.	366,223	377,819	389,604	401,582	413,727
Al Qarara	28,659	29,566	30,488	31,425	32,376
Khan Yunis Camp	40,691	41,980	43,289	44,620	45,970
Khan Yunis	202,682	209,099	215,621	222,251	228,972
Bani Suheila	40,945	42,242	43,559	44,899	46,257
A'basan al Jadida	9,179	9,470	9,765	10,066	10,370
A'basan al Kabira	26,448	27,286	28,137	29,002	29,879
Khuza'a	11,252	11,609	11,971	12,339	12,712
Al Fukkhari	6,366	6,568	6,773	6,981	7,192

Neighborhood Committees: The city of Khan Yunis is divided into neighborhoods as shown in figure (31); Most of neighborhoods are represented by a committee (16 committees).

1. Qizan An-Najjar
2. As-Satar
3. Al-Amal
4. Al-Mawasi
5. Joret Al-Lout
6. Al-Manara
7. Batn As-Samin
8. Ash-Sheikh Nasser
9. Al-Mahatta
10. Khan Yunis refugee camp
11. Ma'en
12. As-Salam
13. Qa' Al-Qrein
14. Qizan Abu Rashwan
15. Al-Katiba
16. City Center



Figure 31. Neighborhood in Khan Yunis

Al-Namsawi dumpsite locates to the south west of Baten Al-Samin neighborhood, and the community there consists of 105 families, they called Naher Al-Bared inhabitants, most of those families have refugee ID numbers, and they used to live at this location due to the poverty and other social reasons, many of them moved to the area after 2010.

4.3.2 Employment Status

The general unemployment rate in the Palestinian is considered high, the unemployment rate reported in the National Census Survey report, 2019 is 25.3% about 39.5% of them in Gaza Strip. There is relatively significant disparity between males and females. Unemployment rate among females is about 63.7% in Gaza Strip.

The results of Labor Force Survey 2019, showed that the labor force participation rate was 44% of the total labor force (individuals aged 15 years and above); of which 41% in Gaza strip. The female's participation rate in labor force was very low compared to the male's participation rate, where it reached 18%; of which 19% in Gaza Strip. As for the males, it was 70%; of which 62% in Gaza Strip.

The second quarter report from PCBS for 2021, showed that most of the activities witnessed an increase in the number of employed persons during the 2nd quarter of 2021 are those employed in commerce and hotels, then agriculture and other services, while constructions, Manufacturing, transport and storage activities witnessed a notice decrease in the number of employed persons. And the average weekly working hours for wage employees in Gaza Strip were 37.0 hours, while the average monthly working days were 22.6 working days in Gaza Strip.

According to the National Census Survey report in 2019, the unemployment rate in Khan Younis Governorate was 49%, and it is the second heights rate in Gaza Strip after Dier Al-Balah Governate. While the people of Naher Al-Bared are considered more than 90% unemployed community, only 10% of them have temporary jobs in collecting and selling stones from the destroyed buildings using their donkey carts, those people works individually and they gain few Shekels a day.

4.3.3 Child Labour

Estimated number of children (under 18 years) is 2.27 million in Palestine in mid 2020, with 1.16 males and 1.11 females. Children in Palestine comprise 45% of the total population (42% in the West Bank, and 48% in Gaza Strip).¹⁰

According to the Labor Force Survey 2019, the percentage of employed children (paid or unpaid) reached about 3% of total number of children (10-17 years): 4% in the West Bank and 1% in Gaza Strip (6% of male children and 0.2% of female children). Moreover, the percentage of children enrolled at schools and engaged in the Labor market reached 1% (1% in the West Bank and 0.5%

¹⁰ <https://pcbs.gov.ps/post.aspx?lang=en&ItemID=3707>

in Gaza Strip). As for gender distribution, the percentage was 2% for male children and 0.1% for female children during 2019.

The reason of not having high rates of child labor especially in Gaza Strip, which suffer from bad economic situation, is the Palestinian Child Law, since it is applied for all sectors. Articles No. 14 and 39 of the law, prohibit the employment of children under the age of fifteen; It is allowed for children aged 15-17 years to work under certain conditions, including: that these jobs are not dangerous, that the working hours are short, and that children undergo a medical examination every 6 months.

All the local official entities, which work either in SWM activities or the construction activities at the project area, are commit to the children labor law and prohibit working any child under 18 since, since working in such activities considered dangerous for the children under 18.

4.3.4 Poverty

The relative poverty line and the deep poverty line according to consumption patterns in 2017 (for reference household consisted of 2 adults and 3 children) were NIS 2,470 (USD 671), and NIS 1,974 (USD 536), respectively. The poverty percentage among Palestinian individuals according to consumption patterns was 29% (53% in Gaza Strip). Data showed that about 17% of the individuals in Palestine suffered from deep poverty in 2017, according to consumption patterns (34% in Gaza Strip). (Source: PCBS, 2021).

Average per capita monthly expenditure in Gaza Strip, decreased from JD 110 in 2011 to JD 91 in 2017, reflecting a decline of 17%.

According to the Socio-Economic Conditions Survey 2020, 45.5% of households that received assistance in Palestine received food assistance. Cash assistance represented 34.6%, and 10.4% of the received assistance by households is in the form of food parcels/ food coupon, while the percentage of assistance received by households in the form of purchase coupons was 4.5%, while 1.9% of the received assistance was in form of health insurance. 37.6% of assistance came from UNRWA in Palestine while the Ministry of Social Development ranked second as it provided 19.5% of assistance. Other Government institutions came third with 16.6% of assistance provided in 2020 (PCBS,2020).

The Palestinian private sector comes on top of the list of sources of income in Palestine. 30.4% of Palestinian households reported that their main income came from the private sector (24.5% in Gaza Strip). The public (government) sector ranks second source of income where 20.9% of households reported that it was their main source of income (27.7% in Gaza Strip). (PCBS,2020).

All the families who live in Naher Al-Bared, depend on the food and cash assistance for living, those assistance provided by UNRWA for the people with refugee ID numbers and from the national and international NGOs, which used to secure food and hygiene parcels for the families in a regular base.

4.3.5 Gender Based Violence (GBV)

There are no available aggregated data on GBV and specifically sexual exploitation, assault and sexual harassment (SEA/SH) in the project area. In Gaza at large, early marriage under 18 years old reached 20.5 % among females and 1 % among males out of the total married population in Palestine¹¹. Approximately 15 % of married women in Gaza experienced incidents of sexual abuse by husbands over the previous year¹². More than half of these experienced it repeatedly (3+ times).

50 % of Palestinian women and 63 % of Palestinian men agreed that a woman should tolerate violence to keep the family together¹³.

4.3.6 Housing and Living Conditions

One of the main indicators of living conditions and welfare of families is the type of dwelling. Based on the latest National Census Survey implemented in 2017, (59.7%) reside in a house in Gaza Strip, whereas (29.8%) of the households in Gaza Strip reside in marginal/ caravan /barracks.

The ownership of the house can be an important indicator of the socioeconomic characteristics of the household. In the Gaza Strip the vast majority of the population owns their houses (91.6%), while only 4.7% rent their dwelling. In this case, ownership does not necessarily reflect high socioeconomic status of the community, but may instead reflect a custom and tradition of the community which encourages private ownership.

Al-Namsawi dumpsite is located in the south of Khan Younis City; and the nearest residential houses are located in an area called “Naher Al-Bared Area”. Naher Al-Bared area is located close to the dumpsite and extended to the Khan Younis Camp; the nearest residential unit is located not more than 5 m from the dumpsite boundary. In Naher Al-Bared area, there are only 75 residential units (houses) for 150 families, the people built their houses on a governmental land, they are considered squatters according to the Palestinian Land Authority Laws. The houses were built randomly using local blocks, the roofs made of corrugated metal sheets, most of the houses without toilets, and there is no electricity network, drinking water network nor a sewage network in the area.

During the screening visit for the area during the preparation of this ESMP report, it was noticed there wasn't any shop or grocery at this community. The only public building was a small Musallah (place for praying, smaller than a mosque) and it is the only place which had a drinking water permanent source.

¹¹ Palestinian Central Bureau of Statistics (2016)

¹² UN Women (2017). Navigating through Shattered Paths: NGO Service Providers and Women Survivors of Gender-Based Violence: An Assessment of GBV Services in Gaza.

¹³ UN Women (2018). International Men and Gender Equality Survey (IMAGES) Palestine Report.



Figure : 32The Residential Units (Houses) for Naher Al-Bared Community

Also, while the ESMP consultants were screened the local community activities, it was observed the arrival of the drinking water vehicles, which used to arrive every week to the area to provide the people with free healthy drinking water as assistance from INGO for those people. Since there is no source for such water available and the families can't afford purchasing sufficient quantities of drinking water.



Figure :33 The Assistance From INGO to Provide the Residents With Drinking Water

4.3.7 Literacy Rate

The Labor Force Survey 2019 data showed that illiteracy rate among individuals (15 years and above) in Palestine was 2.6%. The illiteracy gap is significantly noticed among males and females with percentages of 1.2% and 4.1%, respectively. The rate fell from 14.1% in 1997 to 2.9% in 2019 in the West Bank, while it fell from 13.7% in 1997 to 2.2% in 2019 in Gaza Strip.

The illiteracy rate in Palestine varies considerably between age groups, where the age group (65 years and above) recorded the highest rate, while the lowest rate was among the age groups (30-44 years) and (15-29 years). In 2019, the illiteracy rate in Palestine among older persons (65 years and above) reached about 27.9% (45.6 thousand illiterate persons). The rate was about 2.9% (17.5 thousand illiterate persons) among the age group (45-64 year), 0.8% (7.1 thousand illiterate persons) among the age group (30-44 year) and 0.7% (10.2 thousand illiterate persons) among youth (15-29 years) in the same year.

In 2019, the illiteracy rate in Palestine among rural localities reached 3.2% (15.3 thousand illiterate persons), while it scored 2.6% in refugee camps (6.6 thousand illiterate persons) and 2.5% (58.5 thousand illiterate persons) in urban areas.

The children of Naher Al-Bared community go to the UNRWA schools, some of them dropped out of school due to the deep poverty, so they couldn't afford going to schools, while the others chose search for jobs at the streets and local markets for living, instead of educating.

4.3.8 Health Conditions

The Palestinian health system consists of four main sectors: the government health sector, UNRWA health services, non-governmental organizations, and the private sector health facilities. These different sectors are involved in providing health care services to citizens in all levels: primary health care, secondary and tertiary health care. The Palestinian Ministry of Health attaches great importance to maintaining the continuity of the Palestinian health system and providing comprehensive health services of high quality to all citizens.

There are differences in health outcomes between Palestinian populations, including between those living in towns, villages, refugee camps or Bedouin camps. There are different patterns of ill-health or disease according to age and gender. However, gaps in the disaggregation of data for different Palestinian populations, particularly by geographical location, limit analysis of health inequities.

The Population, Housing and Establishments Census, 2017 data showed that the number of health insured individuals in Palestine reached 78.3% of the total Palestinian population. The percentage of individuals with government insurance was 32%, while the percentage of individuals with UNRWA insurance was 15%, 2% with private insurance, 29% of the individuals have government and UNRWA insurance, 0.2% have government and private insurance, 0.7%

have UNRWA and private insurance, 0.7% of the total Palestinian population have Israeli insurance and 0.3% have other insurances.

Al-Namsawi dumpsite locates to the south of the main and biggest governmental hospital at Khan Younis Governorate, the people from different level of income receive their medical treatment from this hospital especially during the emergency periods.

Since most of Naher Al-Bared community are considered refugees, so they receive their primary health care from the UNRWA clinics, which is locates at the nearby Khan Younis refugee camp, in addition they receive medical assistance from some NGOs for the people with chronic disease.

During the screening visit, the people declared that they used to suffer from different diseases due to the existence of the dumpsite near their house. In addition, to the diseases caused by water pollution, since they don't have a source for drinking water at their community.

4.3.9 People with Disabilities

The Population, Housing and Establishments Census 2017 data indicated that 255,228 individuals, which is 6% of the individuals in Palestine, have at least one difficulty (6% males and 5% females). In terms of the type of difficulty (seeing, hearing, mobility, remembering and concentration, communication), where mobility recorded the highest percentage by 3% of the total Palestinian population, and the communication difficulty was the least prevalence among other difficulties with 1% of the total population in Palestine.

There is significantly limited information about disability in the Naher Al-Bared Community. However, based on the meetings with some people during the social screening visit, the people declared that there are few numbers of people with partial disabilities.

4.3.10 The archaeological and Architectural Heritage

According to the Tangible Cultural Heritage Law 2018, immovable cultural heritage is considered as one of the following: Archaeological sites, Monuments, Historic Areas, Single buildings, and Cultural Landscape.

The definition of Physical Cultural Resources (PCRs) includes any movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. PCRs may be located in urban or rural settings, and may be above or below ground, or under water. Their cultural significance may be at the local, provincial or national level, or within the international community. MDLF will not finance any sub-project under GSWMP that might trigger OP 4.11. In case of accidental findings of any antiquities or PCRs that might occur during the construction of the sub-projects, the contractor must notify MDLF/ICUD and the municipality immediately. According to the applicable Jordanian Heritage law No. 51 for the year 1966, Article 15; MDLF must stop the contractor and notify the related Authority (Ministry of Tourism and Antiquities, or MoTA) within 3 days to take the necessary actions.

Palestine's rich heritage encompasses innumerable archaeological and historical sites, renowned architectural monuments, and typical rural and urban buildings and constructions. Moreover, Palestine's folk heritage, including craft-making, oral traditions, music and customs, is part of the national wealth.

Unfortunately, the architectural heritage in Palestine has faced alarming deterioration, destruction, and negligence resulting mainly. As a result of this the urban, as well as rural and natural landscapes, have changed in an unprecedented manner. Almost 50% of buildings in most Palestinian towns and villages were constructed during this time. The other 50% were built in previous centuries.

Field surveys conducted during preparing the ESMP for the project in Feb 2022; in the area of Al-Nemsawi dumpsite did not identify any archaeological sites.

The near residential area from Al-Nemsawi dumpsite locates considered new areas and there is no reported any old building, mosque or any archaeological places

Figure (34) shows the nearest archaeological remains in the Khan Younis city which is Barquq Castel, situated in the center of Khan Younis city, about 3km to the north of the dumpsite.



Figure 34: Barquq Castle – Khan younis

4.4 The status of the PAPs from the Compensation Plan Report

Affected People (PAP) resulted from Rehabilitation and closure of Al-Namsawi dumpsite: during the initial screening visit for the dumpsite, it was found that, there were 3 illegal residential units located directly close the dumpsite, and it was obviously noticed that, those units should be removed due to the design of the project. Khan Younis municipality in coordination with JSCKRM, MDLF and Palestinian Land Authority, found a satisfied and fair solution to move those three families and compensate them, according to the legal standards. This process was consulted with the families, who found it a good opportunity for them to enhance their housing conditions. Since the three families used to live in very poor residential units, immediately close to the dumpsite, they suffered along the past years from the illness and the existence of the rodents at their rooms.

MDLF prepared a Compensation Plan report in December 2021 (Updated in March 2022), it included the detailed description of the residential units, details of the three families, their socioeconomical status, the consultations process, the compensation process and the details of the resettlement process.

During the public consultation, a representative of the three families was consulted and confirmed that the land authority had registered 308 m² for three families (102m² for each) for each, this piece of land located at the eastern part of Naher Al-Bard community, on a future local road and it will be benefited from the electricity network from the near legal neighborhood.

The status of the three families totally changed, they used to be identified as illegal inhabitants and after the agreement and the resettlement process, they became land owners and legal residents. And this expected to enhance the health status for the old women and the children at the coming period, because the new location of the houses is healthier. During the field visit for the social consultant, the process of building the houses was reported.



Figures 35, 36: The old residential units for Al-Massri family locate under the dumpsite



Figure 37: The progress of the three residential units at the eastern part of Naher Al-Bared to the west of the local street

5. STAKEHOLDER ENGAGEMENT AND GRIEVANCE REDRESS MECHANISM

5.1 Public Consultation

On Feb 24th, 2022, a public consultation session was conducted to discuss the Rehabilitation and closure of Al-Namsawi Dumpsite project, the expected environmental and social impacts and the corresponding mitigation measures during construction phase and the post-closure phase.

The session was arranged by Khan Younis Municipality in cooperation of the neighborhood committee (Batten Al-Sameen committee) and the consultant. Citizens were invited via phone calls and publishing announcement during the prayer time at the mosque of Naher Al-Bared. The session was held in the committee office in the same area of the project. The concerned people who live in Naher Al-Bared community (near the dumpsite), the farmers from the nearby farms, the residents of the close residential area, municipality employees, JSC-KRM employees and the neighborhood committee members were invited; 42 persons attended the public consultation of which 59% were women from different ages. The agenda consisted of two parts as the following:

- A. **Presentation part:** The Environmental and Social consultant presented the project activities including the general overview of the design of the dumpsite and the project activities and duration, the summary of the ESMP including expected impacts and the suggested mitigation measures, and the complaining channels including the channels for Gender Based Violence (GBV) complaints.
- B. **Discussion Part:** The consultant opened the door for discussion with attendees to get any feedback or suggested mitigation measures, as well to answer any inquiries as this session can be considered an important session for local community to know about the project, the following issues were discussed as shows in figures (38 – 39) and Table (7).



Figure 38-39: The Consultation Session Conducted On 24.2.2022 At The Neigberhood Committee Office

Table 7: Discussed issues during the consultation session

Raised question\ Issue	Answers
<p>What is the plan for the near residential units during the construction who are expected to be affected from the construction activities?</p>	<p>The ESMP includes strict mitigations and instructions for the contractor to prevent any harm e.g. the contractor is expected to close the site by sheets to separate the site, as well the work will be limited to the day time only.</p> <p>The contractor will communicate with the municipality and the local residents on a daily basis and he will share the information frequently.</p>
<p>Shall the municipality request for more resettlements of residential units other than the previous mentioned three residential units?</p>	<p>No other reallocation activities will be done to any residential unit.</p>
<p>All of the men at the project area are unemployed and they want an opportunity to work with the contractor as workers or guards during the construction phase, to enhance their livelihood as a benefit from the project.</p>	<p>The ESMP consultants will recommend the contractor to hire some workers from the area</p>
<p>A common question was about the future development of the area after closure of the dumpsite and planting it.</p>	<p>The Municipality is one of the owners of this project, and it is the responsible entity besides JSC-KRM to monitor the dumpsite to ensure the sustainability of the project. But, due to the future development of the area after closing the project; it is an issue of the municipality only and it is outside the scope of the project.</p>

The PAPs who affected by the voluntary resettlement process (Al-Masri Family), were invited to the consultation and they attended. They were consulted individually after the group consultation, to ask about the current situation of the family and the progress of constructing the new houses upon the signed agreements with Khan Younis municipality in Nov 2021. The social consultant ensured that those families were satisfied and the new residential units are almost to be finished soon.

It was noticeable that the women from Naher Al-Bared community are very active and they can speak about their needs and concerns without fear. Besides that, there was an active woman in the neighborhood committee, who had direct contact with most of the women there.

During the consultation, the consultant asked about the presence of any waste picker at the dumpsite lately, and there was a confirmation from the participants, that there are no waste pickers since closing the dumpsite in 2012, and no one tried to excavate this dumpsite during the last 10 years.

The participants expressed their acceptance and willingness to support the contractor to finish the construction works, through facilitating access to the dumpsite if it was needed to pass near their houses, keeping on the equipment of the contractor in addition to keeping their children away from the working site to prevent any accidents.

Planned consultation activities:

As the work progresses on site and the contractor gets mobilized, additional community meetings and consultation will be planned to ensure ongoing engagement with the local stakeholders, including women only consultation at the beginning of construction stage. Range of topics will be covered including time plan for construction, GRM, measures to be taken by contractor as part of the ESMP and also SEA/SH measures.

5.2 Grievance Redress Mechanism

As a main requirement to ensure the compliance to the Environmental, social, health and safety measures, a Grievances Redress Mechanism (GRM) is activated for the local community to receive any complaints related to the closure works either during the construction phase or the post closure phase. The system included different channels, most importantly:

- Online application an online grievance application was activated to be filled by the different communities all the time, this application had an icon on the official website for the JSC-KRM, which was launched in 2019. <http://jsc-krm.ps/ar/Home/Apply>
- Using the Facebook page (@jsc-krm): by inviting the people to send their complaints using the JSC Facebook page since most of the local population uses the social media platforms most of the time to interact with their issues and complaints, and the Facebook page was announced in all the public consultations and later on it will be announced using the board located besides the complaint box at the contractor's camp.
- Mobile calls and emails: the instruction board above the complaint box, which will be installed in the contractor's camp, will contain the contact details of JSC-KRM and PDSU contact persons. Such information is also be disseminated to the public through the Project Facebook page and in community meetings. (JSC-KRM GRM's Mobile Number: 0592599997 and Email: info@jsc-krm.ps).

Even anonymous grievances can be raised and addressed when the complainer use the phone call or the Facebook page. Complainer can inform about the compliant without more details about his/her name or any personal information.

Complainant receive acknowledgment for receiving the complaint within 2 business days from submitting it, while it takes max 5 business days to resolve it and close the complaints under the direct control of the projects and the contractors. Longer period might be needed to address complaints that are not under the direct autonomy of the project and in such cases, the complaint is diverted to the concerned parties and feedback is offered to the complainant accordingly. As soon as the grievance received the following steps apply the process:

1. Sort and process: the grievance takes a serial number. Checking the compliant urgency using the priority sheet.
2. Acknowledge and follow up: the complainant receive a confirmation SMS that his/her complaint was received and is being handled using the GRM process.

3. Verify, investigate and act: the PDSU-MDLF and JSC-KRM teams verify and investigate about the grievance in the field and send a reply back to the complainant to inform about the response and the solution, according a certain time plan for every action as mentioned above.
4. Monitor and evaluate: the JSC-KRM social specialist checks the satisfaction of the complainant through monitoring plan and then record all the process in the monthly report.
5. In case, the complainant can declare about his/her dis-satisfaction with the response of the tier one channels mentioned above and submit another complaint for a higher level in the JSC-KRM. The IT staff reports about the problem, its solution, the person/the department who contributed to solve the problem and then the comments of the complainant on the provided solution. The executive manager of the JSC-KRM will receive the report and investigate it, then take an action, and report it to the chairman of JSC-KRM, to be involved in the action. In the same time, the complainant has the right to apply his/her complaint of dissatisfaction of the provided solution, through sending the complaint directly to PDSU-MDLF, either by submitting a written complaint or using the PDSU phone number. Also, the PDSU director revise all the GRM reports that used to be send directly to the unit for reviewing and monitoring. The phone number of the unit is going to be written on the contractor's sites board.

Note: the chairman of the JSC-KRM is a mayor who had authorization to take any action in the southern and middle governorates with cooperation with any other entity (Municipality, governmental associations, NGOs,) so involving the chairman should ensure the fairness of the solution.

The GRM system is still activated; JSC-KRM received 190 complaints in 2021 through the different channels. The highest number of complaints (112) were received by waste collection workers, whereas JSC-KRM received (23), (17), (8) complaints through JSC public awareness team, JSC website, and social media including JSC Facebook page consequently.

In 2021, most of received complaints are associated with the waste collection service (162 complaints), whereas the lowest number of complaints received from the area of Al-Fukhary (Sofa) landfill (2 complaints only).

5.2.1 Complaints related to GBV, SEA and SH

In line with the World Bank Good Practice Note at "Addressing Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) in Investment Project Financing involving Major Civil Works", published in 2020.¹⁴ The World Bank has developed the Good Practice Note (GPN) to assist in identifying risks of SEA/SH – as opposed to all forms of GBV that can emerge in Investment Project Financing (IPV) involving major civil works contracts – and to advise Borrowers on how to best manage such risks. The GPN builds on World Bank experience, relevant international

¹⁴<https://thedocs.worldbank.org/en/doc/741681582580194727-0290022020/original/ESFGoodPracticeNoteonGBVinMajorCivilWorksv2.pdf>

instruments, and good international industry practices, including those of other development partners. The GPN also aims to contribute to a growing knowledge base on the subject.

Both MDLF and JSC-KRM had adopted some actions to assess and address or respond on the complaints related to GBV, SEA and SH, which are:

1. Assessing Risks:

During the preparation for this ESMP document the consultation team in cooperation with the MDLF team, studied the combination of the community near the dumpsite and the history of the complaints received from similar projects implemented by the MDLF at Gaza Strip, so this assist in identifying the potential risks or problems that may be raised during the construction works. The results and findings confirmed that there wasn't any received complaint related to GVB, SEA or SH before in any previous project and this was because of the following reasons:

- All the families at Gaza Strip still have the Arab clans' traditions and the accidents related to the SEA or SH are so rare and it happens in a very complicated situation.
- The cases related to GBV used to be responded to and solved by the local NGOs, who started to work widely in increasing the awareness about GBV, many women know where to go and they trust those NGOs.
- All the construction companies and contractor care about their reputation, so they do hard to monitor the workers.
- All the workers at Gaza Strip are local workers, they do commit to the traditions and customs of Gaza's families and they know the rules and laws of the families in case any SHE or SA accident happened.

2. Establishment of mitigation, reporting and monitoring measures:

Even with the possibility of having complaints related to GBV, SEA and SH, MDLF will ensure that the contractor and the supervision consultant comply to the following mitigation measures (Table 10)

- Restrict the communication between workers and the surrounding local community.
- No camp for accommodation at the night except for the camp guard.
- A code of conduct of the workers should be prepared and implemented for all workers in the construction camp.

3. Project Respond Actions for GBV cases:

In case of receiving any complaint related to the GBV, SEA and SH, either using the GRM channels or reported to the project staff during monitoring up activities, immediately this complaint is transferred to the responsible social expert at the JSC-KRM (Ms. Haya Al-Agha/Areen Al-Battah), who deal with this complaint confidently and secretly, without reporting to the public. The complaint will be investigated only by the social specialist and it will not be recorded at the official database with the details, it will be mentioned as number and type of complaint, to keep on the privacy of this complaint.

The social expert and other relevant stakeholders in the project will be further trained on dealing with SEA/SH cases. Local service providers contacts will be compiled to be available for survivors

in case support is needed. Other principles of the Good Practice Note should apply to deal with SEA/SH cases including consent of the survivor to be referred to service providers. .

GBV service provider including local NGOs are available in Khan Younis (e.g. Culture and Free Thought Association) and they provide different types support to address cases. , This NGO was identified as one of the national organizations, authorized to provide services for the GBV case, this was documented by the guide book of the national strategy against GBV in Palestine¹⁵ . It is worth mentioning that JSCKRM had good networking and previous agreements in other activities with this NGO, so the communication channels with people in charge are valid.

After dealing with/ referring the GBV complaint and closing it. The social expert at JSC-KRM will conduct a consultation with the community of the received complaint in order to avoid the recurrence of such complaints and problems in the future.

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Chromeextension://efaidnbmnnnibpcjpcglclefindmkaj/http://www.miftah.org/Publications/Books/GuideViolenceAgainstWomenOrganizations.pdf

6. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS DURING CONSTRUCTION AND OPERATION PHASES

Through the assessment process of the project details, it is expected that significant benefits would accrue to the environment after the construction of the project. Also, the project components will help to mitigate the identified problems and will contribute to achieving socioeconomic benefits.

6.1 No-Project Scenario

The dumpsite is closed and illegal dumping is no more allowed. The dumpsite occupies a large area of land, 22,000 m², which is not well exploited in light of the land's limitations available throughout the Gaza Strip, in addition to that it constitutes a health hazard for the residents and passers-by. The dumpsite also poses a great danger to the lives of the residents due to the possibility of waste erosion on nearby homes, as well as the life and safety of children who usually play near the dumpsite. If the present situation continues, there will be an accelerating load and additional deterioration of the dumpsite impacts and pollution to the surrounding environment and local vulnerable – marginalized community. This will be negatively reflected on the health and wellbeing of the citizens.

6.2 Environmental and Social Benefits

Through the assessment process of the project details, it is expected that significant benefits would accrue to the environment and socioeconomic conditions after the construction of the project. The identified positive environmental impacts would include the following:

- The local community will experience health and environmental benefits from improved activities in the dumpsite, post closure management, and solid waste services.
- The improvement will lead to a healthy environment. This will enhance the quality of life, health and well-being of the citizens. The incidence of pollution-borne diseases among the community would be reduced. This, in turn, will improve the environmental health situation concerning the reduction of health problems associated with solid wastes.
- After the closure, the implemented project will have limited impacts, on most of the physical environment factors such as land, water, noise, dust, and air pollution.
- Enhance the quality of life and well-being of the citizens.
- The project will also significantly release the psychological distress of citizens living in the vicinity.
- Carrying out such projects with tangible benefits will reflect a positive image of the municipalities and its services and will, therefore, help in encouraging local citizens to pay

their bills to the municipality, and then the municipalities will pay simultaneously their bills to JSC-KRM.

- Women and children, as well as most community categories, would benefit from the proposed project components.
- Employment generation will be elevated due to the engagement of many unemployed people in the project construction.
- Economic benefits are gained as short-term job opportunities for local skilled and unskilled laborers.

6.3 Environmental and Social Adverse Impacts

The prediction of environmental, social and health impact assessment was based on identification of impacts and risks in relation to construction and operation activities and sensitivity of the receiving environment. The key physical, biological, socioeconomic and human valued receptors were identified. The potential changes resulting from the defined project activities are then described using an impact identification matrix through which aspects and factors are correlated to find interactions that would potentially result in impacts. The predicted impacts are then evaluated using a significance ranking process based on the importance of the impact. Each valued receptor was categorized in terms of its perceived environmental, social and health value.

The impact significance is used to determine whether the impacts are low, medium, high or no impacts is associated. The following categories are assigned to impacts magnitude and the impacts time scale based on the following:

- **Time scale:**
 1. Short term (≤ 1 month)
 2. Medium Term (1 month \leq duration ≤ 1 year)
 3. Long term (more than 2 years)
- **Magnitude:**
 1. Low: the impacts have low effects on the physical, biological, socioeconomic and health.
 2. Medium: the impacts have limited effects on the physical, biological, socioeconomic and health.
 3. High: the impacts have severe and significant effects on the physical environment, biological, socioeconomic and health.

Tables (8) and (9) summarize the potential environmental impacts. The table classified the significance of criteria into minor, moderate and major. The classification was based on several factors; direct impact, indirect impact, cumulative impact, boundary, and time horizon.

Table8: The Potential Impacts during Construction Phase

Environmental and Social Aspects	Impacts and Risks		Significance	Timescale
Environmental Aspects	Risks on the Water resources	- Contamination and pollution of surface and ground water may occur (risk of chemicals and fuel/oil/diesel spillage and/or leakage from vehicles and equipment).	Minor	Short term
		- Wastewater generated at the site during construction (generated from workers temporary facilities in the site).	Minor	Short term
	Solid Wastes risks	- Generated wastes by workers and visitors during construction.	Minor	Short term
	Air Quality and Noise risks	- Dust generation, nuisance value that in extreme cases may affect health of population (due to trucks movement, reshaping works, cutting and backfilling, removing scattered waste and construction of peripheral embankments).	Moderate	Short term
		- Nuisance value that may in extreme cases affect health due to standby-generators noise and due to movement of trucks and construction activities (gas emissions from vehicles/ trucks movement).	Minor	Short term
		- Action of the wind on the stored construction materials.	Minor	Short term
	Odor risks	- The reshaping works will result in migration of offensive odors due to waste degradation.	Moderate	Short term
	Risks of changes of the Land use, Topography and soil.	- Risk of failure, erosion of waste/soil and waste/soil instability. - Changing the topographic features of the area and disturbance of the soil structure, densification.	Moderate	Long term
	Risk traffic jamming and risks on Transportation / infrastructure	- Impacts of heavy truck movement (importing sand/clay for coverage and other materials)	Minor	Short term
		- Damage to the access road infrastructure from excavations, construction traffic and heavy machineries.	Minor	Short term
- Risk of accidents (for local community).		Moderate	Short term	

Environmental and Social Aspects	Impacts and Risks		Significance	Timescale
	Risks on agriculture activities, vegetation and (Flora)	<ul style="list-style-type: none"> - Dust generated from construction activities cause impairment of agricultural activities on the near farms, especially during the flowering period from October until April. - Dust resulting from construction activities lowers the photosynthetic rate of vegetation and agricultural crops. <p>Note 1: The nearest agricultural land is far 100 m from the site.</p> <p>Note 2: The construction is not expected to be initiated before May 2022.</p>	Minor	Short term
	Risks on Wildlife, Fauna	- Spread of rodents, scorpions and insects in the vicinity	Medium	Long term
		- Spread of dogs around the site and during nights	Moderate	Short term
		- The activities will impact on the presence of some fauna in the area such as birds, mammals and reptiles.	Minor	Short term
Socio-economic Aspects	Relocating of residential units and risk of lack of acceptance from concerned people	- Three PAPs are affected due to the project construction	Moderate	Short Term
	Risk of lack of local community acceptance to the project	- Negative publicity and misconceptions of neighbors	Minor	Short term
		- Different concerns from the local community towards the project activities.	Moderate	Short term
	Risks of accidental damaging of local community properties and infrastructure	- Damage any of the properties for the local inhabitants (houses, animal sheds, water tanks, livelihood materials,)	Moderate	Short term
Risk of misconduct or	- Discomfort from the local community from workers contact	Minor	Short term	

Environmental and Social Aspects	Impacts and Risks		Significance	Timescale
	inappropriate behavior of workers			
	Risks on archaeological resources	- Archaeological remains, antiquity or culturally valuable object could be discovered.	Minor	Short term
Health & Safety Aspects	Occupational and Public Health / Safety risks	- Workers' health risks, chronic diseases and epidemics, including COVID-19 spread and infection.	Moderate	Long term
		- Children working in the project. (No children will be accepted to work at the site).	Major	Long term
		Risk of accidents and injuries that may occur during the following activities: - Loading up and loading down (lifting) - Trucks movement - Using of sharp materials - Falling - Reshaping activities (cut and fill) - Construction activities.	Major	Long term
	Risks on Community Health & safety	Workers conditions; rests, meals, and transportation.	Moderate	Short term
		- Risk of accessing the site by any un-authorized persons.	Moderate	Short term
		- Risk of accidents in the access roads.	Major	Long term
		- Local community health and possibility of the Community Exposure to GBV/SEA/SH	Minor	Short term
		- Low level of knowledge of the local community about the health safety mitigation measures.	Medium	Long term
	- Risk of COVID-19 infection/spread among citizens.	Minor	Short term	

Table 9: The Potential Impacts during Operation (Post-Closure) Phase

Environmental and Social Aspects	Impacts and Risks		Significance	Timescale
Environment Aspects	Risks on Water resources	- Changing water drainage properties which could divert surface water drainage streams to un-preferred location, surrounding vulnerable community.	Moderate	Long term
		- Polluted storm water that accumulates in the winter season in the dumpsite area.	Moderate	Long term
		- Over flooding of stormwater during peak periods or emergencies.	Moderate	Long term
	Solid Wastes risks	- The collapse of the edges or the erosion of the soil and the permeation of the surface of the dumpsite.	Moderate	Long term
		- Illegal dumping (during night-time or weekends).	Minor	Long term
	Air Quality, odor and Noise risks	- Effects from emission of greenhouse gases.	Minor	Long term
		- Odor from wastes and occurrence of Leachate.	Minor	Long term
Risk on agriculture activities, vegetation and (Flora)	- Alien plant species may establish on site post closure/ decommissioning of the dumpsite site.	Minor	Long term	
Social Aspects	Risks of rumors spreading	- Different concerns from the local community towards the new activities after closure and the sustainability of the project.	Moderate	Long term
		Moderate	Long term	
Health and Safety Aspects	Community Health & Safety risks	- Concerns about the existence of the stormwater area at the project site especially during rainy seasons.	Moderate	Long term
		- Expected erosions from the embankment sides due to heavy rain or winds.	Moderate	Long term

7. MANAGEMENT PLAN, MITIGATION MEASURES AND MONITORING PLAN

The purpose of impact mitigation is to look for better ways of implementing the proposed project or associated activities so that the negative impacts are eliminated or minimized, while benefits are enhanced. Impact mitigation requires that the full extent of the anticipated environmental problems is understood. In view of this, this section of the ESMP presents mitigation measures resulting from the impacts identified.

Mitigation measures require a successful impact management plan implemented at the correct time and in a correct way. This usually requires a clearly written and agreed plan of action for managing impacts so that these are kept within the limits of acceptability. The monitoring plan describes how and who will carry out the monitoring activities for addressing the negative environmental issues.

This section aims to coordinate the environmental policies, plans, programs and decisions of the various parties involved in the project, which exercise functions that affect the environment. Environmental monitoring is an important component of the ESMP. It provides the information for periodic review and refinement modification of the ESMP as necessary, ensuring that environmental protection is optimized at all project phases. Through monitoring, unwanted environmental impacts are detected early and remedied effectively. It will also validate the predicted impacts and the effectiveness of the proposed mitigation measures. Lastly, it will also demonstrate compliance with national regulatory requirements. The ESMP aims to minimize the duplication of procedures and provide consistency in the protection of the environment. In order to ensure smooth and uncomplicated achievement of the ESMP components, it would include the following basic components:

- Potential impacts and their mitigation measures
- Environmental monitoring and enforcement
- Institutional component

7.1 Environmental Mitigation Measures

Environmental mitigation includes a matrix that identifies issues, mitigation measures, responsibility for implementing mitigation measures, and approximate cost estimates for actions. Avoiding or mitigating environmental impacts is by far preferable to measures of compensation or rehabilitation after the impact has occurred. The task of the ESMP is to identify significant impacts, identify measures to avoid or at least reduce such impacts, and take care to properly apply these measures throughout the project.

The following paragraphs describe the proposed mitigation measures for each phase of the project in general before identifying the most important measures in detail.

As previously identified, the impacts during the removal phase are mainly related to rehabilitation activities. Important accompanying activities include excavation work movement of heavy machinery. These impacts are mostly short-term and local and result from the contractor's activities on construction sites and access roads and can be mitigated through appropriate construction management in coordination with the contractor and relevant

authorities. The contractor in cooperation with the monitoring agency is responsible for implementing mitigation measures during the construction phase. Post-closing impacts are mainly related to air, water resources, soil, public health and land use.

Table 10: Summary of Environmental and Social Management Plan During Construction Phase

Environmental and Social Aspects	Risks and Impacts		Mitigation measures	Responsibility of Execution
Environmental Aspects	Risk on Water resources	<ul style="list-style-type: none"> - Contamination and pollution of surface and ground water may occur (risk of fuel/oil/diesel spillage and/or leakage from vehicles and equipment). 	<ul style="list-style-type: none"> - Ensure fuel storage, if any, are enclosed within a bund wall. - Follow operation instructions. - Check the vehicles and equipment periodically. 	Contractor
		<ul style="list-style-type: none"> - Wastewater generated at the site during construction (generated from workers temporary facilities in the site). 	<ul style="list-style-type: none"> - Sewage tanks should be periodically checked, emptied, and sewage should be taken to the WWTP. 	Contractor
	Risk of illegal mining of natural resources	<ul style="list-style-type: none"> - Procurement of raw materials from a unlicensed vendors could include materials which were extracted from illegal mining of natural resources 	<ul style="list-style-type: none"> - All raw material should be procured from licensed vendors to minimize any illegal mining of natural resources 	Contractor
	Solid Wastes risks	<ul style="list-style-type: none"> - Generated wastes by workers and visitors during construction. 	<ul style="list-style-type: none"> - Domestic waste should be stored in containers and disposed when fill up. 	Contractor
		<ul style="list-style-type: none"> - Scattered waste around the site 	<ul style="list-style-type: none"> - The contractor should clean and collect all scattered wastes within 50 m from the dumpsite location. 	Contractor
	Air Quality and Noise risks	<ul style="list-style-type: none"> - Dust generation, nuisance value that in extreme cases may affect health of population (due to trucks movement, reshaping works, cutting and backfilling, removing scattered waste and construction of peripheral embankments). 	<ul style="list-style-type: none"> - Proper activity scheduling and working hours and days and limit the activities to day times and prevent any construction activities at night and weekends. - Using relatively new construction and transportation vehicles with lower emissions. - Spraying of water before excavations during strong winds and dry periods. - Issue site workers with appropriate dust masks and safety requirements. 	Contractor
		<ul style="list-style-type: none"> - Nuisance value that may in extreme cases affect health due to standby-generators noise and due to movement of trucks and construction activities (gas emissions from vehicles/ trucks movement/generators). 	<ul style="list-style-type: none"> - Avoid working at night as possible. - Use of mufflers and/or noise dampers. - Regular maintenance of construction machines and trucks. 	Contractor
		<ul style="list-style-type: none"> - Action of the wind on the stored construction materials. 	<ul style="list-style-type: none"> - Wet or cover securely stockpiles of materials during windy or rainy conditions 	Contractor

Environment al and Social Aspects	Risks and Impacts		Mitigation measures	Responsibility of Execution
	<i>Odor risks</i>	<ul style="list-style-type: none"> - The reshaping works will result in migration of offensive odors due to waste degradation. - The odor results from the transferred scattered waste and reshaping works. 	<ul style="list-style-type: none"> - Limit the works to day hours. - Ensure that all workers are wearing the suitable masks during these activities. 	Contractor
	<i>Risks of changes of the land use, topography and soil.</i>	<ul style="list-style-type: none"> - Risk of failure, erosion of soil and soil instability. - Changing the topographic features of the area and disturbance of the soil structure, densification. 	<p>The design should take into consideration the following:</p> <ul style="list-style-type: none"> - Reduce water flow over bare soil. - Reduce velocity of water by using effective contouring to reduce slope grades, ditch blocks to reduce runoff velocities and prompt and effective re-vegetation of bare ground whenever possible, which stabilizes the soil and helps to reduce run-off water velocities. - Appropriate measures including provision of berms and silt traps during construction. - Storage of soil spoils in flat area close to dumpsite, away from drainage pattern. - Ensure that the staging areas used are fenced and marked prior to construction activities 	Consultant, Contractor
	<i>Risks of traffic jamming and changes on Transportation / infrastructure</i>	<ul style="list-style-type: none"> - Impacts of heavy truck movement (importing sand/clay for coverage and other materials) <p>- Damage to the access road infrastructure from excavations, construction traffic and heavy machineries. Note: It was noticed during the screening stage, the near surrounding roads are deteriorated and in a very bad condition.</p>	<ul style="list-style-type: none"> - The contractor should submit a traffic plan prior the start of work, and it should be reviewed and approved by the supervision. - Traffic signs to ensure proper routing and distribution of traffic, and redirecting the cars if there is any closures. - Provision of adequate notification procedures for any road closures. - Reduce the speed of the trucks, while working near the residential house. - Proper planning of construction activities, scheduling of the supply of materials/soil to the site. - Fixing any damage caused by the contractor. 	Contractor, Municipality of Khan Younis Contractor

Environment al and Social Aspects	Risks and Impacts		Mitigation measures	Responsibility of Execution
		<ul style="list-style-type: none"> - Risk of accidents (for local community). 	<ul style="list-style-type: none"> - The contractor should hire a flagman who can direct and control the movement of trucks at the site. - Provide insurance for all vehicles inside the site (mandatory periodical verifications). - Document and report any the accidents and injuries. - Securing a first aid Full Box at the site. - Using warning signs on the road and around the working site. - Prevent the community to reach the construction site, mainly children, and to make any type of contact with the workers during the work. 	Contractor
	<p><i>Risks on agriculture activities, vegetation and (Flora)</i></p>	<ul style="list-style-type: none"> - Dust generated from construction activities cause impairment of agricultural activities on the near farms, especially during the flowering period from October until April. 	<ul style="list-style-type: none"> - Minimizing the release of dust by using appropriate technology and tools. - Dust generating activities should be reduced through spraying water 	Contractor
	<p><i>Risks on Wildlife, Fauna</i></p>	<ul style="list-style-type: none"> - Spread of rodents and insects in the vicinity 	<ul style="list-style-type: none"> - Sanitation and appropriate pest control methods. - Health and Safety measures should be followed during using of pesticides. Pest Management Plan should be submitted by the contractor and approved by MDLF. - The workers should wear the proper PPEs during excavations works. - The first aid full box should be prepared at the site. 	Contractor under the supervision of Khan Younis Municipality and Consultant
		<ul style="list-style-type: none"> - Spread of dogs around the site and during nights. 	<ul style="list-style-type: none"> - Monitoring, and coordination with local NGOs that are responsible to take care of dogs (Sulala). - Closing of the site help in preventing the dogs from arriving to the site. 	Contractor, Khan Younis Municipality
<p>Socio-economic Aspects</p>	<p><i>Risk of relocating of residential units and lack of acceptance</i></p>	<ul style="list-style-type: none"> - Three PAPs are affected due to the project construction and it was agreed to move them to another area, no more relocations are required. 	<ul style="list-style-type: none"> - Monitor the compliance with the Compensation Plan Document. - No additional relocation to be done at the site. - Ensure that the relocated PAPs are aware of the GRM and are encouraged to use it 	MDLF, JSC-KRM, Khan Younis Municipality (The formed committee)

Environment al and Social Aspects	Risks and Impacts		Mitigation measures	Responsibility of Execution
	<i>Risk of lack of local community acceptance of the project</i>	<ul style="list-style-type: none"> - Negative publicity and misconceptions of neighbors 	<ul style="list-style-type: none"> - Disclosing the project information and details for the local community. - Information sharing with the community and establish direct communication channel with the neighborhood committee for monitoring the construction. 	Municipality/ JSC KRM / Neighborhood committee
		<ul style="list-style-type: none"> - Different concerns from the local community towards the project activities. - Lack of acceptance to the project from the side of the local communities 	<ul style="list-style-type: none"> - Grievance uptake channels to be created in the site for any coming complaints during construction by ensuring significant number of indicative signs around the project site (including contact information, project description, etc.) and using the complaint box located at the contractor’s site. - Contractor should refer any complaint to JSC and Municipality within 24 hours. 	Municipality/ JSC- KRM/Contract or
	<i>Risk of accidental damaging the local community properties and infrastructure</i>	<ul style="list-style-type: none"> - Damage any of the properties for the local inhabitants (houses, animal sheds, water tanks, livelihood materials ...etc) 	<ul style="list-style-type: none"> - Fixing any damage or harm caused due to the construction by the contractor. - The contractor should fix it and return it as it was or provide appropriate compensation to ensure the satisfaction of the people. 	Contractor
			<ul style="list-style-type: none"> - Install steel fence (3 meters high) to ensure that any construction wastes/residues or collapses of waste, construction materials, cut, and fill are prevented from reaching homes and private properties during work. 	contractor
	<i>Risk of misconduct or inappropriate behavior of workers</i>	<ul style="list-style-type: none"> - Discomfort from the local community from workers contact 	<ul style="list-style-type: none"> - The Code of Conduct should be signed by the contractor; the contractor should carry out an orientation of the content of the code of conduct for the workers. - The Contractor is responsible on his workers, in the case of any inappropriate of behavior of any worker, then an environmental warning will be issued to the contractor, and if it is repeated then the worker will be formally requested to leave the site. 	Contractor
	<i>Risks on Archaeological Resources</i>	<ul style="list-style-type: none"> - Archaeological remains, antiquity or culturally valuable object could be discovered 	<ul style="list-style-type: none"> - Monitoring of site excavations - In case of findings the contractor is responsible to: <ul style="list-style-type: none"> ▪ Strop work activities 	Contractor JSC KRM, Municipality

Environment al and Social Aspects	Risks and Impacts		Mitigation measures	Responsibility of Execution
			<ul style="list-style-type: none"> - Ensure that all the workers (direct and indirect workers) are included in the insurance. All staff at the site should be covered by a valid insurance through the contractor. - The contractor should comply with the workers safety and health measures: All risks insurance schedule policy and workers compensation insurance policy will be contracted for all the activities, and extended to all workers assigned on site: not only for workers directly hired by the contractor, but also by its sub-contractors, and by the MDLF, by JSC, and the supervision team and other visitors (third party). - All workers should be vaccinated against Tetanus before start the work. - A first aid Full box should be available with trained staff, which is able to coordinate with local hospitals in case of emergencies. - First aid box in each truck. - Safety Training: Personnel will be trained in Occupational and Environmental Health and Safety matters including accident prevention, safe lifting practices, safe chemical handling, proper control and maintenance of equipment and facilities. - Adequate sanitary facilities, potable water, and garbage bins should be provided. - Security of the project site should be imposed at all times. No un-authorized people should access to the site. - Warning signs and instructions in case of emergencies should be properly displayed, workers must be informed about these precautions. - The contractor should sign the code of conduct on behalf of workers, and train the workers about its content. 	

Environmental and Social Aspects	Risks and Impacts		Mitigation measures	Responsibility of Execution
			<ul style="list-style-type: none"> - Documenting and Reporting about all accidents and injuries. 	
		<p>Workers conditions; rests, meals and transportation.</p>	<ul style="list-style-type: none"> - Give the workers an hour for rest and taking their meal (lunch hour). - Provide hygiene tools for the workers in the site. - Secure good transportation means for the workers to reach the site safely specially it locates near the border line. - Commit to regular and timely payment as per the agreed upon rates that workers are contracted for. - Complaining channel should be available for workers, and all received complaints should be shared with MDLF 	Contractor
	Community Health & safety risks	<ul style="list-style-type: none"> - Visiting the site by any un-authorized persons. 	<ul style="list-style-type: none"> - Coordination is required. - Restriction the access of unauthorized people. 	Contractor
		<ul style="list-style-type: none"> - Risk of accidents in the access roads. 	<ul style="list-style-type: none"> - Flag man should be hired to control the movement of trucks. - Use signs and traffic barriers in the access road. - Limit the road traffic in the rush hours especially at the school time. 	Contractor
		<ul style="list-style-type: none"> - Local community health and possibility of the Community Exposure to GBV/SEA/SH 	<ul style="list-style-type: none"> - Restrict the communication between workers and the surrounding local community. - No camp for accommodation at the night except for the camp guard. - A code of conduct of the workers should be prepared and implemented for all workers in the construction camp. - Any complaint should be referred to JSC/Municipality. 	contractor
		<ul style="list-style-type: none"> - Low level of knowledge of the local community about the health safety mitigation measures. 	<ul style="list-style-type: none"> - Design and distribute a fact sheet with the required information for the community. - Consult the neighborhood about the H&S mitigation measures. - Use proper signs to indicate construction works at nearby areas, inside the site, and clearly make such sign apparent at nights 	JSC-KRM / Khan Younis Municipality

Environmental and Social Aspects	Risks and Impacts		Mitigation measures	Responsibility of Execution
		<ul style="list-style-type: none"> - Risk of COVID-19 infection/spread among citizens. 	<ul style="list-style-type: none"> - Prevent the direct communication between workers and the citizens, and monitor the social distancing. - Ensure the proper disposal of the face masks, gloves or any personal wastes of the workers in close bags and remove it from the working site before leaving at the end of the day. 	Contractor

Table 11: Summary of Environmental and Social Management Plan During Operation (Post-Closure) Phase

Environmental and Social Aspects	Impacts		Mitigation measures	Responsibility of Execution
Environment Aspects	Risks on Water resources	<ul style="list-style-type: none"> - Changing water drainage properties which could divert surface water drainage streams to un-preferred location, surrounding vulnerable community. 	<ul style="list-style-type: none"> - Engineering design, shaping and capping the site using appropriate materials. - Collection of the stormwater for infiltration to aquifer. 	Consultant
		<ul style="list-style-type: none"> - Polluted storm water that accumulates in the winter season in the dumpsite area that could infiltrate to the groundwater. 	<ul style="list-style-type: none"> - Design stage: The installation of stormwater collection system. - Post Closure stage: regularly checked for damage and proper functioning. 	Consultant, Municipality
		<ul style="list-style-type: none"> - Over flooding of stormwater during peak periods or emergencies. 	<ul style="list-style-type: none"> - Consideration in the design to construct of storm water collection and infiltration lagoon. - Prepare Emergency Plan. 	Consultant, Municipality, JSC-KRM
	Solid Wastes risks	<ul style="list-style-type: none"> - The collapse of the edges or the erosion of the soil and the permeation of the surface of the dumpsite. 	<ul style="list-style-type: none"> - Periodic checks and observation, and mainly before and during winter seasons. - Planting of the top cover by green area can lead to less erosion. - Periodic maintenance of slopes. 	Municipality
		<ul style="list-style-type: none"> - Illegal dumping (during night-time or weekends). 	<ul style="list-style-type: none"> - Fences should be installed to surround the dumpsite and maintained to prevent access for illegal dumping. - Maintain security at the site for a short period after closure. - Warning signs should be installed on the fences. 	Municipality, JSC-KRM
	Air Quality risks	<ul style="list-style-type: none"> - Effects from emission of greenhouse gases. 	<ul style="list-style-type: none"> - Plant trees as noise/dust barriers at the boundary of the dumpsite. 	JSC-KRM
	Risks on agriculture activities, vegetation and (Flora)	<ul style="list-style-type: none"> - Alien plant species may establish on site post closure/ decommissioning of the dumpsite site. 	<ul style="list-style-type: none"> - Follow up and maintenance by Khan Younis Municipality. - Maintenance of the site is ongoing until indigenous vegetation has successful established on site. - Any alien plants identified must be removed from site and destroyed. 	Municipality

Environmental and Social Aspects	Impacts		Mitigation measures	Responsibility of Execution
Socio-economic Aspects	<i>Risks of rumors spreading</i>	- Different concerns from the local community towards the new activities after closure and the sustainability of the project.	- Disclosing the project final report and details for the local community. - Information sharing with the community and establish direct communication channel with the neighborhood committee for monitoring the site after closure.	Municipality/ JSC KRM / Neighborhood committee
			- Grievance uptake channels to be maintained in the site to include additional channels such as complaint box ,in addition to ensure significant number of indicative signs around the project site will include contact information, project description, etc.	Municipality/ JSC-KRM
			- Conducting regular consultations during project implementation, targeting the community on aftercare monitoring	MDLF / JSC-KRM
Health and Safety Aspects	<i>Community Health & safety risks</i>	- Concerns about the existence of the stormwater area at the project site especially during rainy seasons.	- Periodic maintained for the fence around the site. - Periodic checks for the level of stormwater during winter.	Municipality/ JSC-KRM

7.2 Environmental Monitoring

Environmental monitoring is the timely and proper survey of the significant environmental impacts of a project during all project phases. Monitoring results help judge the success of mitigation measures in protecting the environment. They are also used to ensure compliance with environmental standards, and to identify necessary changes in the project design or operation. In order to implement sufficient and adequate ESMP in terms of project monitoring, reporting and supervision, the following actions are recommended:

1. Site-specific environmental monitoring review to be conducted by the ES consultant at least four times per a month for the project site. The monitoring process should be conducted in close coordination with MDLF, JSC-KRM and the municipality and other involved parties. Photographic records will support the visual assessment. External auditing may take place at unspecified times. A standard appraisal / mitigation form shall be used. The form should basically include:
 - Current environmental problems;
 - Any potential environmental impacts of the project, if any, due to the project;
 - Mitigation measures and deadline for the correction actions.
2. Prepare a monthly progress report (Environmental and Social Compliance Report) addressing the environmental issues, status of mitigation measures taken and recommendations. Dumpsite Supervisor shall record and report upon environmental management measures undertaken to mitigate assessed impacts upon the environment. The Supervisor Engineer shall maintain detailed records of parameters monitored. These detailed records shall demonstrate the effectiveness of the management actions implemented to mitigate potential impacts. The Supervisor shall compile an Environmental Monitoring procedure which details the scope, nature, process, schedule and templates for environmental monitoring. Monitoring results and the associated required management and mitigation actions for the coming monitoring period are to be presented in the monitoring section of the monthly/ progress report.

Environmental mitigation and monitoring actions are presented in a simple matrix format. They include identification of the problems, mitigation measures, monitoring responsibilities, and the responsibilities to carry out the mitigation and monitoring measures. All the mitigation measures should be incorporated into the construction and supervision contracts. In addition, MDLF, the municipality and JSC-KRM in coordination with other partners is responsible for monitoring and enforcing the various environmental issues as related to the project activities as outlined in Tables (12 & 13).

Table 12: Summary of Environmental and Social Monitoring Plan During Construction Phase

Environmental and Social Aspects	Risks/Impacts	Mitigation measures	Responsibility of execution	Compliance monitoring approach	Responsibility for compliance monitoring	Monitoring Frequency
Environmental Aspects	Risk on Water resources	- Ensure fuel storage, if any, are enclosed within a bund wall. - Follow operation instructions. - Check the vehicles and equipment periodically.	Contractor	Visual Observation	Consultant, MDLF	Daily
		- Sewage tanks should be periodically checked, emptied, and sewage should be taken to the WWTP.	Contractor	Visual Observation	Consultant, MDLF	During Design stage
	Risk on natural resources	- All raw material should be procured from licensed vendors to minimize any illegal mining of natural resources	Contractor	Review of licenses	Consultant, MDLF	Before material approvals
	Solid Wastes risks	- Domestic waste should be stored in containers and disposed when fill up.	Contractor	Visual Observation	Consultant, MDLF	During Design stage
		- The contractor should clean and collect all scattered wastes within 50 m from the dumpsite location.	Contractor	Visual inspection	Consultant, MDLF	
	Air Quality and Noise risks	- Proper activity scheduling and working hours and days and limit the activities to day times and prevent any construction activities at night and weekends. - Using relatively new construction and transportation vehicles with lower emissions. - Spraying of water before excavations during strong winds and dry periods. - Issue site workers with appropriate dust masks and safety requirements.	Contractor	Visual Observation	Consultant, MDLF	Daily
		- Avoid working at night as possible. - Use of mufflers and/or noise dampers.	Contractor	Visual inspection	Consultant, MDLF	Daily

Environmental and Social Aspects	Risks/Impacts	Mitigation measures	Responsibility of execution	Compliance monitoring approach	Responsibility for compliance monitoring	Monitoring Frequency
		- Regular maintenance of construction machines and trucks.				
		- Wet of cover securely stockpiles of materials during windy or rainy conditions	Contractor	Visual Observation	Consultant, MDLF	Daily
	<i>Odor risks</i>	- Limit the works to day hours. - Ensure that all workers are wearing the suitable masks during these activities.	Contractor	Visual Observation	Consultant, MDLF	Daily
	<i>Risks of changes of the land use, topography and soil.</i>	The design should take into consideration the following: - Reduce water flow over bare soil. - Reduce velocity of water by using effective contouring to reduce slope grades, ditch blocks to reduce runoff velocities and prompt and effective re-vegetation of bare ground whenever possible, which stabilizes the soil and helps to reduce runoff water velocities. - Appropriate measures including provision of berms and silt traps during construction. - Storage of soil spoils in flat area close to dumpsite, away from drainage pattern. - Ensure that the staging areas used are fenced and marked prior to construction activities	Consultant, Contractor	Review of the design drawings	Consultant, MDLF	At the beginning of the construction
	<i>Risks of traffic jamming and changes on Transportation/ infrastructure</i>	- Traffic signs to ensure proper routing and distribution of traffic, and redirecting the cars if there is any closures. - Provision of adequate notification procedures for any road closures. - Reduce the speed of the trucks, while working near the residential house.	Contractor, Municipality of Khan Younis	Visual inspection	Consultant, MDLF	Daily

Environmental and Social Aspects	Risks/Impacts	Mitigation measures	Responsibility of execution	Compliance monitoring approach	Responsibility for compliance monitoring	Monitoring Frequency
		<ul style="list-style-type: none"> - Proper planning of construction activities, scheduling of the supply of materials/soil to the site. - Fixing any damage caused by the contractor. 	Contractor	Visual Observation	Consultant, MDLF	Daily
		<ul style="list-style-type: none"> - The contractor should hire a flagman who can direct and control the movement of trucks at the site. - Provide insurance for all vehicles inside the site (mandatory periodical verifications). - Document and report any the accidents and injuries. - Securing a first aid Full Box at the site. - Using warning signs on the road and around the working site. - Prevent the community to reach the construction site, mainly children, and to make any type of contact with the workers during the work. 	Contractor	Visual inspection	Consultant, MDLF	Daily
	<i>Risks on agriculture activities, vegetation and (Flora)</i>	<ul style="list-style-type: none"> - Minimizing the release of dust by using appropriate technology and tools. - Dust generating activities should be reduced through spraying water 	Contractor	Visual Observation	Consultant, MDLF	Daily
	<i>Risks on Wildlife, Fauna</i>	<ul style="list-style-type: none"> - Sanitation and appropriate pest control methods. - Health and Safety measures should be followed during using of pesticides. - The workers should wear the proper PPEs during excavations works. - The first aid full box should be prepared at the site. 	Contractor under the supervision of Khan Younis Municipality and Consultant	Visual Observation	Consultant, MDLF	During design stage, weekly

Environmental and Social Aspects	Risks/Impacts	Mitigation measures	Responsibility of execution	Compliance monitoring approach	Responsibility for compliance monitoring	Monitoring Frequency
		<ul style="list-style-type: none"> - Monitoring, and coordination with local NGOs that are responsible to take care of dogs (Sulala). - Closing of the site help in preventing the dogs from arriving to the site. 	Contractor, Khan Younis Municipality	Visual Observation	Consultant, MDLF	Daily
Socio-economic Aspects	<i>Risk of relocating residential units and lack of acceptance</i>	<ul style="list-style-type: none"> - Monitor the compliance with the Compensation Plan Document. - No additional relocation to be done at the site. - Ensure that the relocated PAPs are aware of the GRM and are encouraged to use it 	MDLF, JSC-KRM, Khan Younis Municipality (The formed committee)		Consultant, MDLF	Mid of April, before the construction activities
	<i>Risk of lack of local community acceptance of the project</i>	<ul style="list-style-type: none"> - Disclosing the project information and details for the local community. - Information sharing with the community and establish direct communication channel with the neighborhood committee for monitoring the construction. 	Municipality/ JSC KRM / Neighborhood committee	Review the disclosed documents / shared information	Consultant, MDLF	Monthly
		<ul style="list-style-type: none"> - Grievance uptake channels to be created in the site for any coming complaints during construction by ensuring significant number of indicative signs around the project site (including contact information, project description, etc.) and using the complaint box located at the contractor’s site. - Contractor should refer any complaint to JSC and Municipality within 24 hours. 	Municipality/ JSC-KRM/Contractor	Review the log of complaints	Consultant, MDLF	Monthly
	<i>Risk of accidental damaging the local community</i>	<ul style="list-style-type: none"> - Fixing any damage or harm caused due to the construction by the contractor. - The contractor should fix it and return it as it was or provide appropriate compensation to ensure the satisfaction of the people. 	Contractor	Visual Observation	Consultant, MDLF	Monthly

Environmental and Social Aspects	Risks/Impacts	Mitigation measures	Responsibility of execution	Compliance monitoring approach	Responsibility for compliance monitoring	Monitoring Frequency
	<i>properties and infrastructure</i>	- Install steel fence (3 meters high) to ensure that any construction wastes/residues or collapses of waste, construction materials, cut, and fill are prevented from reaching homes and private properties during work.	contractor	Visual Observation	Consultant, MDLF	During design and construction
	<i>Risk of misconduct or inappropriate behavior of workers</i>	- The Code of Conduct should be signed by the contractor; the contractor should carry out an orientation of the content of the code of conduct for the workers. - The Contractor is responsible on his workers, in the case of any inappropriate behavior of any worker, then an environmental warning will be issued to the contractor, and if it is repeated then the worker will be formally requested to leave the site.	Contractor	Visual inspection and review of the complaints log	Consultant, MDLF	Weekly
	<i>Risks on Archaeological Resources</i>	- Monitoring of site excavations - In case of findings the contractor is responsible to: <ul style="list-style-type: none"> ▪ Stop work activities ▪ Information should be provided to the supervision team and the concerned agencies (MOTA). ▪ Coordinate with the supervision team and responsible agencies to consult an archeological expert at the site in case of chance finds. ▪ Control access to site where finding occurred. ▪ Prevent and penalize any unauthorized access to the artifacts; and - Restart construction works only upon the authorization of the relevant authorities.	Contractor JSC KRM, Municipality	Visual Observation	Consultant, MDLF	Weekly

Environmental and Social Aspects	Risks/Impacts	Mitigation measures	Responsibility of execution	Compliance monitoring approach	Responsibility for compliance monitoring	Monitoring Frequency
Health & Safety Aspects	Occupational and Public Health / Safety risks	<ul style="list-style-type: none"> - Vaccination against tetanus of all workers assigned on site before the start of work. - Contractor should sign the commitment letter regarding COVID-19, and to follow its measures as per the MoH protocol (Annex 4) and comply with WHO guidelines. - Follow up the protection measures for COVID-19 all the time. 	MOH	Visual Observation	Consultant, MDLF	Prior the construction
		<ul style="list-style-type: none"> - Prevent any child under 18 years old to work in the project activities. Labor registry and age verification should be followed. - ID of all workers from the contractor and sub-contractors' side should be printed and added with the project documents. 	Contractor JSC-KRM	Visual Observation	Consultant, MDLF	Prior the construction, monthly
		<ul style="list-style-type: none"> - Occupation Health and Safety (OHS) Plan including Emergency Response Plan (ERP) should be submitted by contractor and it should be approved within one week of the project start date. - Follow safety instructions; worker should wear proper clothing; Personal Protective Equipment (PPE). - Appointing an environmental monitoring and safety engineer at the contractor side. - Ensure that all the workers (direct and indirect workers) are included in the insurance. All staff at the site should be covered by a valid insurance through the contractor. The contractor should comply with the workers safety and health measures: All risks Insurance schedule policy and workers compensation insurance policy will be 	Contractor, Consultant	Visual Observation	Consultant, MDLF	During construction

Environmental and Social Aspects	Risks/Impacts	Mitigation measures	Responsibility of execution	Compliance monitoring approach	Responsibility for compliance monitoring	Monitoring Frequency
		<p>contracted for all the activities, and extended to all workers assigned on site: not only for workers directly hired by the contractor, but also by its sub-contractors, and by the MDLF, by JSC, and the supervision team and other visitors</p> <ul style="list-style-type: none"> - A first aid Full box should be available with trained staff, which is able to coordinate with local hospitals in case of emergencies. - First aid box in each truck. - Safety Training: Personnel will be trained in Occupational and Environmental Health and Safety matters including accident prevention, safe lifting practices, safe chemical handling, proper control and maintenance of equipment and facilities. - Adequate sanitary facilities, potable water, and garbage bins should be provided. - Security of the project site should be imposed at all times. No un-authorized people should access to the site. - Warning signs and instructions in case of emergencies should be properly displayed, workers must be informed about these precautions. - The contractor should sign the code of conduct on behalf of workers, and train the workers about its content. - Documenting and Reporting about all accidents and injuries. 				

Environmental and Social Aspects	Risks/Impacts	Mitigation measures	Responsibility of execution	Compliance monitoring approach	Responsibility for compliance monitoring	Monitoring Frequency
		<ul style="list-style-type: none"> - Give the workers an hour for rest and taking their meal (lunch hour). - Provide hygiene tools for the workers in the site. - Secure good transportation means for the workers to reach the site safely specially it locates near the border line. - Complaining channel should be available for workers, and all received complaints should be shared with MDLF. 	Contractor	Visual Observation	Consultant, MDLF	Daily
	<i>Community Health & safety risks</i>	<ul style="list-style-type: none"> - Coordination is required. - Restriction the access of unauthorized people. 	Contractor	Visual Observation	Consultant, MDLF	Daily
		<ul style="list-style-type: none"> - Flag man should be hired to control the movement of trucks. - Use signs and traffic barriers in the access road. - Limit the road traffic in the rush hours especially at the school time. 	Contractor	Visual Observation	Consultant, MDLF	At the beginning of the construction
		<ul style="list-style-type: none"> - Restrict the communication between workers and the surrounding local community. - No camp for accommodation at the night except for the camp guard. - A code of conduct of the workers should be prepared and implemented for all workers in the construction camp. - Any complaint should be referred to JSC/Municipality. 	contractor	Visual Observation	Consultant, MDLF	Daily
		<ul style="list-style-type: none"> - Design and distribute a fact sheet with the required information for the community. - Consult the neighborhood about the H&S mitigation measures. 	JSC-KRM / Khan Younis Municipality	Visual Observation	Consultant, MDLF	During design stage

Environmental and Social Aspects	Risks/Impacts	Mitigation measures	Responsibility of execution	Compliance monitoring approach	Responsibility for compliance monitoring	Monitoring Frequency
		<ul style="list-style-type: none"> - Use proper signs to indicate construction works at nearby areas, inside the site, and clearly make such sign apparent at nights 				
		<ul style="list-style-type: none"> - Prevent the direct communication between workers and the citizens, and monitor the social distancing. - Ensure the proper disposal of the face masks, gloves or any personal wastes of the workers in close bags and remove it from the working site before leaving at the end of the day. 	Contractor	Visual Observation	Consultant, MDLF	Daily

Table 13: Summary of Environmental and Social Management and Monitoring Plan (ESMP) During Operation (Post-Closure) Phase

Environmental and Social Aspects	Impacts	Mitigation measures	Responsibility of Execution	Monitoring (Measure and Method)	Monitoring & enforcement Responsibility	Monitoring Frequency
Environment Aspects	Risks on Water resources	<ul style="list-style-type: none"> - Engineering design, shaping and capping the site using appropriate materials. - Collection of the stormwater for infiltration to aquifer. 	Consultant	Visual Observation	Khan Younis Municipality	During design, then on a monthly basis in the winter.
		<ul style="list-style-type: none"> - Design stage: The installation of stormwater collection system. - Post Closure stage: regularly checked for damage and proper functioning. 	Consultant, Municipality	Review of the design drawings	Khan Younis Municipality	During design
		<ul style="list-style-type: none"> - Consideration in the design to construct of storm water collection and infiltration lagoon. - Prepare Emergency Plan. 	Consultant, Municipality, JSC-KRM	Review of the design drawings and the emergency plan	Khan Younis Municipality	During design

Environmental and Social Aspects	Impacts	Mitigation measures	Responsibility of Execution	Monitoring (Measure and Method)	Monitoring & enforcement Responsibility	Monitoring Frequency
	Solid Wastes risks	<ul style="list-style-type: none"> - Periodic checks and observation, and mainly before and during winter seasons. - Planting of the top cover by green area can lead to less erosion. - Periodic maintenance of slopes. 	Municipality	Visual Observation	Khan Younis Municipality	Monthly
		<ul style="list-style-type: none"> - Fences should be installed to surround the dumpsite and maintained to prevent access for illegal dumping. - Maintain security at the site for a short period after closure. - Warning signs should be installed on the fences. 	Municipality, JSC-KRM	Visual Observation	Khan Younis Municipality	During design and construction
	Air Quality risks	<ul style="list-style-type: none"> - Plant trees as noise/dust barriers at the boundary of the dumpsite. 	JSC-KRM	Visual Observation	Khan Younis Municipality	Monthly
	Risks on agriculture activities, vegetation and (Flora)	<ul style="list-style-type: none"> - Follow up and maintenance by Khan Younis Municipality. - Maintenance of the site is ongoing until indigenous vegetation has successful established on site. - Any alien plants identified must be removed from site and destroyed. 	Municipality	Visual Observation	Khan Younis Municipality	Quarterly
Social Aspects	Risk of rumors spreading	<ul style="list-style-type: none"> - Disclosing the project final report and details for the local community. - Information sharing with the community and establish direct communication channel with the neighborhood committee for monitoring the site after closure. 	Municipality/ JSC KRM / Neighborhood committee	Review of the disclosed documents and shared information	Khan Younis Municipality	Semi-annual

Environmental and Social Aspects	Impacts	Mitigation measures	Responsibility of Execution	Monitoring (Measure and Method)	Monitoring & enforcement Responsibility	Monitoring Frequency
		<ul style="list-style-type: none"> - Grievance uptake channels to be created in the site for any coming complaints during monitoring during operation by ensuring significant number of indicative signs around the project site (including contact information, project description, etc.) 	Municipality/ JSC-KRM	Review of complaints log	Khan Younis Municipality	Monthly
Health and Safety Aspects	Community Health & safety Risks	<ul style="list-style-type: none"> - Periodic maintained for the fence around the site. - Periodic checks for the level of stormwater during winter. 	Municipality/ JSC-KRM	Visual Observation	Khan Younis Municipality	Quarterly

7.3 Institutional Setup

7.3.1 ESMP institutional Setup

Based on the existing institutional capacity for Gaza Solid Waste Program, the proposed institutional set-up for project management is comprised of the following main features:

- The PSDU-MDLF, includes an Environmental Specialist (Eng. Samir Matar) who will have the overall responsibility for implementing the ESMP and shall report directly to the PSDU- MDLF Director. The expert will have a supervisory role over different stakeholders (mainly the contractor and supervision) and will be responsible to include the proposed mitigation measures and monitoring activities in the tender documents.
- JSCKRM, has a social expert (Mrs. Haya Al-Agha/Areen Al-Batta), who will be responsible for implementing the social part of the ESMP, in addition to her tasks in following up the GRM according to the mechanisms shown in section 5.2. She will report to JSCKRM general director and will cooperate with MDLF environmental specialist to integrate the daily monitoring activities.
- During the construction phase, a supervision consultant team, will supervise construction work, an environmental expert and social expert (Eng. Salah Taha and Ms. Enas Qandeel) will supervise the implementation of the mitigation measures that will be implemented by the construction contractor. Those two experts will report directly to the MDLF environmental specialist about the performance of the contractor in implementing ESMP measures during his work.
- The MDLF environmental specialist will not totally depend on the reports he receives from the supervision E&S experts, but he should also make site visits regularly to confirm the reports he receives about the implementation of the ESMP measures by the construction contractor.
- Khan Younis municipality will assign a supervisor engineer to follow up the works during both the construction and operation phase, this engineer should have enough experience on how to monitor the implementation ESMP and the MDLF environmental specialist should deliver on job capacity building to him to increase his performance during project period.
- Both JSCKRM and Khan Younis municipality will be responsible for implementing mitigation measures and monitoring activities during operation phase.

7.3.2 Roles and Responsibilities for construction and operation

During the Construction Phase: MDLF will provide technical forms for daily supervision (ANNEX 3, 4, 5 & 7), site visit reports, monthly reports, in addition to project final report submitted to MDLF. These forms will be reviewed by the Environmental Specialist at MDLF. These forms include detailed reporting of the status of environmental and social performance at the site including overview of deviations/violations of ESMPs encountered over the reporting period, instructions given to the contractors for addressing noncompliance and identified issues, and follow-up actions on the revealed outstanding matters.

Furthermore, for environmental and social monitoring, MDLF and the supervision consultant shall use a Checklist; The Consultant shall have a weekly site visit and will share the site visit report after each site visit with MDLF, whereas MDLF will have two site visits on a monthly basis for validation. The checklist is utilized to facilitate comparing environmental and social mitigation measures recorded in the appraisal stage and what is implemented on ground. ES Consultant key staff shall include their environmental and social monitoring outputs in monthly reports submitted to MDLF. Reports will include their input and tasks performed during construction stage where they have provided site visit plans, summary of the visits, summary of the raised environmental and social issue, notes, complaints received and handled, in compliance with the environmental and social requirements.

During Construction stage, the contractor is requested to report periodically to the supervision team about the environmental and social compliance at the site, whereas the supervision is requested to review the submitted ES reports and report to MDLF. The MDLF as usual summarizes the compliance measures during the mission of World Bank. The MDLF shall also notify the World Bank within 48 hours of any incident related to the project or that has an impact on it, and that has or could have a significant adverse effect on the environment, the affected communities, the public, or the workers included, for example, occupational accidents that could result in death or serious injury, cases of GBV/SEA/SH or violence against minors, injuries, falls, and vehicle accidents.

During the Operation Phase: Municipality of Khan Younis shall follow up and it will be in charge to comply with all the environmental and social requirements as per the ESMP.

7.3.3 Training Needs and Cost Estimations

The training needs for this sub-project could be determined based on the project phase; Table (14) shows the training needs and its estimated budget during both the construction and operation phases.

Table 14. Training needs for Al-Namsawi site

Training Need	Cost estimation (USD)
During Construction Phase (3-4 months): Two training sessions <ol style="list-style-type: none"> 1. Orientation of the Code of Conduct (Contractor); 2. Occupational Health and Safety measures, Safety plan content, how to submit complaint ...etc (Consultant) 	400
During Construction Phase: The site will be closed, no workers except the guard of the site. The guard should receive a training session about post-closure required measures, in addition to reporting training. The training should be provided by the Municipality of Khan Younis.	200

7.4 ESMP Cost Estimate

The estimated cost for the ESMP is US\$ 6,800 and it includes assigning a safety officer with the contractor staff, capacity building and training programs. Table (15) lists the main components of the ESMP and the related cost.

Table 15: ESMP Cost Estimates

Impact to be mitigated	Estimated cost (US\$)
Physical Aspects (installing sheets around the site, Spraying Water, Waste removals, ...etc).	2,600
Health and Safety Aspects (Occupational health and safety, warning signs, insurance, first aid box, PPE, Covid19 measures, training for workers).	2,800
Pest Management Plan (Supply and spraying of pesticides)	400
Social and Economic Aspects (Potential accidental break of utilities, signs for traffic control, additional measures, Fact Sheets ...etc).	1,000
Total	6,800

ANNEX (1): Agenda of the consultation Workshop

Date: 24.2.2022

Location: Batten Al-Sameen Neighborhood Committee office, Khan Younis

Time	Topic	Speaker
10:50-11:00	Registration	-
11:00-11:05	Opening and Welcome	Mr. Mohammed <u>Zouroub</u> (Neighborhood Committee member)
11:05-11:20	Presenting the project details and designs	Eng. <u>Slah Taha</u> (EMCC)
11:20-11:30	Presenting the potential environmental risks and mitigation measures	Eng. <u>Slah Taha</u> (EMCC)
11:30-11:45	Presenting the potential social risks and mitigation measures	Eng. <u>Enas Qandeel</u> (EMCC)
11:45-12:15	Discussions	-

ANNEX (2): Consultation Session Attendance Sheet 24.2.2022

No.	Name
1	Yousef Jihad Sulaiman Lafi
2	Mosa Mosa Zourob
3	Mahmoud AbdHadi Khalil Ferwana
4	Mohammed Shawqi Mohamed Zouroub
5	Hesham Rafeq Abu Aieh
6	Yousef Noa'man Heliel
7	Mohammed Majed Saleh Al-Massri
8	Mahmoud Mohammed Suliman Abu Mohsen
9	Mohsen Mohammed Abu Touq
10	Ahmed Naeim Mohammed Hasanien
11	Ahmed Abdulallah Al-Shrafi
12	Ashraf Naji Saleh Zouroub
13	Doha Saeid Zouroub
14	Samr Mohammed Al-Bayouk
15	Mona Ramadan Helal Zourob
16	Alaza Khaleil Eid Al-Aqad
17	Reem Mohammed Ahmed Zouroub
18	Abeer Fathi Mahmoud Zouroub
19	Bothyina Yosouf Abd Al-Latief Abu Emara
20	Amna Jamal Saied Al-Demasi
21	Lubna Fehmi Mattar Zouroub
22	Suzan Ahmes Henediq
23	Manal Mohammed Ouda
24	Jihad Mosa Ali abu Muhsen
25	Salwa Ali Abu Nemr
26	Hana' Jaber Al-Rai
27	Ward Salem Syam
28	Neda Jaber Al-Shaer
29	Alhan Abu Redwan
30	Doa'a Subhi Al-Bayouk
31	Miaser Salem Abu Shar
32	Waheed Adb Al-Mu'ti Zouroub
33	Samiha Hussien Al-Bayouk
34	Adel Abu Mustafa
35	Fathia Akram Al-Dali

36	Sarah Qela
37	Hedaya Adel Zouroub
38	Samra Yosouf Hasanien
39	Waheed Abd Al-Mu'ti Zouroub
40	Asmahan Mahmoud Ferwana
41	Neveen Mubarak Abu Al-Araj

ANNEX (3): Suggested Environmental and Social Monitoring Report Format

تقرير متابعة الحالة البيئية والاجتماعية لتنفيذ مشروع

الرقم التسلسلي للزيارة ()

تاريخ الزيارة:

الاستشاري البيئي: الاستشاري الاجتماعي:

أولاً: معلومات عن المشروع:

	اسم المشروع:
	تاريخ بدء الأعمال في المشروع:
	تاريخ الانتهاء المتوقع:
	نسبة انجاز الأعمال:
عدد العمال من سكان المنطقة:	عدد العمال الاجمالي:
	عدد العمال في الموقع وقت الزيارة:
	عدد الإنذارات البيئية:
	هل تم توقيع مدونة السلوك:
	حالة التأمين في الموقع:
	عدد الإصابات بين العمال:
عدد شكاوى العمال الاجمالي:	عدد الشكاوي:
	عدد شكاوى السكان الاجمالي:

ثانيا: الامتثال لخطة الإدارة البيئية والاجتماعية:

رقم	الإجراء التخفيفية	نعم	لا	لا ينطبق	الإجراء التصحيحي في حال عدم الامتثال
1.	هل تم تدريب العمال على طبيعة العمل، إجراءات السلامة، مدونة السلوك، آليات الشكاوي				
2.	رش المياه في حال إنبعاث الأبخرة في حالات الأيام الجافة وإنبعاث الغبار				
3.	تنظيف الموقع من النفايات أو أي معيقات، والتخلص من النفايات إلى مكانها المخصص				
4.	إصلاح الممتلكات الخاصة بالسكان المتضررة من أعمال الإنشاء في الحال دون تركها.				
5.	وضع إشارات المرور للإشارة لمناطق الخطر و تحويل الطرق المغلقة وتحديد السرعة.				
6.	التزام العمال اللبس الواقي الكامل (فيست، حذاء واقى، كمامة الوجه، الخوذة، الكفات ... إلخ)				
7.	التزام المقاول والعمال بتعليمات وزارة الصحة لمنع العدوى ب COVID 19 لبس الملابس الواقية والتباعد الجسدي والتعقيم وتدريب العمال .. إلخ				
8.	تغطية الشحنات خلال عملية النقل ان لزم الامر				
9.	هل يتوفر صندوق الإسعافات الأولية في الموقع للتعامل مع أي حوادث في الموقع				
10.	هل يتم ابلاغ المواطنين في منطقة المشروع بالاعمال المنفذة والانجازات بشكل مستمر.				
11.	هي يتم توفير وسائل الامان للعمال.				
12.	هل يزود المقاول العمال بأجهزة حماية الضوضاء عندما يكون مستوى التلوث السمعي اعلى من الموص به				

				13. هل يوجد/ يتم توثيق إصابات العمال هل وتقديم العلاج اللازم واتخاذ الاجراءات اللازمة
				14. هل يتم تحديد ساعات العمل والتزام بايقاف الأعمال في ساعات الصباح الباكر وساعات الليل.
				15. هل تعرض المقاول الى مناطق اثرية اثناء عمليات الحفر وقام بتبليغ وزارة الاثار والسلطات المعنية
				16. هل يقيد المشروع حركة المواطنين اليومية للوصول الى اعمالهم ، ومواردهم الاقتصادية ، او الى الموارد العامة
				17. الشكاوى وقت الزيارة، هل تم توثيقها وتحويلها للمجلس/ البلدية
				18. تخصيص مكان لراحة العمال وأداة الصلاة وتناول الطعام، بما يشمل وجود حمامات ومصدر مياه
				19. عدم تشغيل أي من العمال تحت سن 18 عام

ثالثاً: ملاحظات الاستشاريين البيئي والاجتماعي:

رابعاً: الصور والوثائق:

ANNEX (4): COVID-19 Commitment Letter (should be signed and followed the contractor)

تعهد المقاول الإمتثال لإجراءات الحد من انتشار وباء كوفيد 19

اسم العقد:..... رقم المشروع:.....

في ظل تطور الحالة الوبائية ومن منطلق الحرص على صحة العمال والمهندسين والصحة العامة للسكان، أقر أنني سأقوم بتطبيق كل ما ورد في البروتوكولات الصحية الصادرة عن وزارة الصحة الفلسطينية/ منظمة الصحة العالمية فيما يخص مكافحة وباء كوفيد 19 والحد من إنتشاره، وأنني على أتم الاستعداد لتطبيق أي بروتوكولات جديدة صادرة من ذات الجهات المختصة خلال فترة العمل. كما أنني أقر أنني سألتزم بتطبيق الإجراءات التالية كملحق لخطة الإدارة البيئية والاجتماعية للمشروع، وأن عدم الامتثال لأي من هذه الإجراءات يستوجب الإنذار البيئي كما هو موضح في خطة الإدارة البيئية والاجتماعية للمشروع:

- 1- يجب التعميم على أن يتم على جميع العمال بضرورة التبليغ في حال ظهور أعراض على أي من أفراد عائلاتهم.
- 2- يجب التأكد من التزام جميع العمال باللبس الواقي من فيروس كورونا خاصة الكمامة، وعلى المقاول العمل على توفير المطهرات والمعقمات بالإضافة للباس الواقي في موقع العمل بشكل مستمر وحث العمال على استخدامها.
- 3- يجب إغلاق موقع العمل لمدة 48 ساعة في حالة اكتشاف إصابات بفيروس كورونا بين أكثر من عامل في الموقع.
- 4- التأكيد على تعقيم وتطهير موقع العمل والمكاتب بشكل دوري، وخاصة عند الاشتباه بوجود أي إصابة بين العمال أو أحد الزوار في الموقع.
- 5- تدريب وتثقيف العاملين (المهندسين والعمال) على طرق الوقاية الشخصية، وطرق انتقال العدوى والتعريف بطبيعة المرض وكيفية تطبيق مع الإجراءات الموصى بها من قبل الجهات المختصة.
- 6- يجب عدم تجميع العمال أوقات الاستراحات في أماكن ضيقة ومغلقة، والعمل على توفير مساحات تتوافر فيها الشروط الصحية من أجل استراحة العمال، وتوفير أدوات الطعام الخاصة ذات الاستخدام الواحد بحيث لا يتم مشاركتها بين العاملين، وأن يتم تحديد أماكن مخصصة للتخلص من النفايات الشخصية للعاملين.
- 7- توافر التباعد المكاني بين المكاتب وأماكن الجلوس والاستراحات في الموقع، وتوفير التهوية الجيدة والشروط الصحية المناسبة.
- 8- العمل على أي إجراءات جديدة يتم الإعلان عنها من قبل وزارة الصحة الفلسطينية وأن يتم متابعة النشرة الوبائية بشكل دوري من أجل تحديد درجة الخطر والاستجابة للتعليمات الصادرة فوراً، حيث أن التقاعس في تطبيق التعليمات التي تصدر من قبل جهات الاختصاص في منطقة العمل سيؤدي إلى محاسبة المقاول فوراً.

اسم المقاول:..... التوقيع:..... تاريخ التوقيع:.....

ANNEX (5): Code of Conduct (Should be signed by the contractor on behalf of workers)

مدونة سلوك العمال

مقدمة:

يأتي الاهتمام بمواثيق سلوك وأخلاقيات العمل والتنشغيل كأحد مداخل تطوير الأداء للعاملين وأصحاب العمل. إن إعداد مدونة قواعد السلوك وأخلاقيات العمل من شأنه تعزيز القيم والممارسات الإيجابية في العمل، وتعد مدونة السلوك إطاراً عاماً يجب على العاملين في المشروع التقيد به والعمل بمقتضاه، فهي مدونة تلقي الضوء على المعايير والأخلاق والقيم التي يجب أن يتحلى بها العامل أثناء أداء واجباته، ومن ثم فهي قواعد ستسهم على نحو فاعل في الإرتقاء بمستوى جودة الأداء والإرتقاء به. إن هذه المدونة تشكل جزءاً من مقتضيات العمل في المشروع، بالتركيز على إجراءات الوقاية والسلامة والصحة العامة المتعلقة بكوفيد 19، ويجب تطبيقها في كل أوقات العمل وطوال فترة العمل، وسوق يكون من مهمة المقاول شرح تفاصيلها للعمال (والجدد منهم) للعمل بها.

أولاً: المبادئ الأساسية لمدونة السلوك وأخلاقيات العمل:

إن جودة الأداء ونجاح العمل تتوقف على الالتزام بقواعد السلوك العامة وأخلاقيات العمل، والتصرف بطريقة عادلة وصادقة كأفراد مسئولين اجتماعياً انطلاقاً من إيماننا الراسخ بمسئوليتنا الاجتماعية التي لها أثر إيجابياً كبيراً على المشاريع التي نعمل بها، ولتحقيق هذا يجب علينا إحترام هذه المبادئ الأساسية:

* **النزاهة والأمانة:** الإمكان بتعزيز التصرف بأمانة في جميع العلاقات مع التقيد الصارم بجميع القوانين المعمول بها، واحترام كرامة كل شخص والحفاظ على سلامتهم.

* **الشفافية:** الاحترام المتبادل، والحوار والشفافية هي أساس العلاقة مع أصحاب العمل والسلطات ذات العلاقة، والتي تتوافق مع مبادئ التعاون والصدق والانفتاح.

* **الموضوعية والاستقلالية:** العمل بموضوعية واستقلالية وتجنب أي نوع من أنواع الفساد أو تضارب المصالح الذي قد يؤثر على اتخاذ القرارات المتعلقة بالعمل.

* **المسئولية:** توفير بيئة عمل آمنة وصحية للعمال، واحترام الحقوق والتقيد بالواجبات من مقتضى المسئولية، واحترام المجتمعات التي نعمل بها.

ثانياً: قواعد السلوك وأخلاقيات العمل:

- يلتزم العامل بتأدية عمله بإخلاص وأمانة وبالمحافظة على أسرار العمل وأدواته، ويعتبر مسئولاً عن الأدوات التي في عهده وعليه الحفاظ عليها، وفي حالة وجود ظروف خارج عن إرادته أو قوة القاهرة، فإن العامل لا يعتبر مسئولاً عن خلل الأدوات أو ضياعها.
- على العامل أن يلتزم بأخلاقيات العمل والحفاظ على خصوصية السكان والعمال في منطقة العمل، دون الإشتباك معهم أو التسبب بأي أذى لهم بأي شكل كان. ويجب الامتناع عن المشاركة في أي عنف بدني أو لفظي لأي من العاملين أو السكان.
- على العامل بالالتزام بإجراءات السلامة المتبعة في الموقع، خاصة عند استخدام الآلات الخطرة، وأي إجراءات إضافية يتم طلبها من قبل البلدية.
- يجب على العامل الإبلاغ فوراً عن أي أمراض مزمنة يعاني منها أو عند الشعور بالإعياء، وعن أي عفاقير يتلقاها العامل.
- الإمتناع عن التسبب بأي نوع من المضايقات سواء اللفظية المباشرة أو غير المباشرة لأي شخص أثناء فترة العمل، وخاصة من فئة النساء والأطفال وذوي الاحتياجات الخاصة.
- على صاحب العمل أن يلتزم بالتأمين على جميع عماله عن إصابات العمل لدى الجهات المرخصة في فلسطين.
- يجب أن تتخلل ساعات العمل اليومي فترة أو أكثر لراحة العامل لا تزيد في مجموعها عن ساعة مع مراعاة ألا يعمل العامل أكثر من خمس ساعات متصلة دون تخصيص وقت للراحة.

- التقيد بأوقات العمل وتركيز أوقات العمل للقيام بالمهام والواجبات المتعلقة بطبيعة العقد، كما نص عليها عقد العمل.
- ضمان حق العامل في التظلم أو الشكوى من أي انتهاك لحقه أو من اتخاذ قرار خاطئ بحقه.
- على صاحب العمل تقديم الإسعافات الأولية اللازمة للعامل في حال الإصابة ونقله إلى أقرب مركز للعلاج.
- الإلتزام بإجراءات ومتطلبات السلامة والصحة العامة المتعلقة بكوفيد 19 بما فيها التباعد الجسدي واللبس الواقي وكل ما ينص عليه البروتوكول الصحي.

توقيع وختم المقاول

ANNEX (6): Emergency Response Environmental and Health and Safety Management Guidelines

MDLF has prepared the Emergency Response Environmental and Health and Safety Management and ESMP's aiming to assist municipalities to withstand its operation under the pandemic conditions, but also to overcome any potential health impact that might rise once development sub- projects are commenced to construction stage.

Regarding commencement of works for development sub-projects, once economical relief has been approved by the government.

Regarding the recurrent expenditures; MDLF aims to assist municipalities to withstand the current emergency situation, though allowed municipalities to voluntarily use of up to 20% of Component 1 allocation under MDPIII Cycle 2 in procuring material, or/and paying expenses to ensure municipal service continuity.

The eligible list of sub-projects falls under category C and mostly for expenditures, however all expenditures shall adhere to Occupational Health and Safety in accordance to relevant World Health Organization (WHO), Ministry of Health (MOH) and the Governorates issued guides.

The Emergency Response Environmental and Health and Safety Management Guidelines are prepared to assist municipalities on project requirements, and to guide MDLF in the process to appraise, procure and monitor implementation of these sub-projects to ensure adherence to environmental, social, health and safety requirements:

- The implementation of sub-project is strictly guided by WHO and MOH guidelines and recommendations.
- The Environmental and Social Management Monitoring Matrix annexed below has been prepared by MDLF, while commitment is required from the municipalities to their responsibility to implement the projects under strict occupational health and safety, and minimized and mitigatable impact on environment would result from implementing the recurrent expenditure projects.
- MDLF teams and consultants is responsible on environmental and social and health safety monitoring.
- Environmental and Social Management Plans shall be enclosed with bidding document, project agreement documents, and as the municipality are the ones to implement they need to commit adhering to the ESMP.

Health and Safety Guidelines

The following applies to recurrent expenditure sub-projects and also for development sub- projects that will be implemented following to Ministry of Health guidelines for lockdown loosening, and also after ending the pandemic emergency state lockdown.

- Municipality/contractor shall ensure all of their teams are covered with insurance, and having access to health care system.
- Once one's health is suspected; the municipality/contractor needs to ensure the worker health has been checked by MOH, and their recommendations adhered to.

- Municipality/contractor shall ensure providing personal protection wear and disinfection material to their teams and visitors.
- Municipal/ contractor workers shall maintain their personnel hygiene, washing their hand and face with water and soap, washing dirty clothes on daily basis.
- Municipal/ contractor Workers shall maintain wearing facial masks, and medical gloves, and keeping the right distance in offices and outside.
- Municipal/contractor teams shall abide to the minimum allowed distance during project implementation, otherwise, municipality/contractor shall take permission to have their teams operate with full protection wear or as per premised by MOH.

All development sub-projects ESMP's shall include Annex 2 which provide guidance on proper health and safety acts for workers.

Environmental Management Guidelines for Contractors (provisional to Construction in Roads)

Purpose

The purpose of these environmental management guidelines for contractors is to define minimum standards of construction practice acceptable to the MDLF.

Roads

In order to carry out the rehabilitation works, it may be necessary to close or divert certain specified roads, either permanently or temporarily during the construction period. The contractor should arrange diversions for providing alternative route for transport and/or pedestrians.

After breaking up, closing or otherwise interfering with any street or footpath to which the public has access, the Contractor shall make such arrangements as may be reasonably necessary so as to cause as little interference with the traffic in that street or footpath during construction of the rehabilitation works as shall be reasonably practicable.

Wherever the rehabilitation works interfere with existing public or private roads or other ways over which there is a public or private right of way for any traffic, the Contractor shall construct diversion ways wherever possible.

Movement of Trucks and Construction Machinery

The Contractor moving solid or liquid construction materials and waste shall take strict measures to minimize littering of roads by ensuring that vehicles are loaded in such a manner as to prevent falling off or spilling of construction materials and by sheeting the sides and tops of all vehicles carrying mud, sand, other materials and debris.

Traffic Safety Measures

The Contractor shall provide, erect and maintain such traffic signs, road markings, barriers and traffic control signals and such other measures as may be necessary for ensuring traffic safety around the rehabilitation site. The Contractor shall not commence any work that affects the public motor roads and highways until all traffic safety measures necessitated by the work are fully operational.

Access across the Construction Site and to Frontages

In carrying out the rehabilitation works, the Contractor shall take all reasonable precautions to prevent or reduce any disturbance or inconvenience to the owners, tenants or occupiers of the adjacent properties, and to the public generally. The Contractor shall maintain any existing right of way across

the whole or part of the rehabilitation site and public and private access to adjoining frontages in a safe condition and to a standard not less than that pertaining at the commencement of the contract. If required, the Contractor shall provide acceptable alternative means of passage or access to the satisfaction of the persons affected.

Protection of the Existing Installations

The Contractor shall properly safeguard all buildings, structures, works, services or installations from harm, disturbance or deterioration during the concession period. The Contractor shall take all necessary measures required for the support and protection of all buildings, structures, pipes, cables, sewers and other apparatus during the concession period, and to repair any damage occurs in coordination with Municipality and concerned authorities.

Noise and Dust Control

The Contractor shall take all practicable measures to minimize nuisance from dust and noise from the rehabilitation sites. This includes:

- Respecting normal working hours in or close to residential areas;
- Maintaining equipment in a good working order to minimize extraneous noise from mechanical vibration, creaking and squeaking, as well as emissions or fumes from the machinery;
- Shutting down equipment when it is not directly in use.

Regarding Dust control, contractor is asked to provide a water tanker, and apply water spraying when required to minimize the impact of dust.

Waste Disposal

The Contractor must agree with the municipality about arrangements for construction waste disposal. The municipality shall designate a dumping site or landfill for the disposal of solid waste.

Protection of Trees And Other Vegetation

The Contractor shall avoid loss of trees and damage to other vegetation wherever possible. Adverse effects on green cover within or in the vicinity of the rehabilitation site shall be minimized.

Clearance of Rehabilitation Site On Completion

The Contractor shall clear up all working areas both within and outside the rehabilitation site and accesses as work proceeds and when no longer required for the carrying out of the Rehabilitation works. All surplus soil and materials, sheds, offices and temporary fencing shall be removed, post holes filled and the surface of the ground restored as near as practicable to its original condition.

Site Construction Safety and Insurance

Further to enforcing the compliance of environmental management, contractors are responsible on providing insurance for construction labors, staff attending to the construction site, citizens for each sub-project, the insurance requirements and clauses are stated in the bidding documents complying to the labor.

ANNEX (7): Complaint Form (To be used by citizens or workers)**نموذج تقديم شكوى (للمواطنين أو العمال في الموقع)**

اسم المشروع:

التاريخ: / / 2022

طلب تقديم شكوى

رقم الشكوى:

أولاً: معلومات مقدم الشكوى: * يحق للمتقدم بالشكوى عدم الإفصاح عن اسمه ومعلوماته الشخصية، وتسجيل الشكوى باسم مجهول

			اسم مقدم/ة الشكوى الرباعي:
رقم الهوية:	الجنس	<input type="checkbox"/> ذكر <input type="checkbox"/> أنثى	
عنوان السكن بالتفصيل:			
رقم الجوال/ الهاتف:			

**في حالة كان هناك أكثر من مقدم/ة لنفس الشكوى، يرجى إضافة الاسم ورقم الجوال في مرفقات الشكوى

ثانياً: حول الشكوى

اسم الجهة التي تلقت الشكوى: تاريخ ووقت استلام الشكوى:

كيفية استلام الشكوى (المكان، قناة الشكاوى):

الجهة المقدم فيها الشكوى:

موضوع الشكوى:

.....

هل تقدمت بشكوى في ذات الموضوع سابقاً: نعم لا

- أين قدمت الشكوى السابقة: تاريخ التقديم:

- هل تلقيت رداً على الشكوى السابقة: نعم لا

- في حالة كانت الإجابة نعم، ما هو الرد المستلم على الشكوى؟

.....

مرفقات الشكوى (وثائق ومستندات):

.....

أقر وأصرح أنا مقدم/ة الشكوى..... بأن المعلومات والبيانات والمرفقات الواردة أعلاه هي معلومات وبيانات ومرفقات صحيحة وحقيقية والتزم واتفق بتحمل كامل المسؤولية القانونية فيما لو تبين خلاف ذلك في أي وقت من الأوقات أو إذا تبين أن الشكوى المقدمة من قبلي كيدية.

وعليه أوقع

تاريخ تقديم الشكوى: / /

توقيع مقدم/ة الشكوى:

ANNEX (8): Post-Closure Checklist

The table below shows the different monitoring items after the site renovation is completed

Works - item involved	Type of monitoring	Frequency
stability of the mass	Visual inspections, if there is a significant movement of the embankment, a maintenance should be made by the municipality.	Visual surveillance every week
Site surveillance - maintain the closures	For the remodeled part after operation, in order to ensure that there is no more carrying of waste: a closure will be implemented, and must have constant visual monitoring to ensure that it is working properly	Every 15 days
Prevent fire risks ground clearing.	Ground clearing, which preserves the integrity of the cover (if the plants are too dense and too large, they can destroy the cover) and maintains the various networks in good working order.	At least twice a year
Rainwater channel	Cleaning rainwater channel	Every 3 months, and mainly before the winter
Accessibility and securing the site	The site should be secured, no unauthorized people should access to it. The maintenance of the fence to be done by the municipality.	Annually

Other items will be consulted with the stakeholders during the project implementation.