Gaza Solid Waste Management Project
GSWMP

Environmental & Social Management Plan
For
The Permanent Disposal of Subsoil

Addendum No. 4 to the GSWMP Environmental & Social Impact Assessment

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Table of Acronyms

AFD	French Development Agency
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
GRM	Grievance Redress Mechanism
GSWMP	Gaza Solid Waste Management Project
JSC- KRM	Joint Service Council for Solid Waste Management in Local Governorate Units of Khan Younis, Rafah and Middle Area

KYWWTP Khan Younis Waste Water Treatment Plant
MDLF Municipal Development and Lending Fund

Overview and Sub-Project Description

This document addresses the stockpiling of excess subsoil resulting from the excavation works at the new Sofa Landfill at Al-Fukhari. An estimated 1.5 million cubic meters of benign subsoil will result from excavating the main landfill cell (cells 1A and 1B) according to the design prepared by the Joint Venture of Antea Group France, Engicon Jordan, and EMCC. The Contractor had stockpiled an estimated amount of 600,000 cubic meters of unconsolidated subsoil on-site that will be used later during landfill operations as daily cover material. The remaining amount considered as excess amounts of subsoil is planned to be transported to off-site locations. This ESMP addresses the final soil stockpiling disposal site of the new landfill funded by GSWMP: World Bank Group and the French Development Agency (AFD). It is an Addendum to the ESIA completed in September 2012 for the proposed sanitary landfill in Al Fukhary (Sofa).

The proposed permanent soil disposal site is located approximately 14 km from the Sofa Landfill Site. Figure (1) shows location of the new subsoil disposal site in relation to the Sofa dumpsite, and Al Fukhary Sanitary landfill (under construction). The disposal site is a governmental land and it is allocated for JSC-KRM to be used as stockpiling site – **ANNEX I** shows the allocation document. The land is currently vacant and it is not used for agriculture, and it is sufficiently large to accommodate excess subsoil. It is expected to use about 40,000 m2 of the land with a height of 12m above the ground. The subsoil will be smoothened and leveled and the side slope will be gentled at one to two. Upon completion of disposal, the subsoil will be compacted and seeded with alfalfa to reduce dust emissions and soil erosion. The site is not proposed to be used for any economic or agricultural activities.

Figure 1. Satellite Photo (Google Earth) of the Sanitary Landfill and Surrounding Area

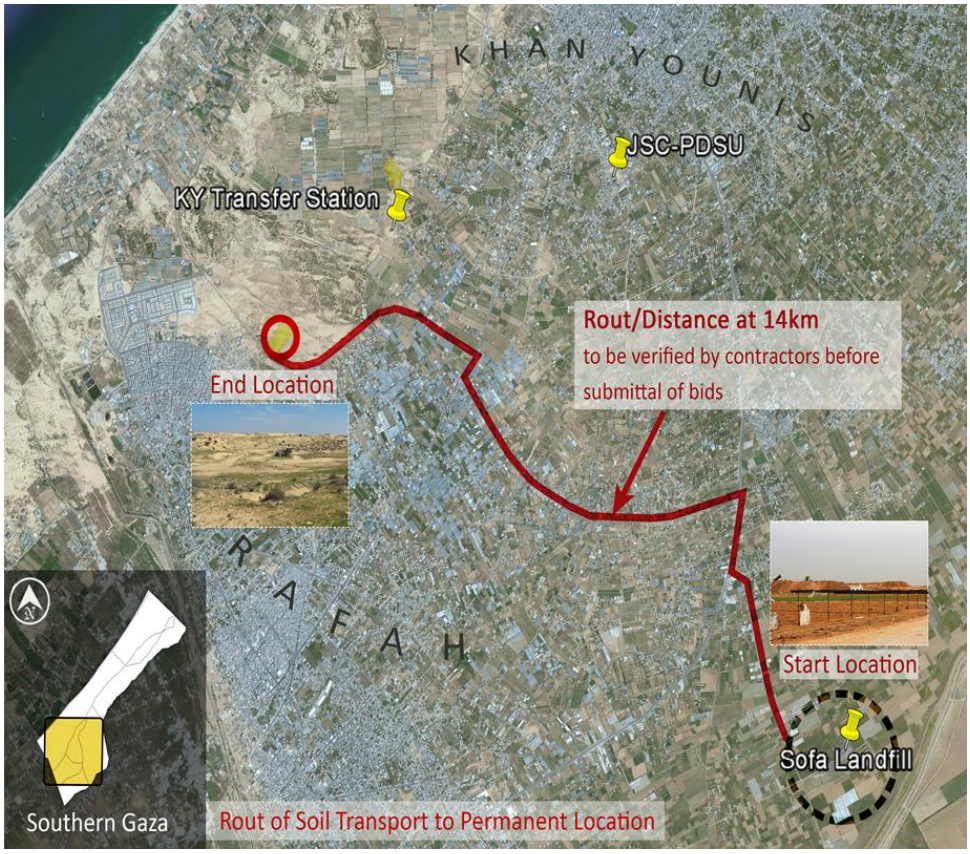


Figure 2. Site map (Google Earth) of the stockpiling site

The proposed transfer route will pass through 14 km of roads with different conditions and widths ranging between 8 – 34m. The route passes firstly through 2.5 km of sofa access road

(width 8 m) used mainly for Rafah solid waste trucks going to the Sofa dump. It provides also access to agricultural lands to farmers. Subsequently, the route passes through 500 m of main Salah Al Dien Street (Width 34m) before entering a sub-paved road towards the western direction (Width 6 – 10m) to reach to the proposed stockpiling site; all the route is paved/sub-paved. Traffic on the described roads is not heavy except for the Salah Al-Dien Street which is considered main street with heavy traffic during the day. The sub-paved road (from Salah Al Dien st. to stockpiling site) is used for some farmers to access to their lands and it is used to pass to western side of Rafah City. There are no schools in the proposed route, most of the route is vacant without any special activities, and most of the route passes through rural/agriculture lands with very limited residential areas.

The site is bounded by vacant lands from north and west sides, street from the south side, and Some tents (about 10 tents) for Bedouin people are located about 200m east of the site location, one tent is located about 100m east of the site, but a nature sand dune hill with a height not less than 4m is separating this tent and the stockpiling site. These tents are movable, knowing that a buffer zone (more than 100m) will be determined between the nearest tent and the stockpile boundary, and tents will not be removed due to the stockpiling activities. Moreover, mitigation measures will be implemented such as installation a silt fence and limit the work to the day time only to mitigate any impacts on the people who live in these tents.

ESMP Objectives

This report is prepared for carrying out an Environmental and Social Management Plan (ESMP) for permanent stockpiling site. This will include the proposed mitigation and monitoring measures based on the existing baseline information, and the expected potential impacts significant on the physical environment, biological environment, socioeconomic, cultural and heritage and human health. This report aims to be in conformity of the World Bank safeguard policies, taking into consideration the environmental and social regulations of the Palestinian Environment Quality Authority (EQA). Final draft of the ESMP will be disclosed in electronic format on MDLF website; JSC Facebook page; and the World Bank InfoShop. The ESMP document in hard copy format will be available in MDLF office – Khan Younis Branch; and JSC-KRM main office.

1. Baseline Conditions

Most of the environmental and social baseline data were available in the ESIA of the GSWMP1. The data were updated in the recent ESMPs for the Khan Younis and Rafah transfer stations. The environmental baseline data that were studied include: meteo-climatologically conditions; ambient air quality; soil characteristics; geological survey; water resources; geophysical survey and fauna and flora. The social baseline data include also the neighboring communities of the nearby Tal Al Sultan neighborhood, Rafah city.

[1] Environmental and Social impact assessment (ESIA) for Gaza Solid Waste Management Project: http://www.mdlf.org.ps/Files/Docs/GSWM%20ESIA_FINAL_19sep2012.pdf

The proposed stockpiling site is a government owned empty and uncultivated land. The disposal area is characterized by natural sand dunes - Image (1). The dunes are not under environmental protection. There are not valuable flora or fauna species or habitats within the disposal site. The site is not used for agriculture. The site is sufficiently large to accommodate excess subsoil, and it is vacant. The site is surrounded by only vacant lands from the northern side, row of trees and vacant lands in the western side, a street and vacant lands in the southern side, and a water reservoir far in the eastern side. Some tents (about 10 tents) for Bedouin people are located far about 200m east of the site location boundary, one tent only is located about 100m east of the site boundary, but a natural sand hill with height not less than 4m separating the tent and the site. These tents were found in the area since few months (5- 6 months), knowing that they are movable tents and, in the past, they moved to more than a location. Image (2) shows the tents located east of the soil disposal site.

No rare, sensitive or endangered fauna species were observed during the visits to the site and that would be negatively impacted by stockpiling activities. It is found that the majority of the surrounding area is sand dunes, and natural herbs which are the typical vegetation found in the site area – Image (3).

Image 1. Site proposed for disposal of subsoil excavated from Al Fukhary landfill

The average annual precipitation in the area is about 256 and 273mm in 2015 and 2016, consequently. Most of the precipitation falls between December and March. Storms can occur in winter when maximum wind speeds reach about 18 m/s. In winter, the prevailing wind direction is SW with an average speed of 4.2 m/s and during summer the prevailing winds are from the NW sector. The monthly and annual wind direction in the proposed

geographical area is common most months of the year, north-west. If we rearrange the wind direction by season, then it will look like this: Spring: The wind direction is common north-west to west-southwest. In the summer is common north-west to west-north west; in the autumn is common north-northwest to north-west and in the winter is common south-west to west- southwest.

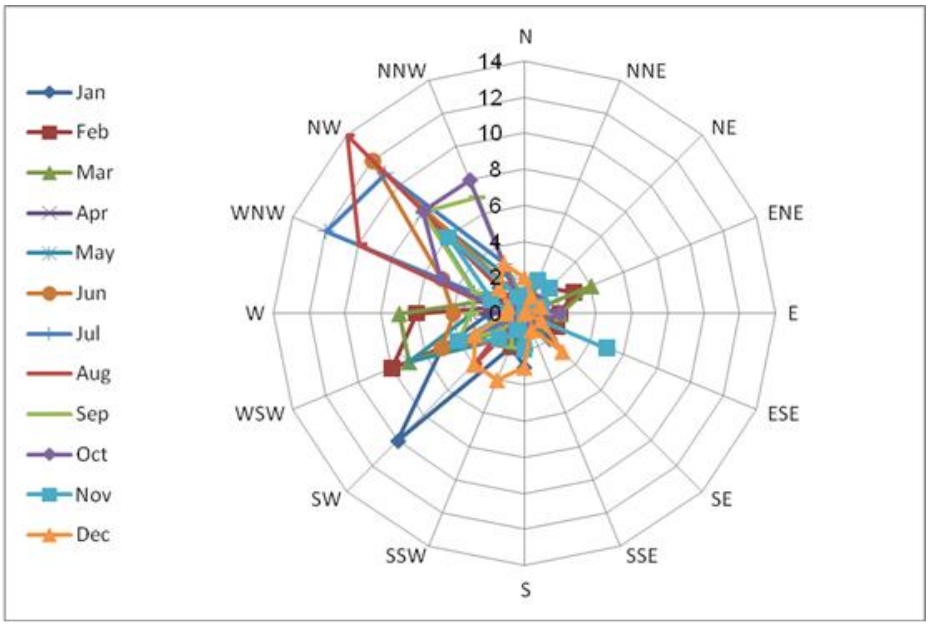


Figure 3. Wind Direction and Speed near the Transfer station site (Abu-Zarifa, 2014)

The groundwater level is reported at the depth of 18m in this area. The groundwater has high concentration of ammonia content, but acceptable level of chloride concentration (250 – 600ppm). Soils texture in the surrounding area is mainly sandy to sandy loam.

The stockpiling site is opposite to Al-Barahma neighborhood, the nearest inhabited house is located more than 500m in the southern side; other few lands with concrete boundaries are located closer (about 300m far from the site) – image (4), but they are not inhabited. a school is along the road, and it is far about 600m from the stockpiling site.

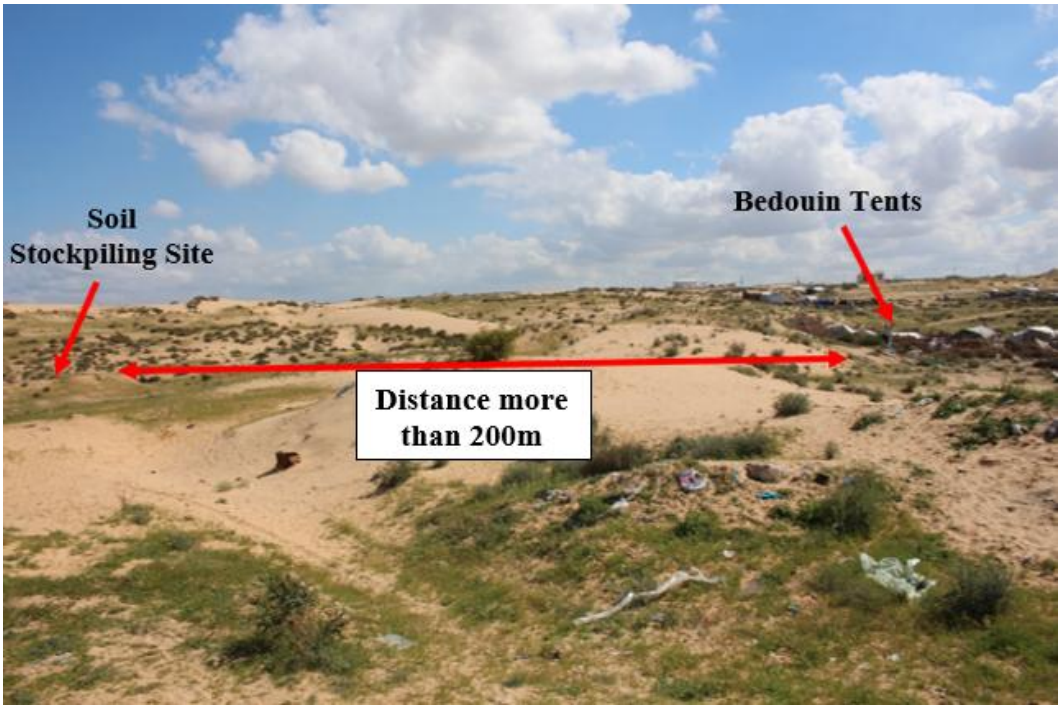


Image 2. Tents of Bedouin people east of the stockpiling site


Image 3. Limited flora witnessed in the current site

Image 4. Lands opposite to the stockpiling site (Al Barahma Neighborhood)

2. Expected Impacts of Subsoil Disposal

It is estimated that the subsoil disposal process will last for about four months with a range of 250 - 300 round trips for transferring spoil per day (about 5,000 - 6,000 cu. m per day). This activity is expected to affect the surrounding environment primarily due to the dust emissions resulted from the parts of roads which include cracks (Drivers avoid driving over the cracks, they prefer to drive outside the body of the road in some parts of the road) or resulted from parts of roads covered by some sands (from sandy lands in both sides), as well resulted from the unloading of soil itself. Dust emissions contain fine particulate matters that inhibit the normal respiration and photosynthesis mechanisms within the plants leaves[2]. The fine dust particulates are easily inhaled, even short-term exposure can cause respiratory problems and allergic reactions to humans. The workers/drivers are also expected to be exposed to dust emissions.

In general, movement of heavy vehicles, transferring earth material and the influx of relatively high number of dump trucks will affect the traffic on the proposed road. The Sofa Road has light civilian traffic, but it is used also for transfer of solid waste to the Sofa dumpsite. It is likely to result in temporary congestion and inconvenience to the neighboring farmers using it. Temporary traffic congestion is expected also at entering and exiting the

[2] Shivakumar MVK (2005) Impact of sand storms/ dust storms on agriculture. Natural Disasters and Extreme Events in Agriculture. Publisher – Springer eBook, page 159-177.

excavation site at Sofa Road with the incoming municipal solid waste collection vehicles which still use the existing dumpsite. In the other hand, the transfer trucks are expected to use high quantity of fuel daily, and most likely the fuel filling point will be at the start point (Sofa Landfill); soil contamination could occur at the site due to spill of fuel which may require special measures to prevent it.

In the meantime, the stockpiling process and transferring the subsoil is expected to result in number of negative social impacts, most importantly, temporary inconvenience to the neighboring communities is expected due to movement of heavy vehicles in term of noise, dust and traffic matters. The route does not pass through densely populated areas or markets. On the other hand, the stockpiling process will create number of temporary jobs (especially drivers), Most of drivers are expected to be hired from the local community.

The overall stockpiling process and transferring the subsoil is associated with safety concerns due to the long-travelled distance, the use of heavy vehicles, and the stockpiling process over various heights and side slopes.

The potential environmental impacts after completion and levelling of the subsoil (spoil) is limited to soil erosion and dust arisings during dry and windy weather.

3. Mitigation Measures

Mitigation measures follow the approved ESMP provided in the works contract of the new landfill construction with additional specific measures as provided in this ESMP. The excavation works of the new sanitary landfill will consider a separate stockpiling of the first meter topsoil and subsoil to limit the damage of its richness in the biological activity. The topsoil being a valuable natural resource is planned to be applied for agricultural uses by farmers in agricultural fields located near the sanitary landfill (it will reduce the volume of stockpile). For all affected zones, work will be limited to day time to decrease noise pollution. Workers and drivers will follow the safety measures indicated in the approved Safety Plan of the aforementioned works contract including wearing the required personal protective equipment including masks, and other safety measures will be implemented in term of side slopes of stockpile.

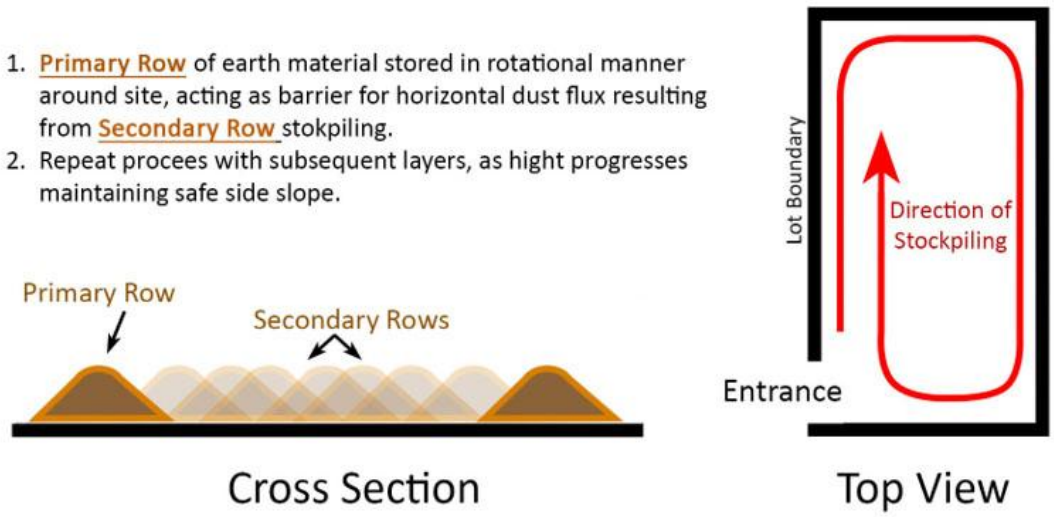
The traffic inconvenience is anticipated due to the heavy use of the Road during the stockpiling process, especially the Sofa Road. The main traffic affected group is the in- and out-coming solid waste transfer trucks. A daily presence by Rafah Municipality Staff and directing/monitoring vehicles will mitigate the traffic impact by managing timing of solid waste transfer truck and subsoil trucks. Other parts of route will be monitored and managed once a traffic jam is repeatedly noticed in any location. The pace of work will be decreased at the rush hours in order to prevent traffic jam. The workers involved in the transfer and disposal operations will be wearing masks to protect them from inhaling dust.

Water spraying will be applied to produce a hardened thin top layer that reduces windblown dust emission during the initial stockpiling process. Water spraying will also be applied on the sandy parts of the road based on the daily conditions. Disposal process shall also be carefully carried out to decrease potential negative impacts such as on-site dust emission, horizontal flux of dust to neighboring lands as shown in figure (3). All trucks transferring subsoil will be covered during their trips to decrease the blowing of soil particulates

The complaints mechanism will be activated and ready to receive any complaints during the stockpiling phase, complaints will be treated as required. In addition, the community committee will conduct site visits during stockpiling period, and information will be shared regularly with the local community. JSC social specialist will conduct regular meetings and will involve the Municipality in communication with the local community and receive their feedback and remarks. The project environmental specialists will also include the monitoring of stockpiling activities in their normal monitoring tasks currently undergoing for the landfill construction activities and will observe and record impacts on the surrounding agricultural lands and enforce implementation of mitigation measures.

Mitigation measures after completion of transfer and disposal of subsoil (spoil) include levelling and partial compaction of the spoil body, seeding the site with alfa alfa during the rainy season. Alfa alfa will reduce subsoil erosion and emission of dust during dry and windy weather. After the first year, additional seeding will be applied in areas where alfa alfa did not grow sufficiently and left open areas.

Figure 4. Proposed Disposal Method



3.1. Note on Grievance Redress Mechanism (GRM)

There are several channels for receiving complaints from local community. Following is a summary of the GRM in use for the specific activity of earth material stockpiling, utilizing the existing grievance redress mechanism currently in use by the Joint Service Council (JSC-KRM).

A. Venue:

Al Fukhary site office has a complaint box that can be always used to receive written complaints. Other complains boxes are distributed in JSC-KRM offices and workshop in Khan Younis.

Supervision Engineer at Al Fukhary site has always showed willingness to receive and communicate public inquiries, the same applies to the administrative staff of the contractor on the site. Overall the landfill construction site offices are well known to the surrounding community and can always be accessed for inquiries and complaints.

Al Fukhary is a small municipal area with low population, it enabled close and personal relationship between municipal employees and the population which is reflected clearly in the duties of the Mayor himself who is in personal and daily contact with his farmer community. Therefore, a main channel of complains is the Municipality of Al-Fukhari, and the mayors' office himself. Rafah Municipality will also accept any complaints by their complaint center (in one stop shop), and it will transfer any related complaints to JSC-KRM.

Other channels can be reach online by JSC-KRM Facebook page, where it checked daily. Telephone and Email channels will also be available for any potential complaints. The communication details of JSC-KRM is clearly announced on the Facebook page for any potential complaints or even any inquires as shown in Figure (4), another banner will be installed in front of the stockpiling site and include information about the project and communication details.

Figure 5. Communication details of JSC-KRM

B. Complaints Handling and Follow-Up:

Grievances mechanism will be activated for the local community to receive any complaints related to permanent stockpiling site. For the whole project, GRM will be activated for the local community to receive any complaints related to permanent stockpiling site and the project at large. The system includes different channels, most importantly:

1- The complaint box: A complaint box will be installed in all the JSC facilities; these boxes will be supplied with an instruction board and hard copies of grievances application to be filled when there is a grievance to be submitted.
2- Using the Facebook page: by inviting the people to send their complaints using the JSC Facebook page since the website is still under construction, and the Facebook page will be announced in all the public meetings and on a board located besides the complaint box at the landfill camp.
3- Phone calls and emails: the instruction board above the complaint box will contain phone numbers of the JSC-KRM (Telephone: +97082076001, Fax: +970820776008) and the mobile number of the social specialist (+970597652008) and email address of JSC-KRM (jsckrm2014@gmail.com) and the email address of the social specialist (eqandeel.jsckrm@gmail.com). Those will also be disseminated to the public through the Project Facebook page and in community meetings.
4- Online application: a website for the JSC-KRM is under construction and it will contain a link to an online grievance application to be filled by the different communities all the time.

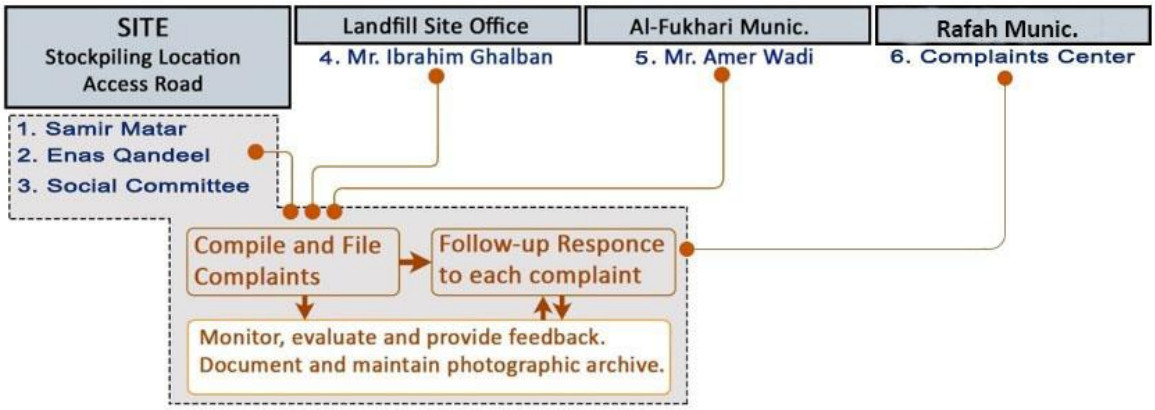
Acknowledgment for receiving the complaint will be offered to complainant in 2 business days from receiving and then 5 business days will be taken to resolve and close the complaints under the direct control of the projects and the contractors. Longer period might be needed to address complaints that are not under the direct autonomy of the project and in such cases, the complaint will be diverted to the concerned parties and feedback will be offered to the complainant accordingly.

As soon as the grievance received the following steps will be followed to apply the process:

1- Sort and process: the grievance will take a serial number. The compliant urgency will be checked using the priority sheet.
2- Acknowledge and follow up: the complainant will 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 TOU-JSC teams will 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, this will be according a certain time plan for every action as mentioned above.
4- Monitor and evaluate: the JSC-KRM social specialist will check 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 social specialist will report about the problem, its solution, the person/the department who contributed in solving 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 r the chairman of JSC-KRM, to be involved in the action.

   ***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 will ensure the fairness of the solution.*

Figure 6. Schematic GRM Relationship Chart for the Material Stockpiling Activities



4. Social Survey and Community Consultations

The consultation process was conducted with community for the site of Permanent Disposal of subsoil. Site visits, consultation with Bedouin people, consultation workshop with local community, and a social survey were carried out in order to consult with local community

and to expect any impacts of the stockpiling activities and propose appropriate mitigation measures.

4.1 Consultation Workshop with Local Communities

On 14 March 2018, Environmental and Social safeguard specialist from MDLF, and JSC KRM and in coordination with the project social committee conducted a consultation workshop (Image 5) in Dar Al Fadela school located south of the proposed stockpiling site. The workshop was attended by local residents, the school headmistress, teachers, NGOs representatives, and two of GSWMP social committee who representative Rafah city and they also visited the stockpiling site. See **Annex II** the list of participants.

The Environmental Specialist presented the details about the GSWMP in general and the soil stockpiling process in particular including transportation of vehicles, location of the stockpile and time of work, unloading process, and the stockpiling methodology.

The participants had been divided into four discussion groups, each group discussed one theme and agreed on the possible impacts, mitigation measures, Monitoring procedures, and responsible bodies. The four thematic groups are:

- Group 1: Roads and Transportation;
- Group 2: Public health, and safety concerns;
- Group 3: land Use and Soil;
- Group 4: Air Pollution and Noise.

Table 1. The results of the workshop presented in the following Scoping matrices

Group 1: Roads and Transportation			
Impacts	**Mitigation**	**Monitoring**	**Responsible party**
• Traffic Jam • The dust from construction works. • Noise especially at night times	• Determining a vehicle line is far from the traffic congestion (Sofa Landfill – Salah Al Dien Street – Al-Muharrarat – Stockpiling site) knowing that all these streets are paved/sub-paved and have very light use. No extensions of the street width will be carried out. • Stay away from peak times and coordination with the Ministry of Transportation • Spraying water in parties which have dust emissions • Cover all transported soil trucks • Limit the work to the day time only	• Monitor the speed of vehicles. • Monitor the Working time • Being Away from peak times • Monitor covering the soil trucks and spraying water	• The Contractor

Group 2: Public Health and Safety Concerns			
Impacts	**Mitigation**	**Monitoring**	**Responsible party**
• The dust from transportation of soil and stockpiling works • Safety of children who may enter the site • Safety of workers and drivers	• Reduce the implementation period (not more than 4 months) • Closing the area with a fence • Workers to comply with wearing the protective equipment • Installation of safety signs around the stockpiling site • Clear channels for any potential complaints should be determined	• Regular monitoring of dust, and noise • Workers compliance of wearing the protective equipment	• The Contractor
Group 3: Land Use and Soil			
Impacts	**Mitigation**	**Monitoring**	**Responsible party**
• Landslides, spoil erosion • Oil spills from soil trucks to pollute soil • Drainage/runoff due to the stockpile	• Ensure the cohesion of the soil during excavation and stockpiling • The slope of the stockpile should not exceed one to two, and the height less than 12m • levelling and light compaction of the spoil body • construction of ditches wherever required to prevent the drainage of runoff to be received to the street or to the near tents • Contractor to fill the oil outside the stockpiling site	• Monitor the unloading and compaction activities • Monitor the construction of ditches • Monitor the side slopes and height of the stockpile	• The Contractor
Group 4: Air Pollution and Noise			
Impacts	**Mitigation**	**Monitoring**	**Responsible party**
• The dust from transportation of soil and stockpiling works • The dust from unloading soil • Noise from transportation works	• Reduce the implementation period (not more than 4 months) • Closing the area with a fence (to mitigate the dust transport to be arrive to the near Bedouin people • Spraying water wherever required • Cover all transported	• Regular monitoring of dust, and noise. • Workers compliance of wearing the protective equipment • Monitoring the time of work • Monitoring the water spraying, and seeding alfa alfa	• The Contractor

	soil trucks • Seeding and maintaining alfa alfa after completion of disposal • Workers to comply with wearing the personal protective equipment (PPE) • Limit the work to the day time only		

a.

b.

c.

d.

e.

f.

g.

Image 5. Photos of the consultation workshop with the local communities

4.2 Consultation with The Bedouin People

A visit was carried out to the Bedouin people who stay adjacent the site location- Image (6); consultation was carried out with them in presence of the JSC-KRM executive director and project safeguard specialists to ensure they will not affected by the stockpiling activities, and to discuss how to mitigate any potential adverse impacts resulted due to the project activities. It is agreed to leave a 100m buffer zone between the nearest tent and the boundary of the stockpiling site, and to implement other mitigation measures such as fencing the site and limiting the work to the day time only. Hence, that about 10 of tents for Bedouin people are located east of the stockpiling site with a distance more than 200m, but one tent is far about 100m from the boundary of the stockpiling site.

Image 6. Site visit and consultation with the Bedouin people

4.3 Social Survey Questionnaire for The Local Communities

A questionnaire was prepared to collect the views of the surrounding population with regard to the activities of moving the extracted material from the landfill to the permanent stockpiling by the heavy vehicles. 20 questionnaires were distributed to the respondents around the route of subsoil transfer on March 18, 2018, knowing that questionnaires were hardly filled due to the absence of residential units in the targeted areas. The questionnaire contains major questions about the Air Quality, Transportation, Public Health and GRM as shown in **Annex III**, respondents were also asked to suggest effective mitigation measures to mitigate the possible impacts. The results of the questionnaire are as follows:

Geographical Distribution of Respondents

Figure (6) shows that the geographical distribution of respondents around the project area, around the access road to the permanent stockpiling area and in Al Barahma neighborhood. Around 40% of targeted respondents live along the Sofa Access Road, 30% live along the sub-paved road, and 30% live in Al Barahma neighborhood.

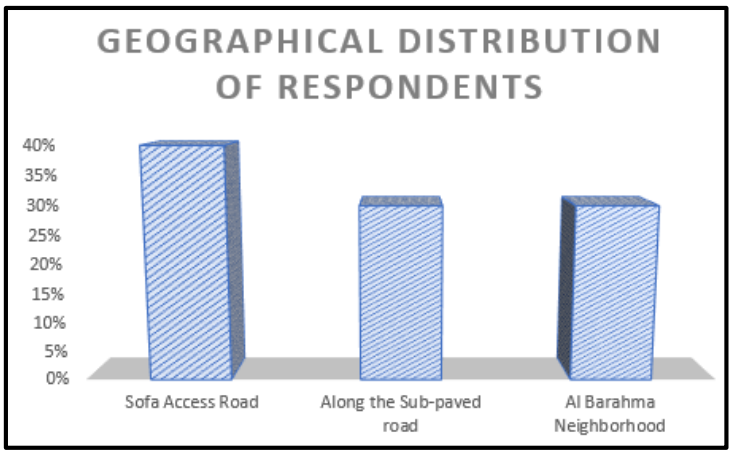


Figure 7. Geographical Distribution of Respondents

The respondents were distributed to all age groups youth and old persons living along the access road. The gender distribution had been taken into consideration, however, around 65% of participants are males while 35% of them are females as shown in Figure (7). Social survey targeted men and women above 15 years old. 15% of the participants are below 25 years old and 10 % of them are more than 60 years old, while 55% of participants are between 25-40 years old and 20% of them are between 40 – 60 years old as shown in Figure (8).

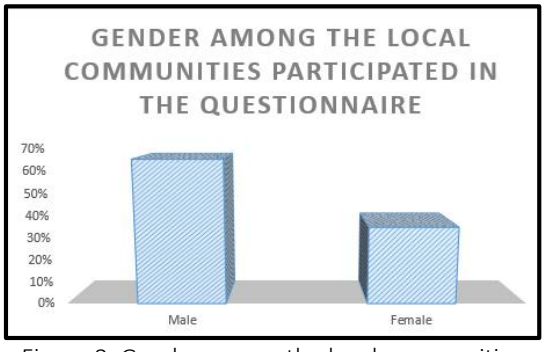


Figure 8. Gender among the local communities

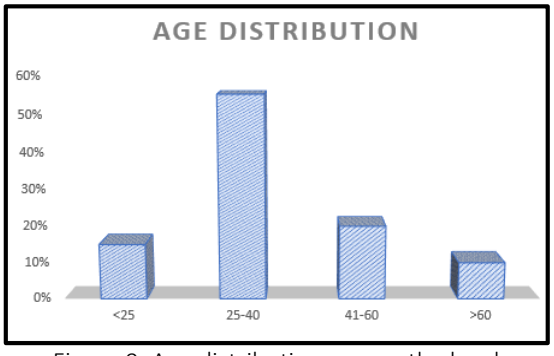


Figure 9. Age distribution among the local

participated in the questionnaire communities participated in the questionnaire

Employment rates of the sample

Figure (9) shows that around 40% of the respondents revealed that they were not employed in any sectors while around 60 % of them were employee and 25% are working in agriculture.

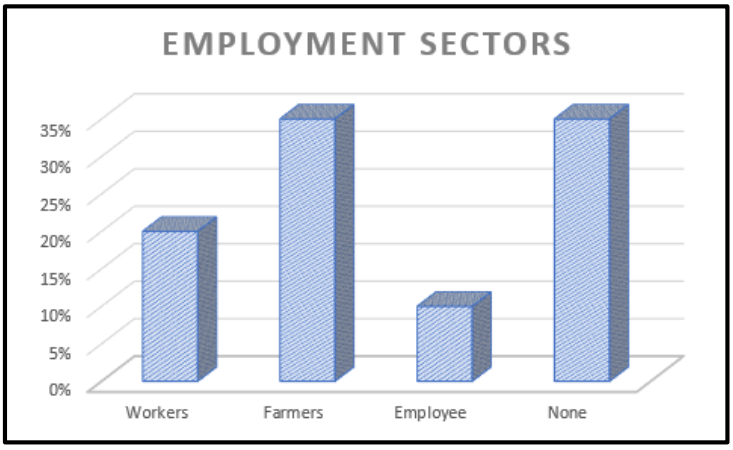


Figure 10. Employment sectors of the local communities participated in the questionnaire

4.3.1 Communities views about the impacts of the trucks movement

Respondents were asked about the anticipated impacts of trucks movement and if they suggest any mitigation measure to decrease the adverse impacts. Majority of the respondents said they may be affected by dust emissions and they suggest to restrict the movement of trucks without covering the subsoil to prevent dust emissions during transfer. Others suggests to spraying water especially in the unpaved part of the route and this should be in regular and frequent times. However, most of respondents do not think a traffic jam will be occurred in their regions and they have a previous similar experience with soil transfer from WWTP located east of Khan Younis. None of them know the source of soil and the client name, but only 10% know the contractor company name.

Respondents were asked if they know how to submit a complaint, and it was found that 45% of respondents do not know how to submit a complaint and where, whereas the remaining 55% said they are aware that they can submit complaint to the Municipality of Rafah.

Image 7. Questionnaire to the local communities at the project areas

5. Summary ESMP table

Table (2) provides the summary ESMP table for the stockpiling process. It includes measures that are currently applied during construction of the sanitary landfill, as well as measures specific to the stockpiling operation.

5.1 Monitoring of Effectiveness of Mitigation Measures

Implementation of the mitigation measures will be monitored during the stockpiling process by PDSU and TOU. Hardening of the top layer by levelling, light compaction, seeding and water spraying will be visually monitored on a daily basis during the works. The Environmental and Social Management Plan is considered a flexible and dynamic document which can be updated every time according to the situation and the new unforeseen impacts. New additional mitigation measures will be implemented and monitored whenever needed.

Table 2. Summary of Environmental and Social Management Plan for Permanent Disposal of Subsoil.

Potential Impact	Proposed Mitigation Measures	Implementation Responsibility	Compliance Monitoring Approach	Monitoring Frequency	Responsibility for Compliance Monitoring
1. Spoil erosion and & Flooding	Storage of spoil away from the drainage pattern.	Contractor	Visual observation	Once a week, Monthly for Same point vantage photographs	MDLF, JSC-KRM
	Ditches around the access road of stockpile site directing drainage during rainy season away from Access road.	Contractor	Visual observation	Weekly	MDLF, JSC-KRM
	Creating maximum1:2 side slopes of stockpile	Contractor	Measurements	Weekly	MDLF, JSC-KRM
	Seeding and maintaining alfa alfa after completion of disposal, levelling and light compaction of the spoil body.	Contractor Khan Younis Municipality	Visual observations	Monthly	MDLF, JSC-KRM
2. Noise produced due to trucks operation	Limiting the stockpiling work to daytime only	Contractor	Visual observation	Weekly	MDLF, JSC-KRM
	Regular maintenance of trucks	Contractor	Visual observation	Twice a month	MDLF, JSC-KRM
3. Air quality contamination due to the stockpiling and trucks movement	Wetting of cover during windy or rainy conditions	Contractor	Visual inspection	In dry, windy days	MDLF, JSC-KRM
	Covering the spoil transfer spoil in all days.	Contractor	Visual inspection	In dry and windy days	MDLF, JSC-KRM
	Spraying water of stockpile during windy conditions.[3]	Contractor	Visual inspection	In dry and windy days	MDLF, JSC-KRM
	Spraying water in the unpaved sections of truck route	Contractor	Visual inspection	In dry and windy days	MDLF, JSC-KRM
	Planting Alfalfa plants over the subsoil body once finishing the disposal process	Contractor	Visual inspection, photographic evidence	After disposal process	MDLF, JSC-KRM
4. Workers Safety and Health	Complying with wearing the protective clothes especially masks and helmets	Contractor	Visual inspection	Weekly	MDLF, JSC-KRM
	Provide first aid kits in each vehicle	Contractor	Visual inspection	Weekly	MDLF, JSC-KRM
	Conducting induction OHS training for workers	Contractor	Visual observation	once	MDLF, JSC-KRM
	Installing safety signs around the site	Contractor	Visual observation	Weekly	MDLF, JSC-KRM
5. Vehicles safety	Using appropriate vehicles, loader should be available in the stockpiling site	Contractor	Visual observation	Weekly	MDLF, JSC-KRM
	Maintain safe clearance from steep slopes	Contractor	Visual observation	Weekly	MDLF, JSC-KRM

[3] **Source of water**: The water to be transferred by a tanker vehicle (5 cubic meter) from the nearest water reservoir (500 m distance) or other water wells around the permanent stockpiling site.

Potential Impact	Proposed Mitigation Measures	Implementation Responsibility	Compliance Monitoring Approach	Monitoring Frequency	Responsibility for Compliance Monitoring
6. Contamination by Hazardous materials (oil, fuel …etc)	Regular maintenance/filling fuel of the used vehicles outside the stockpiling place	Contractor	Visual inspection	Weekly	MDLF, JSC-KRM
7. Inconvenience of residents/farmers	Create a buffer zone not less than 100m between the boundary of the stockpiling site and the nearest Bedouin tent	Contractor MDLF JSCKRM	Visual inspection	Weekly	MDLF, JSC-KRM
	Define accessible and convenient complaint channels and raising community's awareness of it	JSC-KRM, Khan Younis Municipality, Al-Fukhary Municipality	Logbook	Weekly	MDLF, JSC-KRM
	Reduce the number truck trips during rush hours	Contractor	Visual observation	Weekly	MDLF, JSC-KRM
	Information sharing with the community including indicative banner at stockpiling site with full of communication details	JSC-KRM, Khan Younis Municipality, Al-Fukhary Municipality	Logbook	monthly	MDLF, JSC-KRM
	Sort, process, and communicate complains to respective parties (contractor) and follow up action	JSC-KRM	Monthly Report	Daily	MDLF, JSC-KRM
	Maintain visual and written record of community complaints and responsive actions	JSC-KRM	Monthly Report	On demand	MDLF, JSC-KRM
8. Traffic jam due to heavy use of the access road of the stockpiling site	Indicative signs around the site and access road	Contractor	Visual observations	monthly	MDLF, JSC-KRM
	Manage movement of incoming/outgoing SW Municipal trucks into landfill and avoid conflict with earth work / outgoing earth material haulers within Sofa Access Road	Rafah Municipality Contractor	Visual observations	Daily	MDLF, JSC-KRM
	Manage movement of incoming/outgoing transfer trucks in all the route, and avoid conflict with any traffic jam	Contractor	Visual observations	Weekly	MDLF, JSC-KRM
	Insurance to cover drivers and manual workers	Contractor	Visual inspection	Periodically	MDLF, JSC-KRM

ANNEX I: Document -Allocation of Governmental Land to be Used for Soil Stockpiling

State of Palestine
Land authority
Chairman office

دولة فلسطين
سُلطـــــة الأراضي
مكتب رئيس سلطة الأراضي

24/جماد ثاني/1439هـ
12 /مارس/2018م

دولة فلسطين
سلطة الأراضي
مكتب رئيس سلطة الأراضي
17. 03. 2018
وارد ○ صادر ○
الرقم: 383

المحترم،،،

السيد/ د. أيمن عابد
وكيل وزارة الإقتصاد الوطني

السلام عليكم ورحمة الله وبركاته،،،

الموضوع/ رد على طلبكم تخصيص قطعة ارض لتشوين الطينة

۞بداية أهديكم أفضل التحيات، متمنين لكم دوام الصحة والعافية وأن يعينكم الله على حمل الأمانة.

۞ بالإشارة إلى الموضوع أعلاه ، ورداً على طلبكم تخصيص قطعة أرض لصالح وزارة الاقتصاد الوطني لتشوين ناتج ترحيل طين مشروع صوفا ومشروع الترشيح بالفخاري.

۞ نفيدكم أنه لا مانع لدينا من تخصيص مساحة (40) دونم لتشوين الطينة الناتجة من حفر مشروع الترشيح بالفخاري ومشروع صوفا وذلك في القسيمة رقم (3) من القطعة رقم (2372) مقابل مشروع الفرقان (1).

والله الموفق والهادي إلى سواء السبيل ،،،

د. كامل أبو ماضي
رئيس سلطة الأراضي

دولة فلسطين
وزارة الإقتصاد الوطني
الأرشيف المركزي
14 -03- 2018
وارد ○ صادر ○
الرقم: ١٢٤٩

نسخة/
- الملف العام.

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www.pla.gov.ps Info@pla.gov.ps

ANNEX I: Document -Allocation of Governmental Land to be Used for Soil Stockpiling

State Of Palestine
Ministry Of National Economy

دولـــــــة فلســـــــطين
وزارة الاقتصاد الوطني

الأربعاء، 27 جمادى الثانية، 1439
March 14, 2018

الرقم : 209714

الأخ / م. يحيى الأسطل حفظه الله

رئيس مجلس إدارة النفايات الصلبة

السلام عليكم ورحمة الله وبركاته ،،،

الموضوع /تخصيص قطعة أرض لتشوين الطينة

تهديكم وزارة الاقتصاد الوطني أطيب تحياتها، وتتمنى لكم دوام التوفيق والرشاد ، بالإشارة إلى الموضوع أعلاه .

نود إعلام سيادتكم أنه تم تخصيص قطعة أرض لتشوين الطينة الناتجة عن حفر مكب صوفا وذلك في القسيمة رقم (3) من القطعة رقم (2372) مقابل الفرقان (1) وذلك للإستفادة منها في محافظتي رفح وخانيونس في استصلاح الأراضي الزراعية والمحافظة على المخزون الجوفي من المياه وعمل تسوية للمناطق المنخفضة.

وتفضلوا بقبول فائق الاحترام والتقدير

أ. عبدالقادر سعيد بنات

مدير عام الموارد والمصادر الطبيعية

نسخة مع الاحترام لـ :
✓ الملف.

فلسطين

+970 82874145/6/7 +970 82875758 www.mne.ps غـــزة

ANNEX II: Attendance Sheet of the Consultation Meeting (Dar Al Fadela School, March 14, 2018)

ورشة العمل التشاورية لإعداد خطة الإدارة البيئية والإجتماعية لموقع تخزين التربة (14.مارس.2018)

مشروع إدارة النفايات الصلبة في قطاع غزة

	الإسم	المسمى الوظيفي	الجهة	رقم الجوال	التوقيع
1					
2					
3					
4					
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9					
10					
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13					
14					
15					
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17					
18					
19					

ورشة العمل التشاورية لإعداد خطة الإدارة البيئية والإجتماعية لموقع تخزين التربة (14.مارس.2018)

مشروع إدارة النفايات الصلبة في قطاع غزة

	الإسم	المسمى الوظيفي	الجهة	رقم الجوال	التوقيع
20					
21					
22					
23					
24					
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26					
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38					

ANNEX III: Social Survey Questionnaire

مشروع إدارة النفايات الصلبة في قطاع غزة
إستبانة لوضع الخطة البيئية والإجتماعية لأنشطة تخزين الرمال (18.مارس.2018)

اليوم:	التاريخ:	رقم الاستبيان:	
اسم الباحث:	اسم المجيب على الاستبيان:		
العمر:	الجنس:	المهنة:	
1	هل تعانون من الغبار في منطقتكم؟		
	أ. نعم	ب. لا	
2	في حال الإجابة في سؤال رقم (1) بنعم، ما هو مصدر الغبار؟		
3	هل تعانون من الضجيج في منطقتكم؟		
	أ. نعم	ب. لا	
4	في حال كانت الإجابة في سؤال رقم (3) بنعم، ما هو مصدر الضجيج؟		
5	هل تعاني من وجود إزدحام مروري؟		
	أ. نعم	ب. لا	
6	في حال كانت الإجابة في سؤال رقم (5) بنعم، ما هو مصدر الإزدحام؟		
7	هل يكون هناك تغطية لشاحنات نقل الرمال (الرمال الناتجة من مشروع محطة معالجة المياه العادمة)؟		
	أ. نعم	ب. لا	
8	هل تعتقد أن تغطية شاحنات نقل النفايات تقلل من انبعاث الغبار؟		
	أ. نعم	ب. لا	
9	هل رش المياه في مسار حركة سيارات نقل الرمال (الطرق الرملية) يقلل من انبعاثات الغبار؟		
	أ. نعم	ب. لا	
10	ما هي الأضرار الأخرى التي حدثت لكم بسبب نقل الرمال؟		
11	ما هي توصياتكم لتقليل أثار الشاحنات الناقلة للرمال؟		
12	هل تعرفون ما هي الجهة التي تقوم بنقل الرمال؟ مع ذكر اسمها.		
	أ. نعم :.....	ب. لا	
13	هل تعرفون كيفية تقديم شكوى في حال تضررتم من أعمال نقل الرمال؟ لمن تقدمون الشكوى؟		