

# GAZA SOLID WASTE MANAGEMENT PROJECT (ADDITIONAL FINANCE RBF)



## JSC Semi Annual Report: Environmental and Social Compliance

(July 2021 - December 2021)



# Table of Contents

1. Al-Fukhary (Sofa) Sanitary landfill .....	5
1.1 The landfill Site Components .....	5
1.2 Operation of Al-Fukhary (Sofa) Sanitary Landfill .....	6
1.3 Landfill Organization and Staffing.....	6
2. Operation Progress .....	7
2.1 Waste Quantities .....	7
2.2 Waste Compaction.....	8
2.3 Daily Coverage of Waste.....	8
2.4 Groundwater Monitoring.....	8
2.5 Stormwater and Leachate Management.....	9
2.6 Dust Control .....	9
2.7 Pest Management.....	9
2.8 Flora and Fauna.....	10
2.9 Health and Safety of Workers.....	11
2.10 Grievance Redress Mechanism (GRM) .....	12
2.11 Stakeholder Engagement and Communication Activities .....	15
2.11.1 Female project beneficiaries aware of solid waste management practices .....	16
2.11.2 Increased the participation and role of women in decision making of the JSC-KRM .....	26
2.11.3 Targeted communication programs for women. ....	27
2.11.4 Bridging the solid waste service satisfaction gap between male and female .....	30
2.11.5 Communication Material .....	38
3. Sofa Landfill Access Road .....	38
Annex1: Summary of Environmental and Social measures to be taken in Al-Fukhary Sanitary Landfill .....	40



## List of Tables:

Table 1 Existing Al-Fukhary Landfill Staff .....	6
Table 2 Existing Al-Fukhary Landfill Quantities.....	7
Table 3. List of prohibited waste in Al-Fukhary (Sofa) Landfill.....	7
Table 4. Waste density at Al-Fukhary Landfill.....	8
Table 5. Leachate Volumes at Al-Fukhary site .....	9
Table 6. Types and numbers of received complaints (1 <sup>st</sup> July 2021 - 30 <sup>th</sup> September 2021).....	14
Table 7. Female awareness survey respondents of 1 <sup>st</sup> and 2 <sup>nd</sup> questionnaires .....	16
Table 8. Women’s committee action plan.....	26
Table 9:Summary for household outreach activities (June 1-30) .....	<b>Error! Bookmark not defined.</b>
Table 10:Respondents of August 2021 Survey .....	30
Table 11. Summary of Site visits during the reporting period (July – September 2021) .....	36



## List of Figures:

Figure 1. Schematic of Sofa Sanitary Landfill in Al-Fukhari .....	5
Figure 2. Reception of Waste at Al-Fukhary Landfill.....	7
Figure 3. Levels of pest management at Al-Fukhary (Sofa) Sanitary landfill .....	10
Figure 4. Transferring the animals to SULALA .....	11
Figure5 . Sterilization of internal roads and facilities landfill .....	12
Figure6 . The potential complaints related to the landfill as shown in the E-GRM .....	13
Figure 7: Solid Waste Collection Responsibility .....	17
Figure 8: Solid Waste Collection Responsibility Geographically .....	17
Figure 9: Satisfaction with SWC mechanisms .....	18
Figure 10: Satisfaction with SWC mechanisms Geographically .....	18
Figure 11: Waste distention after collection .....	19
Figure 12: Waste distention after collection Geographically.....	19
Figure 13: Transfer Station .....	20
Figure 14: Transfer Station Geographically .....	20
Figure 15: Medical Waste Disposal.....	20
Figure 16: Medical Waste Disposal Geographically .....	21
Figure 17: Facebook Subscription .....	21
Figure 18: Facebook Subscription geographically .....	22
Figure 19: Awareness campaigns .....	22
Figure 20: Awareness campaigns geographically .....	23
Figure 21: Online participation .....	23
Figure 22: Online participation geographically.....	23
Figure 23: GRM.....	24
Figure 24: GRM geographically.....	24
Figure 25: Waste collection cost .....	25
Figure 26: Waste collection cost geographically .....	25
Figure 27: Solid Waste Collection Responsibility .....	31
Figure 28: Satisfaction with SWC mechanisms .....	31
Figure 29: Satisfaction with SWC containers .....	32
Figure 30: Satisfaction with SWC workers .....	32
Figure 31: Waste distention after collection .....	33
Figure 32: Facebook Subscription .....	33
Figure 33: Awareness campaigns .....	34
Figure 34: Online participation .....	34
Figure 35: complaints submission .....	35
Figure 36: Expenses of Solid waste management .....	35
Figure 37. Access Road layout .....	39



## List of Acronyms

AFD	French Development Agency
ARAP	Abbreviated Resettlement Action Plan
EQA	Environmental Quality Agency
ESMP	Environmental and Social Management Plan
ESIA	Environmental and Social Impact Assessment
EU	European Union
ERW	Explosive Remnants War
HSEQ	Health, safety, environment Quality
IDB	Islamic Development Bank
GSWMP	Gaza Solid Waste Management Plan
JD	Jordanian Dinar
JSC-KRM	Joint Service Council – Khan Younis, Rafah and Middle area
MDLF-PDSU	Municipal Development and Lending Fund- Project Development and Safeguards Unit
MSW	Municipal Solid Waste
OP	Operational Policy
OSHA	Occupational Safety and Health Administration
PARC	Palestinian Agricultural Relief Committees
PAPs	Project Affected Persons
PCBS	Palestinian Central Bureau of Statistics
PEL	Environmental Law of Palestine
PWA	Palestinian Water Authority
SW	Solid Waste
ST cell	Short-term cell
TS	Transfer Station
UNDP-DEEP	United Nation Development Program- Deprived Families Empowerment Program
UNMASS	United Nation Mine Action Service System
UNRWA	United Nations Refugee Work Agency
UXO	Unexploded ordnance
WB	World Bank
WHO	World Health Organization
WWTP	Wastewater Treatment Plant



## 1. Al-Fukhary (Sofa) Sanitary landfill

Al-Fukhary (Sofa) landfill is a sanitary landfill over an area 235,000 m<sup>2</sup>, it is located east of Khan Younis Governorate (800 m from the eastern border of Gaza Strip), and it receives 570 ton/day of municipal waste from three governorates (Khan Younis, Rafah, and Middle Area) which mainly consist of food waste, paper and cardboard, plastics and nylon, tin cans and aluminum, glass, leather...etc. The landfill site is fully secured by a fence, and only one entrance gate is available for incoming and outgoing trucks which managed by a control room, as well the site is secured by two guards and a CCTV system. A second gate is available but closed, it is used only for some specific purposes. The Landfill site is also included the old waste dumping site which is semi-closed by a clayey layer with a side slope 1:2 and height 30 m above the ground, and it also included excavated soil stockpile which is located over an area 85,000 m<sup>2</sup> with a height up to 14 m. Figure (1) provides schematic of the new sanitary landfill with all major facility elements.

### 1.1 The landfill Site Components

*Al-Fukhary (Sofa) Sanitary landfill consist of:*

- Entrance area including weighbridge and control room;
- Building (190 m<sup>2</sup> on 3 levels) for JSC-KRM operation personnel staff;
- Maintenance Workshop (528 m<sup>2</sup>); Storm water drainage and storage pond (10,531 m<sup>3</sup> capacity);
- Disposal cell 1, divided in cell 1A and 1B (excavated up to 20 m below natural ground level), and slope 1:2 for sides with horizontal perm 5m width;
- Leachate pre-treatment (aeration lagoon, usable volume 10400 m<sup>3</sup>), it is excavated to 2.75 m below natural ground level;
- Peripheral road (length 1,735 m);
- Old Dumpsite (40,000 m<sup>2</sup>);
- Stockpile of excavated soil (85,000 m<sup>2</sup>); and
- Fence is surrounding all the site.

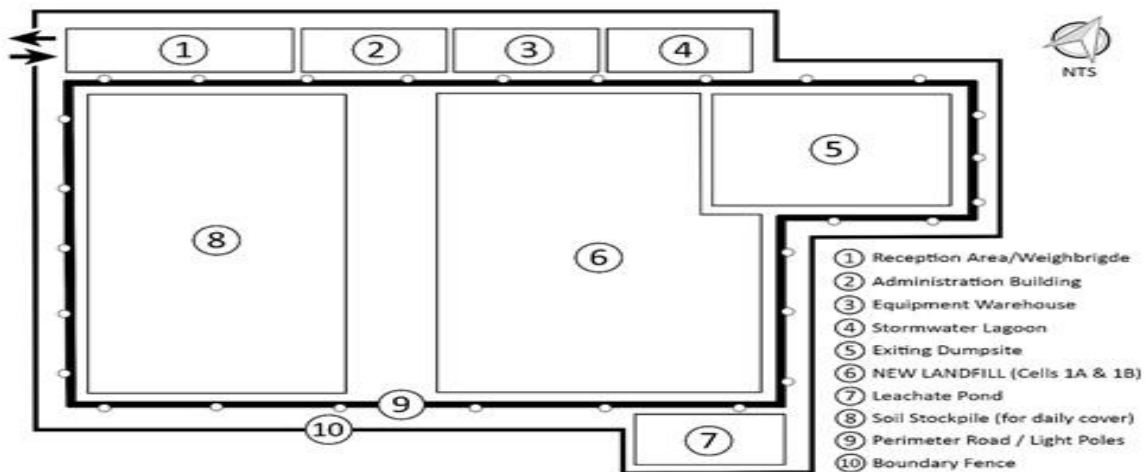


Figure 1. Schematic of Sofa Sanitary Landfill in Al-Fukhari



## 1.2 Operation of Al-Fukhary (Sofa) Sanitary Landfill

Al-Fukhary (Sofa) Landfill is a sanitary landfill which managed by JSC-KRM since July 15<sup>th</sup>, 2019. During the reporting period; it received an average **676** ton/day or **17686.6** Ton/month of municipal waste from 17 localities in middle and south of Gaza Strip. An average of **55** of incoming waste vehicles are received to the landfill on the daily basis; their access is managed by the control room employee which proceed with the weighting of incoming waste and controlling the access of vehicles to the landfill. The waste is dumped at the disposal cell based on a specific filling sequence, flagman (observer) is directing the vehicles for unloading of waste regarding to the landfill manager instructions, whereas Bulldozer is leveling the received waste. At the end of any working day, the waste is covered by a thin layer of daily clay cover (20-30 cm of sub-soil).

External storm water is collected by a storm water ditch which is installed surrounding the landfill site, and it is directed by gravity to the storm water lagoon; The stormwater lagoon is lined by a geomembrane. The stormwater is sprayed against the dust in the dry days and pumped to the nearest landfill land to be used for irrigation of crops.

Leachate, which resulted from the internal storm water and the waste liquid, are collected through the geo-composite network (AFTIX) and pumped to the leachate lagoon; the leachate lagoon is lined by a geomembrane. Leachate was planned to be treated biologically and physically and sent to the adjacent WWTP for additional treatment regularly.

## 1.3 Landfill Organization and Staffing

The landfill is totally managed by JSC-KRM, there are **13** fixed term employees working on different managerial and technical tasks to accomplish the daily operations of the landfill, according to the following table (1):

*Table 1 Existing Al-Fukhary Landfill Staff*

#	Position/ Task	Number of Employees
1	Landfill Manger	1
2	Weighbridge Employee	2
3	Heavy Machinery Driver	4
4	Worker	2
5	Flagman (observer)	2
6	Guard	2

The landfill manager is directly reporting to JSC-KRM executive manager and he is leading the other employees according to the bylaws of the JSC-KRM and the instructions of the operational plan.



## 2. Operation Progress

### 2.1 Waste Quantities

During July – December 2021, the landfill received **106119.75** tons of Municipal Solid Waste (MSW); the average received waste is 576 ton/day or **17686.6** ton/month. Table (2) shows the monthly received quantities during the reporting period.

*Table 2 Existing Al-Fukhary Landfill Quantities*

Month	July	August	September	October	November	December	Total (Ton)
Quantity	17,257	18,639	21,892	15725.02	15953.285	<b>16652.75</b>	<b>106119.75</b>

The control room and the weighbridge are located near the entrance and are to be managed at all times. The following data are obtained from all vehicles entering the site which carry waste time and date, vehicle registration details, weight and type of waste.

The control room employee asks about the type of wastes entering the site initially, and the observer (flagman), who manage the filling of waste at the disposal cell, observes the type of waste as a second level of observation. The landfill was designed to receive only municipal solid waste, as well JSC-KRM regulations state a list of waste which is not acceptable to be received at the landfill. The list of prohibited wastes is printed and installed in front of the landfill gate. Table (3) shows the list of prohibited waste

*Table 3. List of prohibited waste in Al-Fukhary (Sofa) Landfill*

Joint Service Council (JSC-KRM) shall not be obliged to collect, transfer or dispose of hazardous solid wastes classified according to the Basel Convention of 1992 including:

- A. Untreated Health-Care Waste.
- B. Residues from industrial waste disposal operation which contains heavy metals, or residues from pharmaceutical facilities.
- C. Wastes from production, formulation and use of inks, paints, oils, dyes, varnish.
- D. Detergents.
- E. Waste terry residues arising from refining, distillation, and any pyrolytic treatment.
- F. All types of Batteries.
- G. Tires.



*Figure 2. Reception of Waste at Al-Fukhary Landfill*





## 2.2 Waste Compaction

Al-Fukhary (Sofa) Landfill receives an average 676 ton/day. The Filling sequence is followed as planned in the operational manual. The density of the first layer was 935 kg/m<sup>3</sup>, and 1,090 kg/m<sup>3</sup> in the second layer and 1260 kg/m<sup>3</sup> in the third layer and 1260 kg/m<sup>3</sup> in the fourth layer.

Table (4) shows the volume of each layer and the received quantities as well the density. Waste compaction aims at expanding the life span of the landfill.

**Table 4. Waste density at Al-Fukhary Landfill**

Layer	Duration		Quantity (Kg)	Volume (m <sup>3</sup> )	Density (Kg/m <sup>3</sup> )
	from	to			
1 <sup>st</sup> Layer	(15 / July / 2019)	(19 / March / 2020)	134,783,686	144,135	935
2 <sup>nd</sup> layer	(19/ March /2020)	(17/ Sep /2020)	103,939,490	94,540	1,090
3 <sup>rd</sup> Layer	(17/ Sep /2020)	(10/ March /2021)	118,417,000	93,816	1,262
4 <sup>th</sup> Layer	(10/ March /2021)	(23/ august /2021)	89366765	79788.4	1,120.05
5 <sup>th</sup> Layer	(24/ August /2021)	Expected to be in the next semester			

## 2.3 Daily Coverage of Waste

The construction of Al-Fukhary Sanitary landfill resulted in excavation of 1,350,000 m<sup>3</sup> of excavated material. Part of the excavated soil is stockpiled within the boundary of the landfill site to be used during operation of the landfill as daily cover. The waste is covered by a 20 - 30 cm layer of sub-soil at the end of each working day to prevent odors, pests, and for better atheistic conditions. The average daily volume used for the daily cover is 140-200 m<sup>3</sup>, so that the clay volume used for the daily cover in the reporting period is **24548 m<sup>3</sup>**.

## 2.4 Groundwater Monitoring

Four groundwater piezometers were installed during the construction period around Al-Fukhary sanitary landfill, the frequency of testing is 6 months. The quality of groundwater was tested chemically before operating the new landfill, and it was found that all samples are slightly basic and have a high concentration of Chloride (CL). The concentration of Nitrates (NO<sub>3</sub>) is slightly high in one sample only. Other parameters were tested, and they were found they are under the limit of EQA regulatory standard of the drinking water. The high concentration of Total Dissolved Solids (TDS) is reasonable and expectable due to the high turbidity of all samples of the new piezometers and the high concentration of Chlorides. In 2018, a water sample was also collected from a near groundwater well owned by (Hassan Mohammed Al Amour) to be compared with the previous collected samples from Al-Fukhary site. The well is far about 800 m from the existing dumpsite. It was found results of both the site GW and the outside GW are close.



## 2.5 Stormwater and Leachate Management

Leachate is collected through the geo-composite layer (AFTIX) to the lower point by gravity, and it is pumped to the leachate lagoon which is lined and has a capacity 6,800 m<sup>3</sup>. The leachate is pumped automatically. The leachate was planned to be treated biologically by aeration before sending to the adjacent WWTP for additional treatment, but this plan is not meeting the requirements of WWTP for the received wastewater.

In order to decrease the formation of leachate, the collection of external stormwaters was designed by constructing a ditch surrounding the landfill. The collected stormwater is collected by gravity to the stormwater lagoon which is lined and has a capacity 10,500 m<sup>3</sup>. The collected stormwater is still not planned for any purposes, but it can be used for irrigation of green areas inside the landfill site, and evaporation of the remaining quantity.

During the reporting period, the quantity of leachate pumped to the leachate lagoon is 2877 m<sup>3</sup> with a monthly average 719 m<sup>3</sup>/month. Table (7) shows the monthly pumped volumes of leachate. Hence, during the reporting period, only 8 Rainy days were reported.

The leachate treatment facility adjacent to the leachate lagoon construction start at 24/06/2021, and expected to start the operation in the next semester.

**Table 5. Leachate Volumes at Al-Fukhary site**

Month	July	august	September	October	November	December	Total (M <sup>3</sup> )	Average (M <sup>3</sup> /month)
Volume	805	1402	670	0	687	1074	4683	773

## 2.6 Dust Control

Dust is noticed at dry days due to the passage of waste trucks, inside the cell or besides the soil stockpiling place only, since the other paths and roads inside the landfill are paved. The dust is managed basically by water spraying by a jitter- vacuum or washing vehicle they were used for 61 days during the report period. Although there are no complaints received from neighbors, but the dust is controlled once it is noticed in dry days. The used water is taken from the stormwater lagoon.

## 2.7 Pest Management

A pest management plan has been prepared for Al-Fukhary Landfill during operation. The plan categories the source of pesticides and level of required measure as shown in Figure (2).

Hence, the pest management time is associated with the pests' breeding seasons which are mainly between April and October, so pest management activities started at the beginning of April, in a frequency once a week (2 L of BTI/ week).

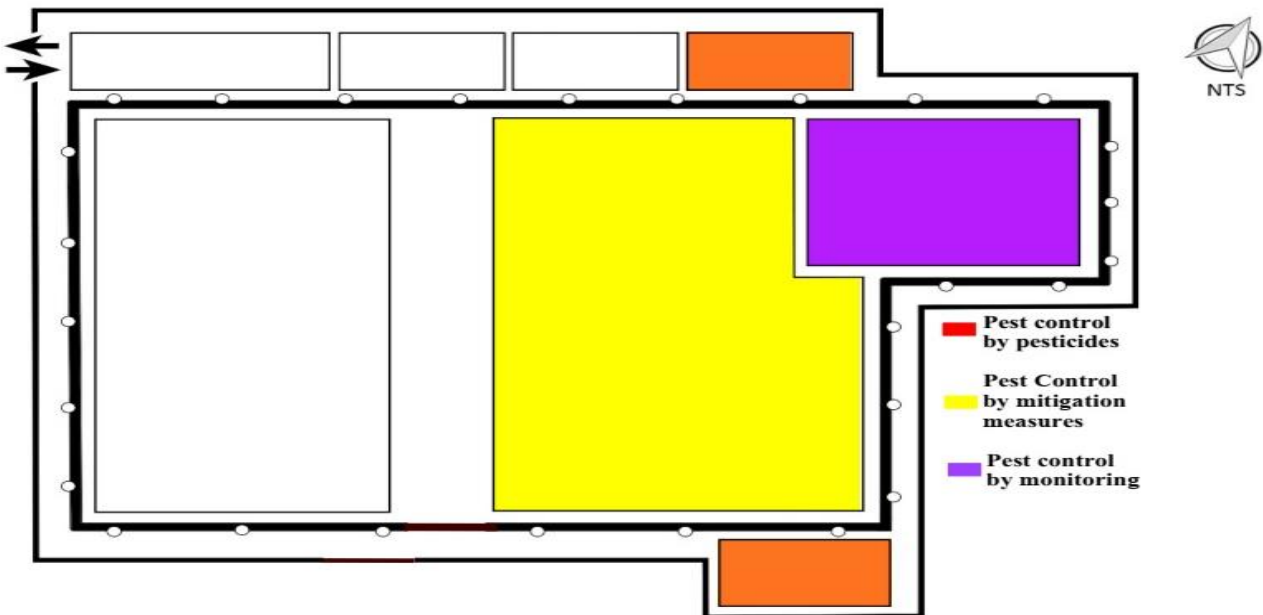


Figure 3. Levels of pest management at Al-Fukhary (Sofa) Sanitary landfill

## 2.8 Flora and Fauna

The landfill site is secured by a fence (height 2.2 m), and has only one gate for accessibility, yet number of stray dogs were noticed within the landfill perimeter site from the early days. Their number was not exceeding 10 dogs in the beginning, but they increased to be more than 20 dogs at one point. The stray dogs were harmless at the early stage, until two incidents occurred at the landfill site in April 2020; when workers reported aggressive behavior by some stray dogs.

### Solution Development:

MDLF and JSC-KRM start looking at solving the problem of stray dogs since April 2020, and with the reported aggressive behaviors of some animals the JSC sought the advice of the Mufti (authorized Islamic jurisprudence expert) of Khan Younis Governorate, who permitted the possibility of putting the aggressive dogs to sleep given their aggressive behavior. On the other hand, World Bank Policies pressed to explore harmless solutions such as finding shelter for the dogs.

After research, an NGO named (Sulala) was found to be the only animal shelter in Gaza (dogs and cats only), and the NGO welcomed receiving the stray dogs in their place in Gaza City.

### **About SULALA:**

- SULALA started their activities in 2006 for few months in a limited scale in a place located in Al-Zahraa town - Middle Area. Sulala resumed in 2016, and in January 2020, Municipality of Gaza made available a governmental land (Area 2,000 square meter) for the use of SULALA in order to commence and expand their activities, and to work jointly with the Municipality of Gaza to receive and care for the stray dogs, knowing that stray dogs constitute a problem across Gaza strip where large numbers wandered the city streets especially at night.



- SULALA built a shelter for dogs in the lot, and they already have more than 200 dogs in that shelter. SULALA relies on volunteers, who care for animal rights in their work, where the volunteers provide care and food for the animals and collect donations for this cause.
- The person in-charge at SULALA has a good experience in caring for animals, and the initial communication revealed a clear personal commitment of Mr. Saeed Al-Err for helping animals; a cause he dedicated his time and effort to serve.

On July, 2021, JSC-KRM landfill workers and guards collected 8 dogs and transferred them to the Shelter in Gaza City under the project's environmental officer supervision.

On November , 2021, JSC-KRM landfill workers and guards collected 7 dogs and transferred them to the Shelter in Gaza City under the project's environmental officer supervision.

On December , 2021, JSC-KRM landfill workers and guards collected 23 pupi dogs and transferred them to the Shelter in Gaza City under the project's environmental officer supervision.

The Landfill guards were requested to prevent any of stray dogs to access to the landfill from the gate, knowing that the gate is the only possible place for accessibility of dogs, and also to report any new animals entering the site to repeat the exercise with respect to coordinating with the animal shelter.



*Figure 4. Transferring the animals to SULALA*

## 2.9 Health and Safety of Workers

The health and safety of workers is the top priority at Al-Fukhary site. Workers were provided by training related to precaution measures regarding to COVID-19, as well they were provided by daily safety instructions. Workers at al-Fukhary landfill was provided with a full PPE (Vest, Safety Shoes, Masks, hats, gloves). In addition, the sterilization of internal roads and facilities landfill twice a week using chlorine.



No injuries were reported during the reporting time, knowing that Insurance on workers and landfill equipment was issued. Only three workers infected by Covid-19, and list of procedures were followed such as a request from the infected worker to stay at home until recovery, and also workers who workers with him to stay at their homes for few days. All workers are tested in terms of temperature at the beginning of each day before entering the landfill site, as well there was strict instructions to use the PPE and the personal sanitizers.



*Figure5 . Sterilization of internal roads and facilities landfill*

First Aid Boxes are also provided in the maintenance warehouse and the admin building for any potential accidents. Furthermore, fire extinguishers are provided in the maintenance warehouse; it is used for only fires at the workshop or the admin building.

## 2.10 Grievance Redress Mechanism (GRM)

The landfill is one of the facilities, which are included inside the comprehensive GRM system in JSC-KRM, and this system is known for all the community around the landfill and the drivers and workers who could pass to the landfill. The available GRM tools which are active to receive complaints from the landfill are:

- Complaint box: there is a complaint box installed on the control room wall, in front of the main path for all the vehicles, and all the community and workers could reach it easily.
- Phone Number: the direct mobile number for the landfill manager is registered on the adhesive brochures, which were distributed on all the SW collection vehicles (39 Municipal vehicle +11 UNRWA vehicle and 15 JSC-KRM vehicles), and they can contact him directly in anytime.
- E-complaint application: this tool is available for all people, and it is uploaded on the official website of JSC-KRM ([www.jsc-krm.ps](http://www.jsc-krm.ps)) and its link is published through all the printings and during the community meetings.
- Facebook Page: JSC-KRM has an active F.B. page and all the local community around the landfill used to follow it and send their complaints through the inbox to the JSC-KRM manager.



Immediately after receiving any complaint from any of the above tool, the person in charge will register it in the complains database file then refer the complaint to the related department in the JSC-KRM or if it is related to the municipality service, it refers to the related municipality to take an action.

As soon as the operational phase in the landfill started, the complaints categories in the GRM system has been updated to include the potential complaints, which may receive from this facility as shown in Figure 6.

During the reporting period, there were no complaints about the landfill operation, but complaints mainly about the waste collection activities.

The screenshot displays the E-GRM system interface. At the top, there is a green navigation bar with the following menu items: JSC-KRM, Municipalities, Projects, Activities, Media Center, Complaints (highlighted), and Contact Us. On the right side of the navigation bar, there are social media icons for WhatsApp, Facebook, and YouTube.

The main content area is divided into two columns. The left column contains a form for submitting a complaint. It starts with a 'Full Name' section with a text input field. Below that is a 'Mobile' section with a text input field, and an 'Email' section with a text input field. A blue header 'Complaint Information' is followed by a 'Complainant' section with a text input field. The 'Select Type of Application' section features a dropdown menu currently set to 'AlFukhari Landfill'. Below this is another 'Complainant' section with a list of complaint types, each preceded by a checkbox: 'Emission of unpleasant odors from landfill', 'Reproduction of insects and rodents in the landfill', 'Gas emissions from landfill or landfill fire', 'Change in the characteristics of groundwater wells', 'Excess speed of the vehicles in the main road', and 'Other type'. The 'Details' section at the bottom has a text input field labeled 'Type Here'.

The right column is titled 'Council facilities' and lists three departments with their respective addresses and phone numbers: 'Main Office' (Al-Fakhari Sanitary Landfill, Al-Fukhari Town, Khan Younis, Gaza Strip, Palestine), 'Khan Younis Department' (Khan Younis municipality garage, Khan Younis, Palestine, Phone: +970 82052793), and 'Middle Area Department' (Deir Al-Balah municipality garage, Deir Al-Balah, Palestine, Phone: +970 82531499).

**Figure 6 . The potential complaints related to the landfill as shown in the E-GRM**

To sum up:

- Complaints monthly report is submitted by JSC member municipalities (who are joining the female group).
- Monthly reports are submitted since March 2021.



- JSC-KRM are also preparing their compliant report on a monthly basis.
- Most of complaints are associated with the primary and secondary collection.
- JSC-KRM started to use “**Citizen Complaints Cards**” for encouraging people to submit their complaints during the household visits by the awareness team / waste collection workers.

**Table 6. Types and numbers of received complaints (1<sup>st</sup> July 2021 - 30<sup>th</sup> September 2021)**

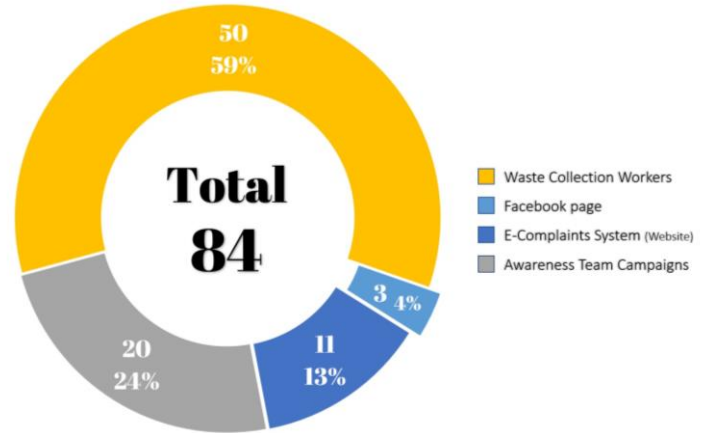
Type	Complaint Title	#
1 Collection Services from Containers	1. Rubbles and sands in the container	19
	2. Burning the containers and the wastes	16
	3. Littering wastes around the container	19
	4. Random waste collection point	0
	5. Containers need maintenance or replacement	0
	6. Request to move container from place to place	2
	7. Request a new container	8
	8. Delays on evacuation the containers on time	6
	9. Collection workers violating safety measures	0
	10. Odors from waste containers	3
	11. Leachate/oil spill from container or JSC collection vehicles	0
2 Al-Fukhari landfill	1. Odors from Al-Fukhari landfill	1
	2. Pests and rodents breeding in Al-Fukhari landfill	1
	3. Al-Fukhari Landfill fire accident or Gas emissions	0
	4. Solid waste trucks without coverage in Sofa road	0
	5. Littering wastes on the side of the road to the landfill	0
3 Deir al-Balah landfill	1. Odors from Deir al-Balah landfill	0
	2. Deir al-Balah Landfill fire accident	0
4 Medical waste treatment unit	1. Odors from the medical waste treatment unit	0
	2. Pests and rodents breeding in the medical waste treatment unit	0
	3. Gas emissions the medical waste treatment unit	0
5 Medical waste collection services	1. Delays on collection of waste from clinics and health centers	0
	2. Collection workers violating safety measures	0
	3. Leachate spill from medical waste collection vehicles	0
6 Rafah transfer station	1. Odors from Rafah transfer station	0
	2. Pests and rodents breeding in Rafah transfer station	0
	3. High speed of the vehicles in the road to Rafah transfer station	0
	4. Change in the characteristics of groundwater wells	0



7 Others	1. Difficulty in unload the containers due to road damage and maintenance	2
	2. Irregular collection of waste from door to door	5
	3. Medical Waste in the secondary collection container	2
8 Invalid Complaints	1. Complaints related to primary collection services and referred to the municipalities (not related to JSC-KRM services)	42
<b>Total</b>		<b>84</b>

**Table 9. The distribution of the received complaints on the channels (1<sup>st</sup> July 2021 - 31<sup>th</sup> December 2021)**

GRM Active Channels	No.
1 E-Complaints System (Website)	11
2 Phone Calls	0
3 Awareness Team	20
4 Waste Collection Workers	50
5 Facebook page	3
<b>Total</b>	<b>84</b>



**Table 10. Numbers of received complaints by types, status and location (1<sup>st</sup> July 2021 - 31<sup>h</sup> December 2021)**

Location of Complaints	No.
1 Khan Younis	33
2 Deir Al-Balah	35
3 Al-Nusirat	1
4 Al-Qarara	8
5 Bani Suhaila	5
6 Al-Fukhari	2

Status of Complaints	No.
1 Solved and closed	42
2 Referred to the Municipalities	42

Type of Complaints	No.
1 Collection Services from Containers	73
2 Al-Fukhari new landfill	2
3 Deir Al-Balah landfill	0
4 Medical waste treatment unit	0
5 Medical waste collection services	0
6 Rafah transfer station	0
7 Others	9
8 Invalid Complaints	42





This section shows the progress regarding the indicators of stakeholder engagement and wider communication activities during the report period as follows:

**2.11.1 Female project beneficiaries aware of solid waste management practices**

**Two actions** are required and implemented under this aggregate indicator which were pre and post questionnaires

**First action**

It was taken during January 2021 under this indicator was distributing a short survey targeted (100) women from the three governorates. The survey investigated the awareness of women about waste collection, landfilling, medical waste, transfer station, GRM system, and awareness campaigns. It was distributed and analyzed during January 2021. Table (8) shows the geographical distribution of respondents.

**Table 7. Female awareness survey respondents of 1<sup>st</sup> and 2<sup>nd</sup> questionnaires**

Area	Q. No. 1	Q. No. 2
1 Khan Younis	30	30
2 Rafah	25	25
3 Bani Suhaila	10	10
4 Abasan Kabeera	10	9
5 Dier Balah	15	15
6 Nussirat	10	10
<b>Total</b>	<b>100</b>	<b>99</b>



**Second Action**

It was taken during August 2021, it aims at measuring the change in the awareness level of solid waste collection and disposal mechanisms, for (100) females from different areas in Khan Younis, Rafah and middle area.

The targeted areas are female residents of the following municipalities: Khan Younis, Rafah, Bier AlBalah, Nussirat, Bani Suhila, Absan AlKabeera, with a relative weight of (30%; 25; 15%; 10%; 10% and 10%) respectively.

The survey included 10 questions about waste collection, landfilling, medical waste, transfer station, GRM system, as well as awareness campaigns.

The following data shows the general results of each question then the geographical projection of the selected six areas.

**Question (1): Who collects Solid Waste in Gaza Strip?**



The results as shown in figure 7; (38%) of the females said that only the municipality is responsible for SWC; while (57%) said its municipality, UNRWA and JSC, while only (5%) said it's the municipality and UNRWA ones.

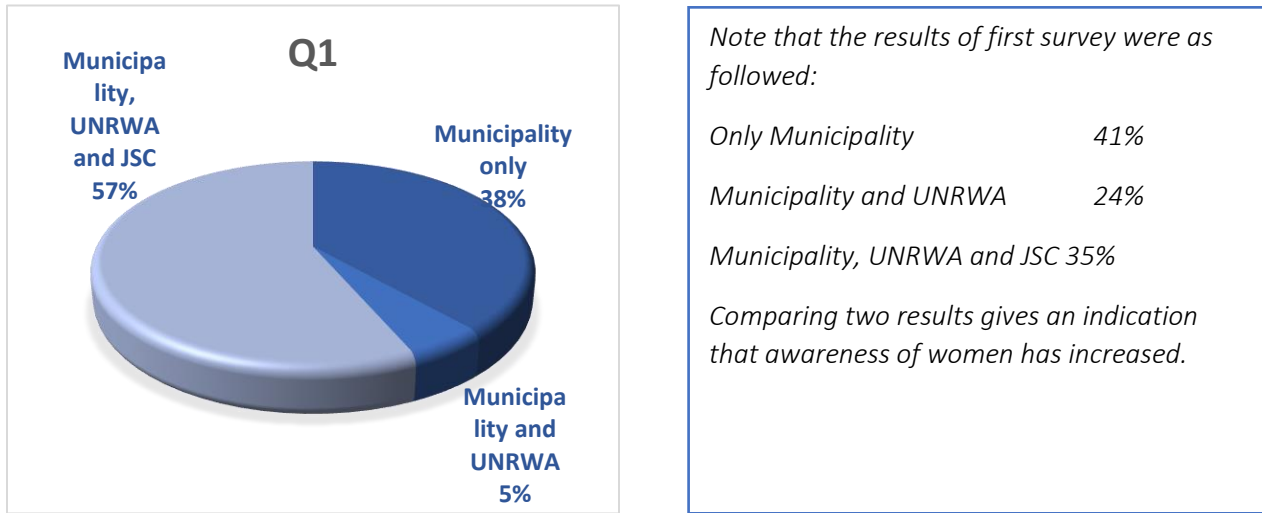


Figure 7: Solid Waste Collection Responsibility

In figure (8) the geographical distribution is shown; as Abasan and Bani Suhila have not any camps so they exclude UNRWA from their selection; while in Nussirat as it's considered a camp (60% of female's responded that it's the responsibility of UNRWA and municipality without noticing the role of JSC).

*It is worth to mention that, in the first survey; 80% of Al Nussirat females responded that it's the responsibility of UNRWA and municipality without noticing the role of JSC, while this percentage has decreased to 60% after six months, which means that awareness is giving more positive results. Also, none of Nussirat, BaniSuhila and Abasan mentioned the JSC role in SW collection while now there are changes.*

The results shows that Absan and Bani Suhila mentioned that there is a role for JSC in collection, while in the first survey they did not mention that. The results give alarm in AlNussirat to exert more efforts in awareness and communication.

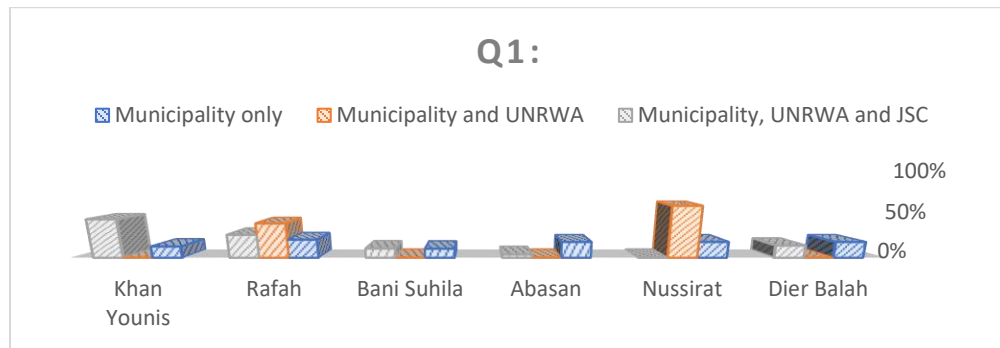


Figure 8: Solid Waste Collection Responsibility Geographically



Question (2): Are you satisfied with the waste collection mechanisms in your area?

Answer	Jan 2021	Aug 2021
Yes, highly satisfied	25%	65%
Yes, but needs improvements	62%	29%
No	13%	6%

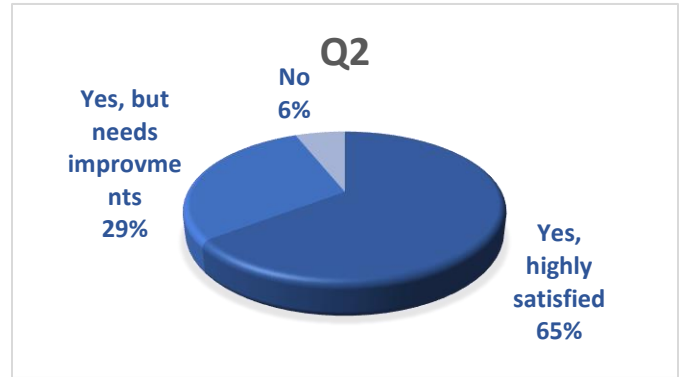


Figure 9: Satisfaction with SWC mechanisms

The results show a huge difference in satisfaction level between the six months, it may refer to knowing the efforts in waste disposal process from the awareness team.

In figure (10) the geographical distribution shows that almost half of Rafah female are not satisfied with waste collection mechanisms. It's good to clarify that JSC is not responsible for the secondary collection in Rafah, it is only responsible for the transfer from the transfer station to the landfill and the disposal of solid waste. The municipality is responsible completely on the primary and secondary collection, also the municipality has its own awareness team that conduct workshops and visits for raising awareness.

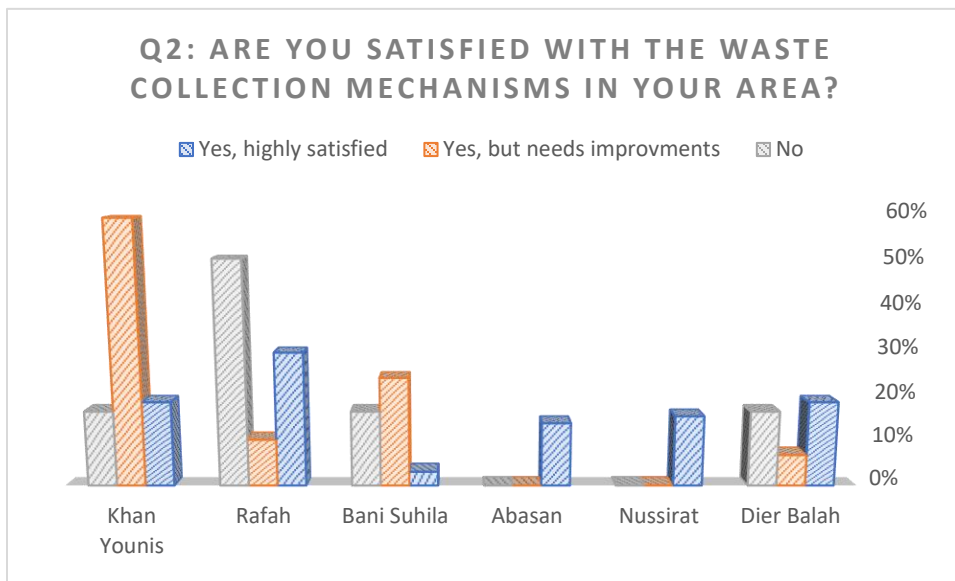


Figure 10: Satisfaction with SWC mechanisms Geographically



**Question (3): Do you know where the waste goes after it is collected from the relevant authorities in the Gaza Strip?**

The results as shown in figure 11: (94%) of respondents said that the waste is being buried in a landfill after collection; while (2%) though that it is being burned; and (1%) said that it is thrown at the sea

Answer	Jan 2021	Aug 2021
Thrown into the sea	1%	1%
Buried in a landfill	74%	94%
Burned	17%	2%
Thrown into Almoharrat Area	8%	3%

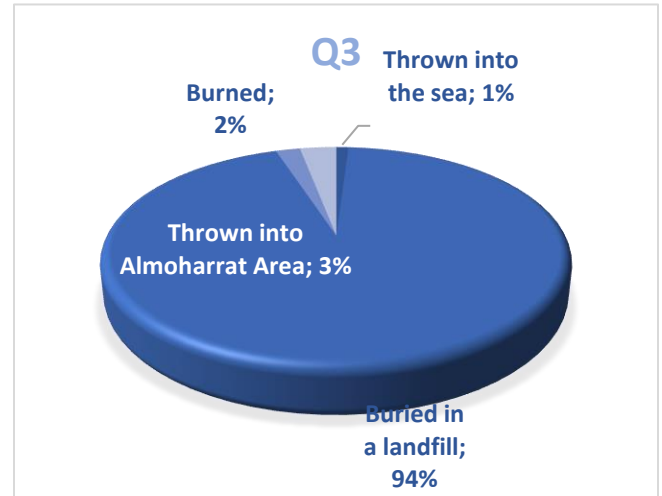


Figure 11: Waste distention after collection

Figure (12) shows the geographical distribution of answers.

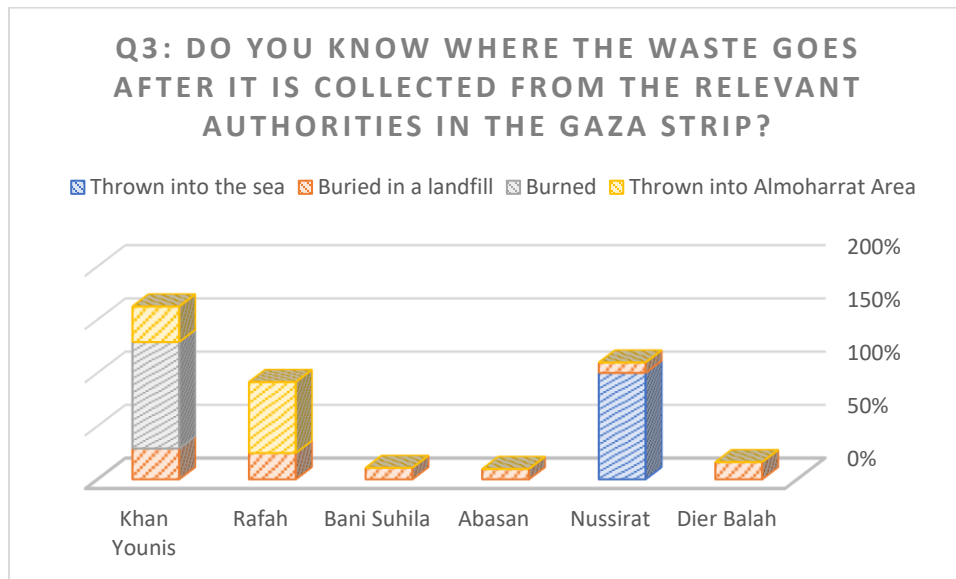


Figure 12: Waste distention after collection Geographically



**Question (4): Do you know how transfer station works? And its importance?**

The results as shown in figure 13: only (32%) know about transfer station, but when revising the short answers, they were left empty and none wrote its importance. More efforts are needed to raise awareness by the team.

Answer	Jan 2021	Aug 2021
Yes	34%	32%
No	66%	68%

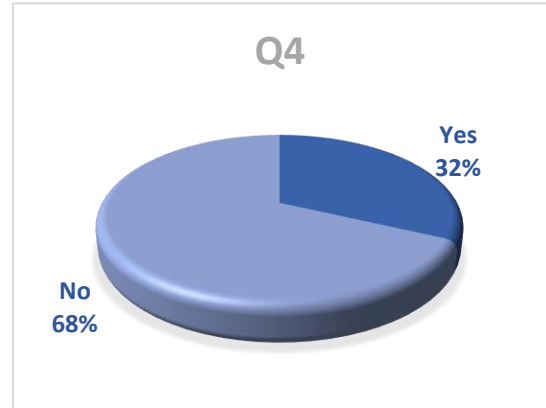


Figure 13: Transfer Station

Figure (14) shows the answers in geographical distribution; Khan Younis (32%) of the respondents do not know the transfer station while it's already located in Rafah and only Rafah governorate residents benefit from it, so more awareness is needed there.

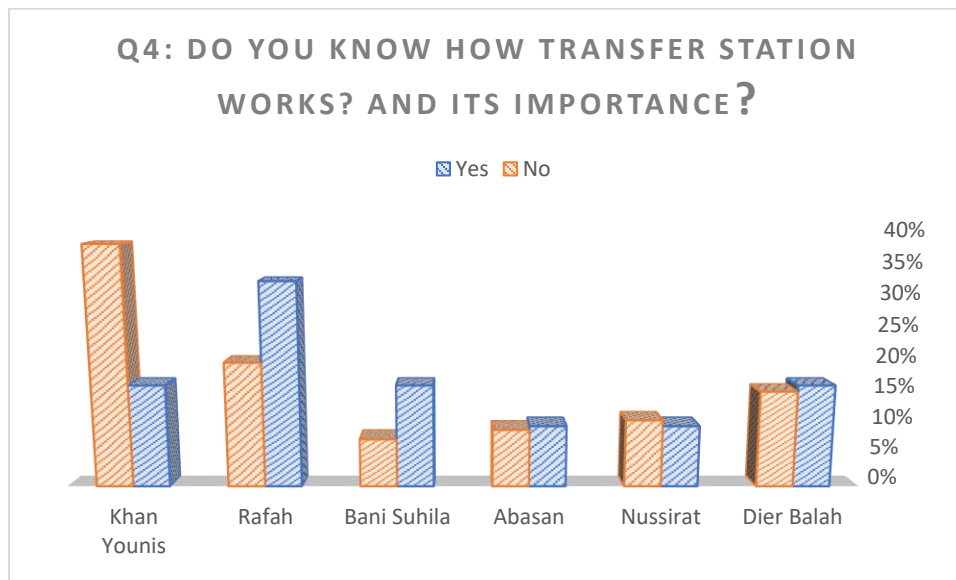


Figure 14: Transfer Station Geographically

**Question (5): Do you how to deal with medical waste?**

The results as shown in figure 15: (49%) of respondents know how medical waste is being disposed, there is an increase of 16% in six months.

Answer	Jan 2021	Aug 2021
Yes	33%	49%
No	67%	51%

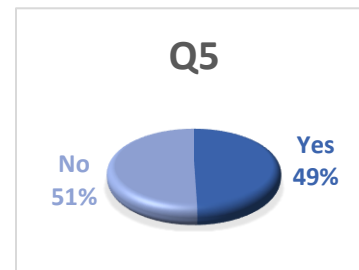


Figure 15: Medical Waste Disposal



Also as shown in figure (16); it's worth to mention that in the first survey Rafah respondents (92% of them) are not aware of medical waste disposal, however in this survey it showed a percentage of only 30%, so the awareness increases by 62% which is a good indicator.

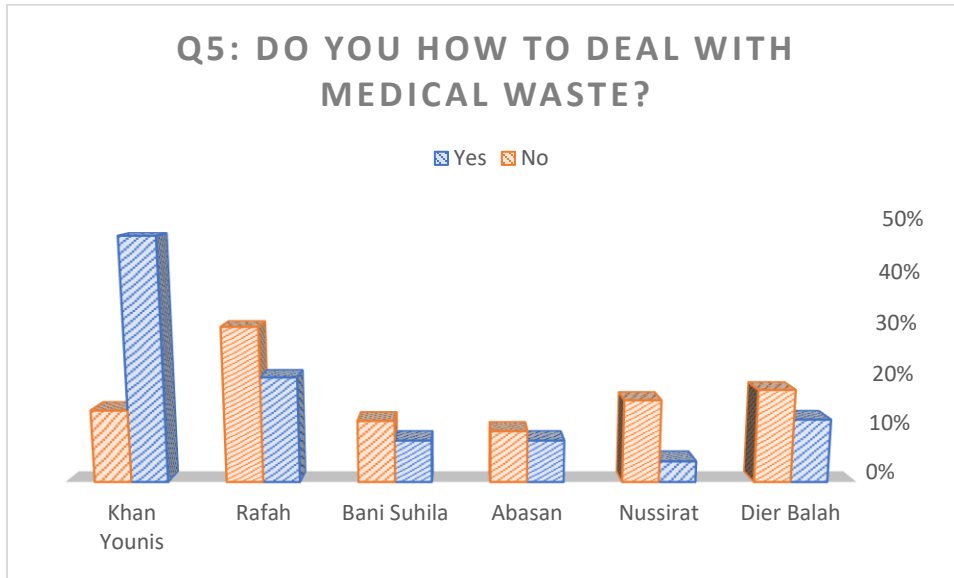


Figure 16: Medical Waste Disposal Geographically

**Question (6): Are you subscribed to the municipality's Facebook page and to the Joint Services Council for Solid Waste Management?**

Figure (17) shows that (35%) of respondents are subscribed to municipality Facebook page, while only (10%) are subscribed in both. It could have agreement with member municipalities to publish the JSC KRM Facebook page through their own pages or more paid advertisement is needed.

Answer	Jan 2021	Aug 2021
No	16%	49%
Only Municipality	73%	35%
Only JSC	0%	6%
Both	11%	10%

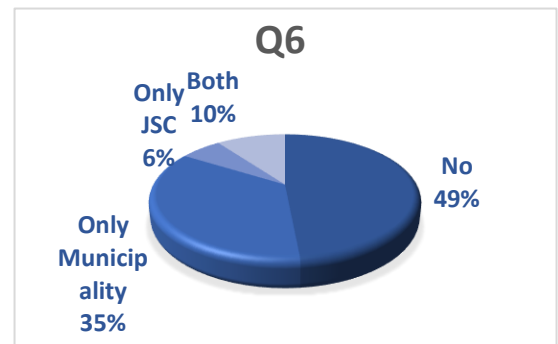


Figure 17: Facebook Subscription

Through figure (18) it is obviously that none of the respondents is subscribed only to JSC Facebook page at any municipality.

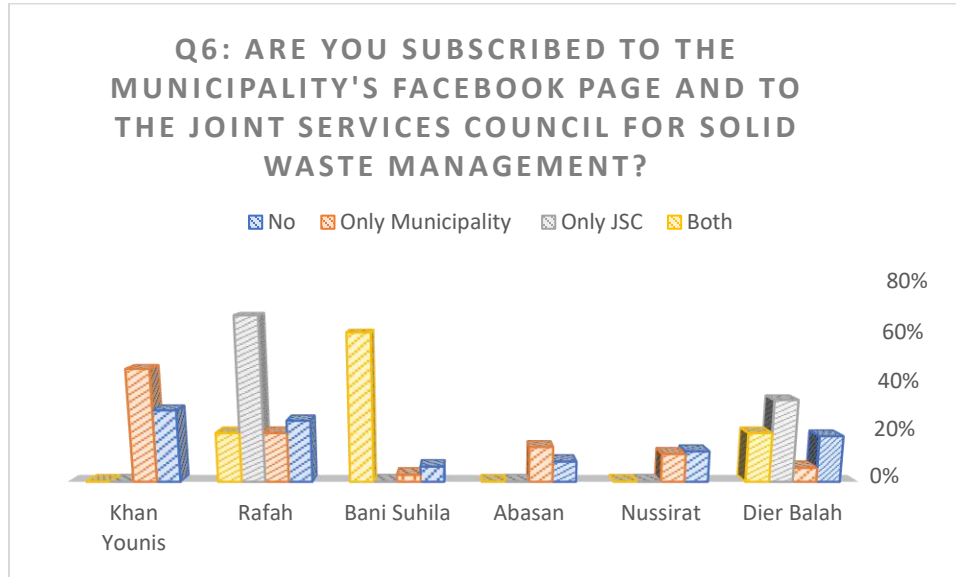


Figure 18: Facebook Subscription geographically

**Question (7): Has any waste awareness campaign been implemented in your area during the past two years?**

As shown in figure (19) 56% of respondents said that there were implemented awareness sessions while the second half said no.

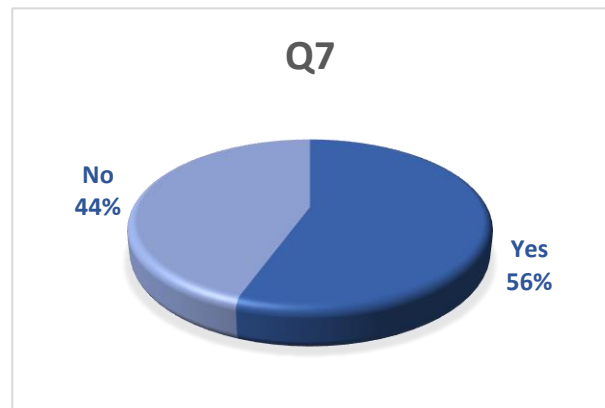


Figure 19: Awareness campaigns

From figure (20); it is noticed that in the first survey, none of Rafah respondents have participated or heard about awareness campaign, while this time 92% of respondents said that they have heard or participated in awareness campaigns.

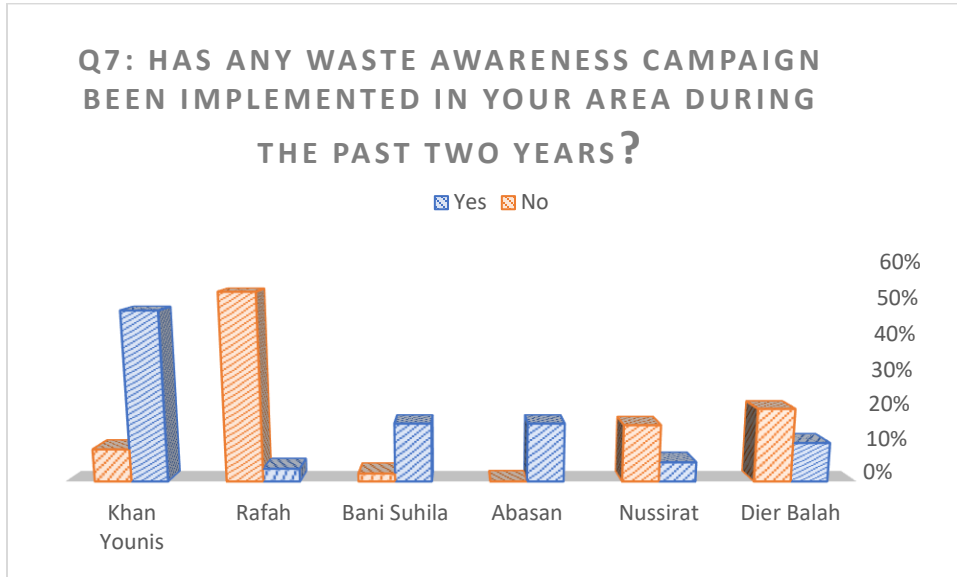


Figure 20: Awareness campaigns geographically

**Question (8): If the council/ municipality organizes online consultative meetings, will they respond to attend online?**

Figure (21) shows that (83%) of respondents would like to attend the meetings in person, while only (13%) can attend online in case of emergencies.

Answer	Jan 2021	Aug 2021
Yes	60%	13%
No	14%	4%
I would like to attend in person	26%	83%

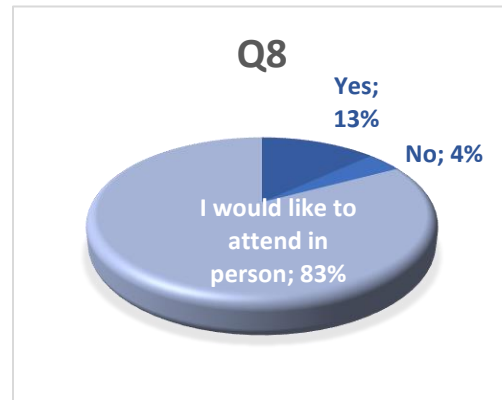


Figure 21: Online participation

From figure (22), almost 88% of respondents in Abasan prefer to attend meetings in person which interpreting the low percentage of attendance in the online meeting that was held in Feb 2021.

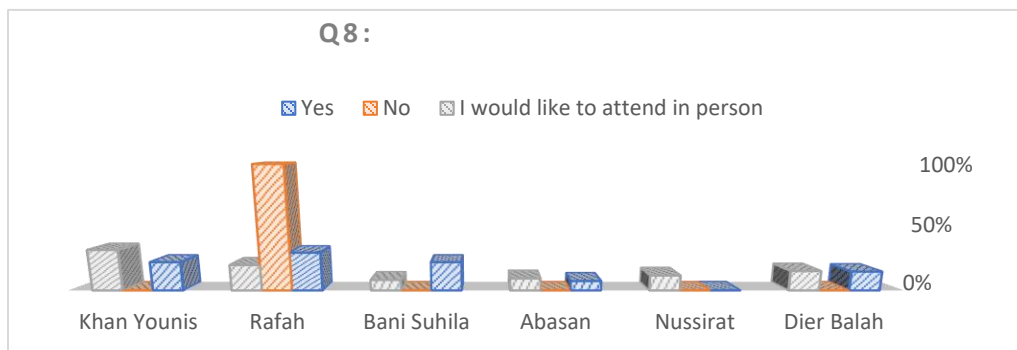


Figure 22: Online participation geographically





**Question (9): Do you know how apply for a complaint in waste collection?**

As shown (93%) of respondents know how to apply for a complaint in waste collection, which is good indicator for awareness team efforts.

Answer	Jan 2021	Aug 2021
Yes	37%	93%
No	63%	7%

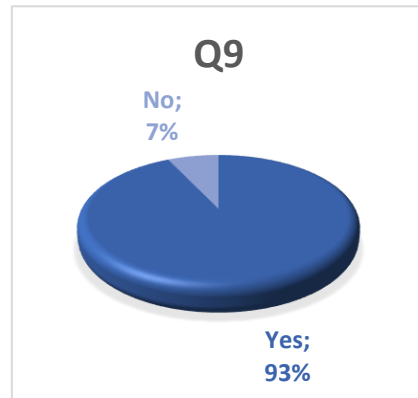


Figure 23: GRM

From figure (24) more efforts need to be carried out in Bani Suhila for publication and raising awareness.

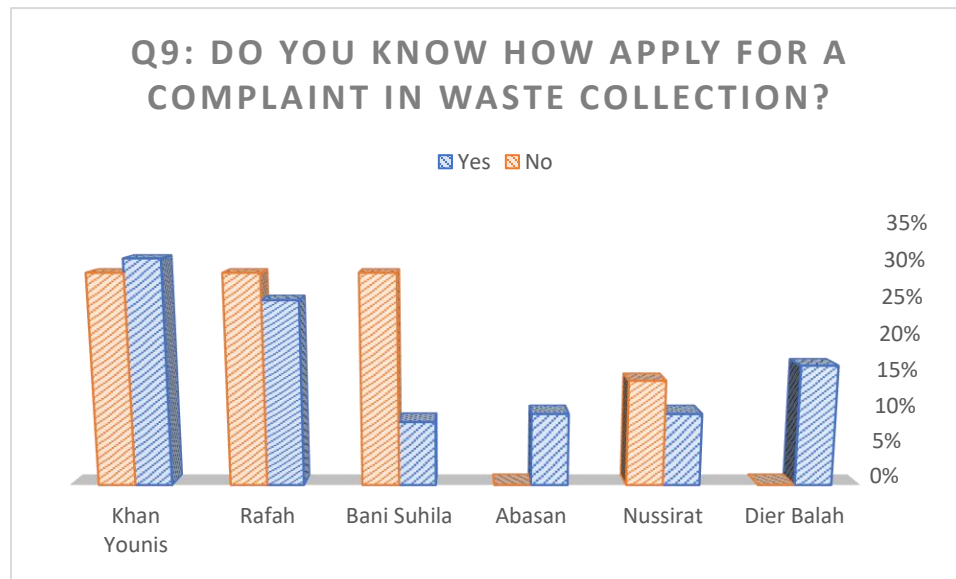


Figure 24: GRM geographically



**Question (10):** What are the costs paid by municipality/ council for the continuation of the waste collection and disposal service?

This question is about the cost paid by municipality/ council for the continuation of the waste collection and disposal service. And as shown in figure (25): all respondents said that it goes for salaries for sanitation workers and waste truck drivers; fuel for waste collection trucks, and truck maintenance and fees for waste disposal and landfill.

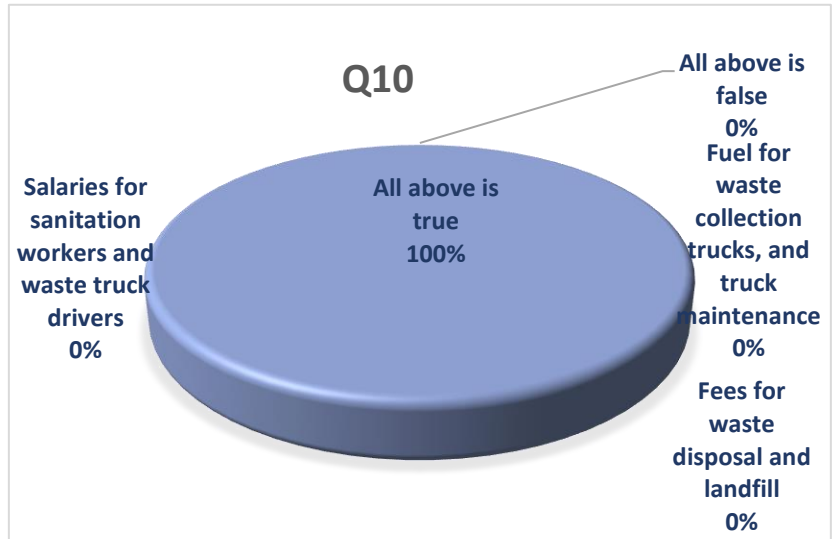


Figure 25: Waste collection cost

Answer	Jan 2021	Aug 2021
Salaries for sanitation workers and waste truck drivers	6%	0%
Fuel for waste collection trucks, and truck maintenance	2%	0%
Fees for waste disposal and landfill	1%	0%
All above is true	79%	100%
All above is false	12%	0%

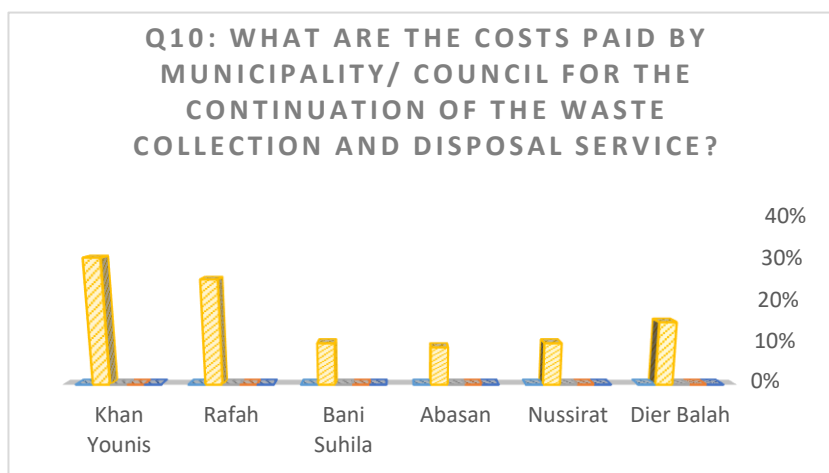


Figure 26: Waste collection cost geographically



### **2.11.2 Increased the participation and role of women in decision making of the JSC-KRM through formation of a “women's committee”**

The group aims at engaging women from the partner municipalities on different levels as; decision making, consultation, and sharing information, as they will meet periodically.

The group was created on November 2020 from seven females who work in member municipalities and two JSC awareness staff (Total nine members). And each of municipality representative had created a larger group of influencers’ women (8 – 12 women) to help in designing and implementing the communication activities.

**The expected activities with the women’s committee are:**

- Women’s committee received trainings about JSC-KRM services, and the benefits accrued to the beneficiary population under GSWMP.
- JSC-KRM conducted regular meetings and consultations with this committee.
- All recommendations taken by this committee are discussed with the JSC executive director.
- A representative of the female group participates in the JSC Board of directors’ meetings.
- Increased the level of awareness and learning for women with regard to solid waste management practices through a developed action plan.

The following table shows the action plan that were discussed and approved by them on January 2021:

**Table 8. Women’s committee action plan**

Activity	Date	Action
1. Conducting group sessions targeting women in the neighborhood committees across (Khan Younis, Rafah, Deir Al-Balah)	Jan, Jul 2021	Focus group for 10 – 15 women (invitations to be sent to 15 influencer women from NGOs / neighborhoods served by JSC). Unified presentation will be prepared for all FGs and will include: (SWM aspects (Waste collection, Transfer station, Landfill, Medical Waste, Recycling and Composting), Overview about JSC and Municipality, Complaining channels.)
2. Conducting group sessions targeting women in the neighborhood committees across (Nusierat, Bani Suhaila, Abasan Kabeera)	Feb, Jul 2021	
3. Create Influencer’s group in each municipality	Jan. 2021	The targeted women in the previous FGs will be our sub-groups members. They will be part of the large Female group.
4. Conduct Survey: Female project beneficiaries aware of solid waste management practices	Jan, Jul 2021	Questionnaire (10 questions) will be prepared by Eng. Samir. It will target 100 women in JSC service areas as the following: Khan Younis: 30, Rafah: 25, Deir Al-Balah: 15, Nusirate: 10, Bani Suhaila: 10, Abasan Kabeera: 10
5. Conduct Activities by using the influencer Women groups	Mar, Sep 2021	Conduct a social activity for women in the area (free day, competition, awareness campaign ...etc). Online activities are also recommended (social meeting about waste to share some of



Activity	Date	Action
		key messages) Key messages can be shared through influencers.
6. Participation of Women Group in the JSC Board Meetings		Representative of the female group to participate in the Board meetings.
7. Preparation of complaints reports related to waste	Start by March. 2021	At the end of each month, a summary sheet should be filled about the number of waste complaints, No. of solved complaints, types, areas ..etc.
8. School Outreach program and Household's awareness programs	Sept. 2021	TBD in later meetings
9. Site visits to Al-Fukhary Landfill	Feb., April, August, Oct.	In Feb. a site visit will be organized for the female large group. Later site visits can be suggested.
10. Any other activities requested from the member municipalities		For any suggested activities other than what were already mentioned, a request can be submitted to BOD

- **Surveying for females**

The women committee had distributed the survey that was mentioned in the previous indicator.

### ***2.11.3 Targeted communication programs for women.***

This indicator includes the outreach activities for:

- **School outreach program:**

Due to school outreach program, a meeting was held with Ministry of Education, but the activities were suspended due to COVID-19 pandemic.

- **Household outreach program:**

- In June 2021, a program was made targeting the households in Khan Younis, Absan AlKabeera and Nussirat. The awareness team has visited (402) house in these areas
- **The visits were used for many purposes:** Increase awareness of SWM and its disposal, emphasize of the importance of paying the bills to ensure financial stability of service provided, know the complaints of residents and collects them using a manual template, as well as encourage them to use GRM and website for solving the complaints.
- **The challenges faced during these visits:** The financial situation in GS as whole is getting worse and most people are not affordable to pay for the basic services, many residents are illiterate to technology.
- **The problems households elaborate during these visits** related to Rubbles and sands in the container; Littering wastes around the container; Random waste collection point; and many complaints related to primary collection services. These complaints were



- addressed and the JSC-KRM has contacted the municipalities for ensuring that complaints have been addressed.
- **During the last quarter**, household visits were conducted through the pre-paid system for waste minimization and cost recovery pilot project in Khan Younis, Absan AlKabeera and Nussirat. The total of visited houses is (2,149) and (39) shops in the different areas.
  - **The pilot project supports** JSC KRM with solid waste containers, specialized plastic bags, and awareness materials required for successful implementation of the project.
  - The pilot aims to change community perception towards waste reduction. Throughout the various awareness campaigns, the residents recognized the importance of reducing waste. To incentivize people to generate less waste, residents that generate more than the average will be required to pay more and by collecting the fee for waste management in advance, revenues are increased, allowing for better solid waste collection services.
  - The pilot project is implementing by (JSC KRM) and targets several neighborhoods in Khan Younis, AlNusirat and Abasan AlKabeera with approximately 7,500 beneficiaries.
  - The photo (20) shows a manual complaint template collected by awareness team (Citizen Complaints Cards). This has been used due to reluctance of most residents to deliver their complaints through GRM system, so this will encourage them to provide a complaint then with time, it is expected that the culture will be changed and residents will use GRM.

شكوى	
اليوم	التاريخ
اسم مقدم الشكوى	
رقم التواصل	
العنوان بالتفصيل	
البلدية	
نوع الشكوى	خدمة الجمع - خدمة الترحيل - مكب الفخاري - مكب دير البلح - محطة ترحيل رفح - خدمة جمع النفايات الطبية
تفاصيل الشكوى	
ملاحظات	

*Photo 1:* Manual complaint collected by awareness team (Citizen Complaints Cards)



**Photo 2:** Households visits during in Khan Younis, Absan AlKabeera and Nussirat areas.

- NGOs outreach program:
  - MoU were signed with the Culture & Free Thoughts Association, the largest NGO in the south area to be a partner with JSC-KRM in increasing awareness level.
  - For more information about the association, please click on the [link](#).
  - JSC KRM has received students of Summer Camp (Safe Water) with total of (17) attendees. After their visit to the landfill and knowing the procedures of work, they have produced the following cloth bag for raising awareness of the reduction importance.
  - JSC KRM has received visits of different NGOs like Friends of the Disabled Association, Bedaya Association for Community Development, the Culture & Free Thoughts Association, Bayader Association for Environment and Development, Rowad Association, Eastern Association, Women's Program Association, Ard Allsan Palestinian Association, as well as the engineers syndicate.
  
- University outreach program:

Initial understandings have been raised with AlAqsa University (the largest one in Gaza governorates) and the signature is expected to be during February, 2022.



### ***2.11.4 Bridging the solid waste service satisfaction gap between male and female headed households***

This aims at bridging the knowledge gap and increasing the awareness level of both male and female. Four activities were conducted under this indicator.

- Meetings with neighborhoods
- Conducted online meeting (10.02.2021) for the residents of Abasan AlKabeera municipality and shared it on Facebook live.
- Conducted meetings with neighborhoods in different areas targeted (85) male and female.
- Usage of social media venues for raising awareness.
- Baseline Survey
  - Conducted a survey for random groups of (100) women and men.
  - Survey targeted three governorates covered by JSC-KRM service (Khan Younis, Rafah, and Middle Area).
  - Sample Size is 91 respondents (45 males, and 46 females) as the following table:
- Second Survey
  - The survey was distributed a survey during August 2021, it targets (100) men and women from the three governorates. The survey aims at exploring whether the awareness of both male and female has increased after the six months awareness and what is still needs intervention.
  - Survey targeted three governorates covered by JSC-KRM service (Khan Younis, Rafah, and Middle Area).
  - Sample Size is 94 respondents (41 males, and 53 females) as the following table:

*Table 9: Respondents of August 2021 Survey*

	<b>Area</b>	<b>Male</b>	<b>Female</b>
Rafah	Rafah (around TS)	6	13
	Shuka	2	0
Khan Younis	Khan Younis	18	21
	Qarara	0	1
Middle Area	Dier Balah	5	6
	Nusirat	4	4
	Zawayda	2	3
	Musadar	2	2
	Wadi Salqa	2	3
<b>Total</b>		<b>41</b>	<b>53</b>

**Question (1): Who collects Solid Waste in Gaza Strip?**



The results as shown in figure 21; equal percentage of women said it's the responsibility of municipality, the same said it the responsibility of municipality, UNRWA and JSC.

While (66%) of male said it's a joint responsibility of municipality, UNRWA and JSC.

Answer	Jan 2021		Aug 2021	
	M	F	M	F
Municipality	22%	37%	66%	49%
Mun. + UNRWA	2%	4%	2%	2%
Mun. + UNRWA+JSC	76%	59%	44%	49%

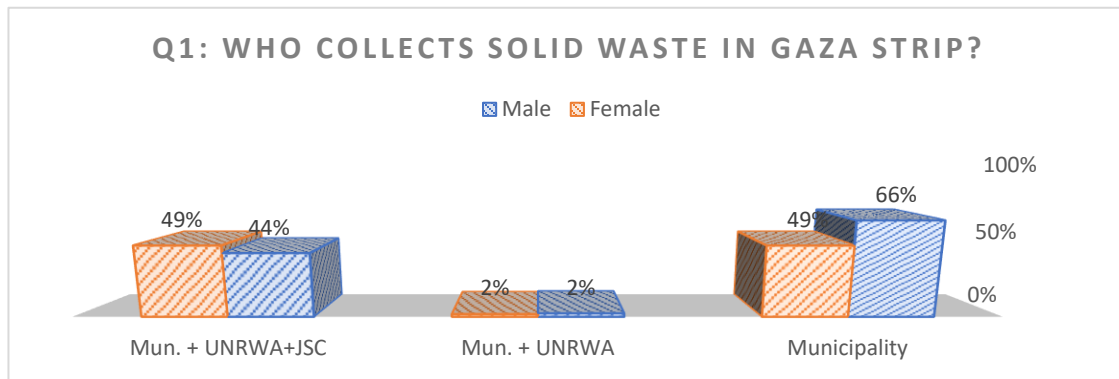


Figure 27: Solid Waste Collection Responsibility

**Question (2): Are you satisfied with the waste collection mechanisms in your area?**

The results as shown in figure 22; most of people satisfied with the service, only (39%) of them think that also improvements can be made.

Answer	Jan 2021		Aug 2021	
	M	F	M	F
Very Satisfied	44%	37%	61%	79%
Satisfied, but	44%	52%	39%	4%
Not Satisfied	11%	11%	12%	13%

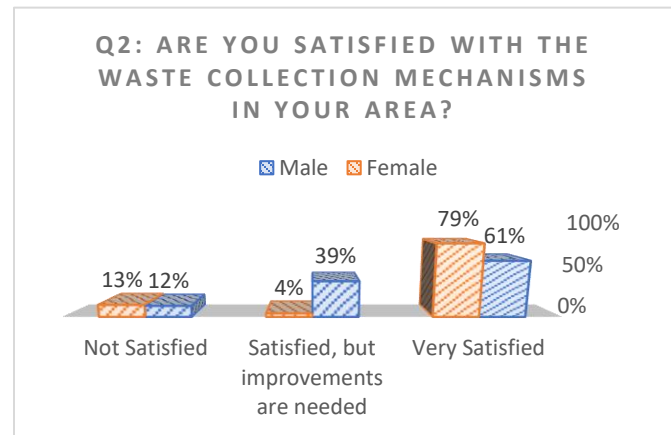


Figure 28: Satisfaction with SWC mechanisms





**Question (3): Do you suffer from waste containers in your area?**

The results as shown in figure 23; nearly half of respondents have no problems in containers.

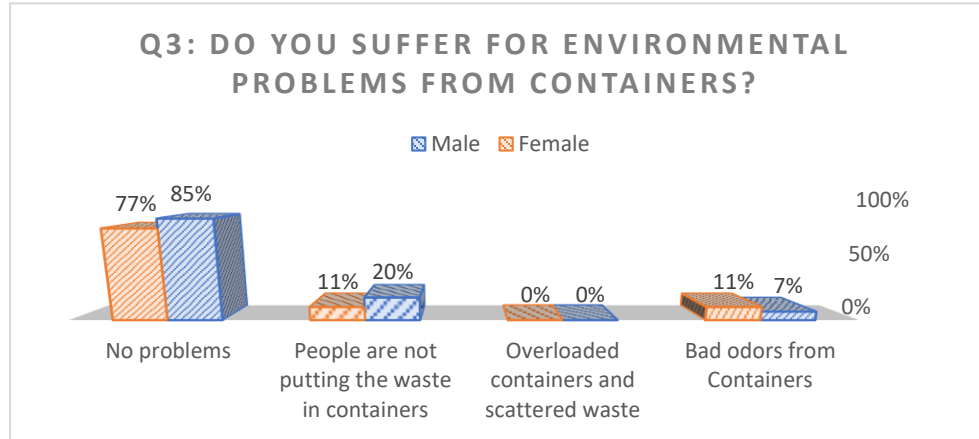


Figure 29: Satisfaction with SWC containers

Answer	Jan 2021		August 2021	
	M	F	M	F
Bad odors from Containers	11%	13%	7%	11%
Overloaded containers and scattered waste	7%	7%	0%	0%
People are not putting the waste in containers	31%	30%	20%	11%
No problems	51%	50%	85%	77%

**Question (4): Do waste workers annoy you?**

The results as shown in figure 24; almost none of men and women had been annoyed from the workers

Answer	Jan 2021		Aug 2021	
	M	F	M	F
Yes	4%	7%	12%	2%
No	96%	91%	100%	98%

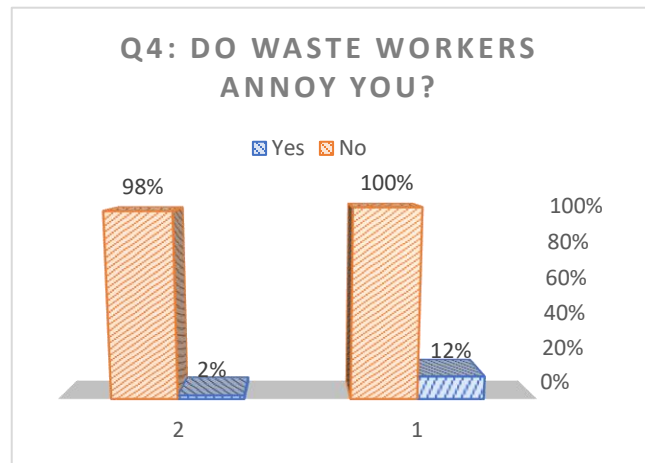


Figure 30: Satisfaction with SWC workers



**Question (5): Where do you think wastes transferred to?**

The results as shown in figure 25: (100%) of men respondents said that the waste is being buried in a landfill after collection; while (89%) of women agreed on that.

Answer	Jan 2021		Aug 2021	
	M	F	M	F
In the sea	0%	0%	0%	6%
Landfilling	100%	87%	100%	89%
Burning	0%	4%	2%	0%
Dumping open areas	0%	7%	2%	4%

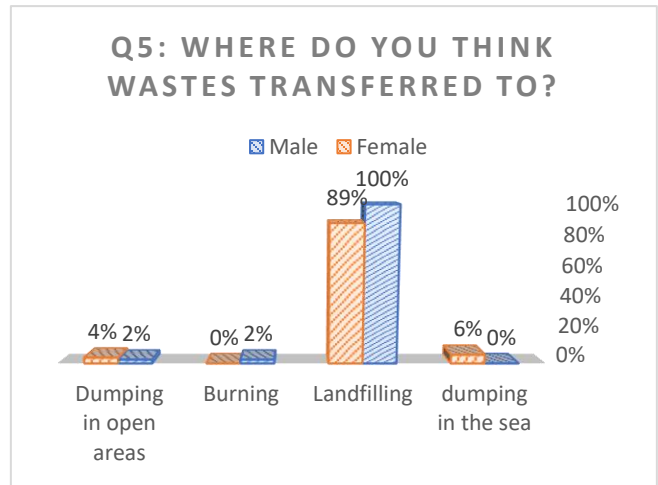


Figure 31: Waste distention after collection

**Question (6): Are you following the municipality's and JSC-KRM Facebook pages?**

Figure (26) shows that (54%) and (62%) of men and women respondents are not subscribed to both, while only (10%; 9%) are following the FB page for men and women respondents respectively.

Answer	Jan 2021		Aug 2021	
	M	F	M	F
None	44%	63%	54%	62%
Mun. FB	40%	17%	41%	17%
JSC FB	9%	11%	5%	4%
Both	7%	9%	10%	9%

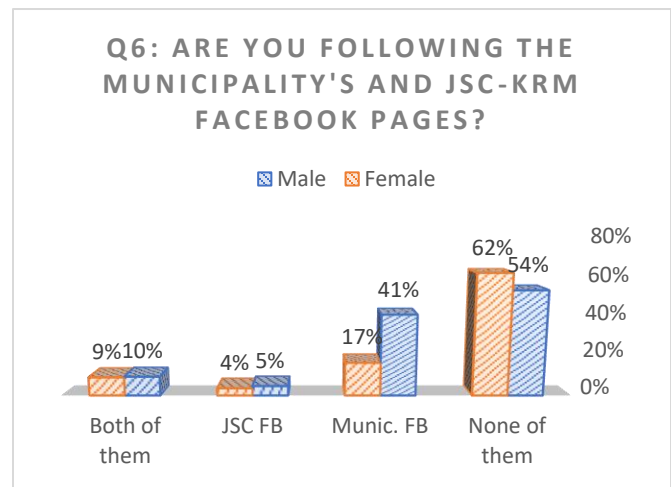


Figure 32: Facebook Subscription



**Question (7): Have you targeted by any waste awareness campaigns within the last two years?**

As shown in figure (27), more than half of women respondents said that they were targeted while almost the same percentage of men said that they were not targeted.

The men respondent's percentage has increased by (9%) due to the household visits program that start from June 2021.

Answer	Jan 2021		Aug 2021	
	M	F	M	F
Yes	47%	57%	56%	42%
No	53%	43%	56%	58%

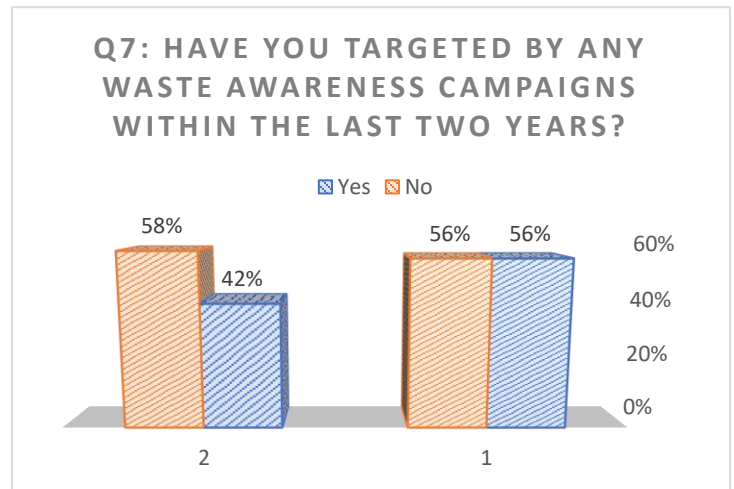


Figure 33: Awareness campaigns

**Question (8): If the council/ municipality organizes online consultative meetings, will they respond to attend online?**

Figure (28) shows that only (32%; 19%) respectively of men and women respondents can attend the meetings online.

Answer	Jan 2021		Aug 2021	
	M	F	M	F
Yes, virtually	56%	52%	32%	19%
No	18%	7%	2%	8%
Yes, face	27%	41%	78%	74%

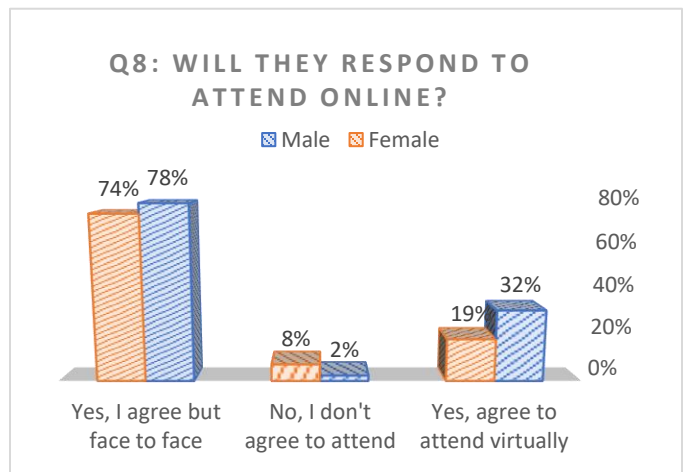


Figure 34: Online participation



**Question (9): Do you know how to submit a complaint?**

As shown, most of respondents know how to apply for a complaint in waste collection. Note that there is an increase for both men and women (33%; 30%) in knowing the process of submitting a complaint, which is due to awareness team efforts in households visit program.

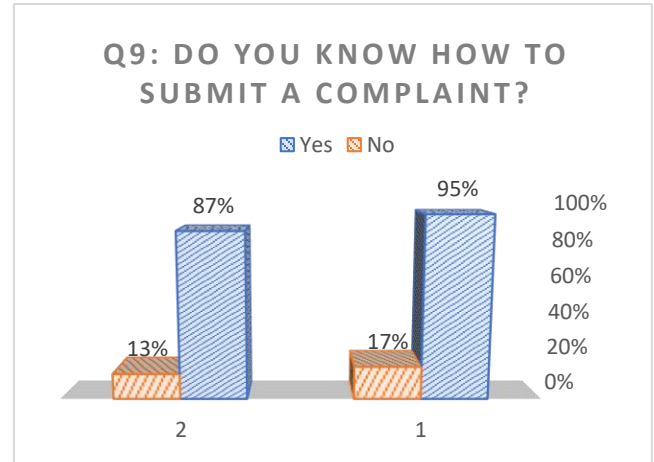
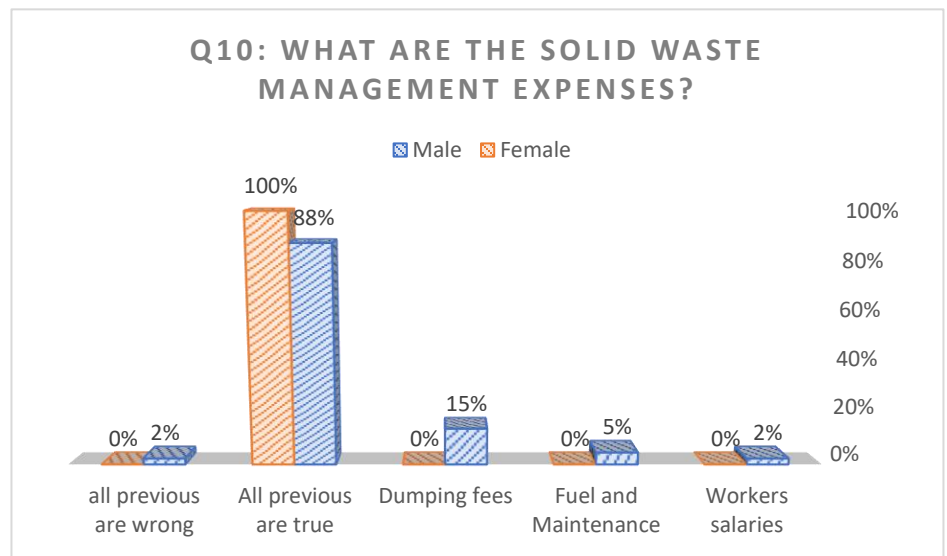


Figure 35: complaints submission

Answer	Jan 2021		Aug 2021	
	M	F	M	F
Yes	62%	57%	95%	87%
No	38%	43%	17%	13%

**Question (10): What are the solid waste management expenses?**

This question is about the cost paid by municipality/ council for the continuation of the waste collection and disposal service. And as shown in figure (26): almost all of respondents said that it goes for salaries for sanitation workers and waste truck drivers; fuel for waste collection trucks, and truck maintenance and fees for waste disposal and landfill.



Answer	Jan 2021		Aug 2021	
	M	F	M	F
Workers' salaries	9%	9%	2%	0%
Fuel and Maintenance	2%	0%	5%	0%
Dumping fees	4%	0%	15%	0%
All previous are true	80%	85%	88%	100%
All previous are wrong	4%	7%	2%	0%

Figure 36: Expenses of Solid waste management

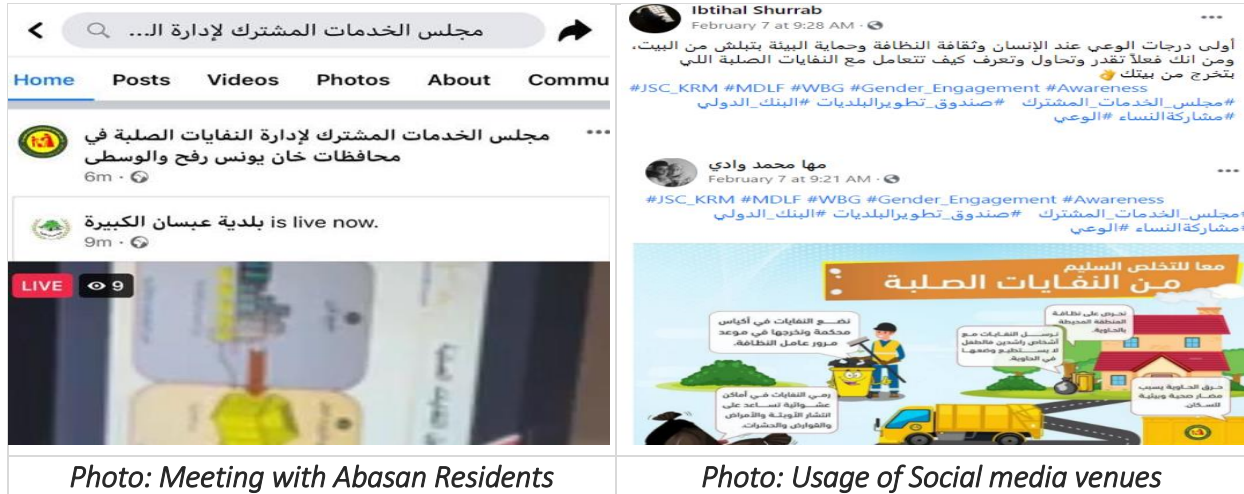


Photo: Meeting with Abasan Residents

Photo: Usage of Social media venues

Table (16) shows the list of groups/institutions who visited the landfill site during the reporting period. Hence, for any site visit, visitors are invited to the hall for a presentation then they have a tour at the landfill site.

**Table 10. Summary of Site visits during the reporting period (July – December 2021)**

#	Date of Site visit	Institution / Group Name	Number of Males	Number of Females
1	10.07.2021	The Legislative Council Representatives from Khan Yunis Governorate	7	0
2	29.07.2021	Palestinian National Action Factions	21	0
3	12.08.2021	Culture and free thought association	8	6
4	14.08.2021	Bedaya Association for Community Development	2	22
5	19.08.2021	JICA Palestine Office	3	1
6	09.09.2021	Representatives of the Finance Department from the member municipalities	11	0
7	04.10.2021	JICA Palestine Office	2	2
8	06.10.2021	Culture and free thought association	4	12
9	04.11.2021	World Bank Group and Project Development and Safeguards Unit (PDSU) at MDLF	4	2
10	08.11.2021	Bayader for Environment & Development Association	45	13
11	10.11.2021	Bayader for Environment & Development Association	51	11
12	01.12.2021	The Minister for Local Government Visit	62	-
13	01.12.2021	Palestinian Engineering Syndicate - Khan Younes	41	19



**Joint Services Council - Khan Younis, Rafah and Middle area  
Gaza Solid Waste Management Project: Additional Finance RFB**



*Photo: Legislative Council Representatives*



*Photo: Palestinian National Action Factions*



*Photo: Culture and Free Thought Association*



*Photo: Bedaya for Community Development*



*Photo: JICA Palestine Office*



*Photo: Representatives of the Finance Department*



*Photo: JICA Palestine Office*



*Photo: Culture and Free Thought Association*



*Photo: World Bank Group & PSDU at MDLF*



*Photo: Bayader for Environment & Development Association*



*Photo: Bayader Association 2<sup>nd</sup> visit*



*Photo: The Minister for Local Government Visit*



*Photo: Palestinian Engineering Syndicate - Khan Younes*



### **2.11.5 Communication Material**

On June 2021 a bid was published in the local newspapers so that the material of communication can be used online (virtually) with main key messages for different target groups. The items are as followed:

- Produce (15) Videos: using motion graphic with a duration 20-30 seconds; suitable audio commentary, and sign language interpretation, these videos will be published on the different WhatsApp groups; schools FB pages and other platforms.
- Sponsor advertainments: on social media platforms, reach 50,000 for the month
- Design and print (8000) brochures with (4) different designs (content).
- Design (16) awareness messages for Facebook platform; that are derived on a weekly basis
- Supply (2,500) Cotton Reusable Tote Bags; those will be distributed on women in different areas.
- Produce and print (1,000) Puzzles and coloring books that will be distributed on school children and/or children of visited houses in households' program.
- Supply (100) Notebook with environmental notes; that will be distributed on the NGOs and the visited delegations

## **3. Sofa Landfill Access Road**

Sofa road is used as access road to Sofa Solid Landfill, it has an access from Salah Al Dein Street and ends at the armistice borderline. Access road status is considered as not good due to the deep damage in large parts of its body. Figure (9) shows the location of the road. The length of the road is approximately 2.5 Km (from Salah Al Dein Street to the access gate of the landfill), knowing that the remaining length (from the access of the landfill to the borderline) will not be taken into account within this project. The width of existing access road varies from 4m to 6m in some parts.



Figure 37. Access Road layout

Improvements of the Sofa landfill access road were implemented. Such improvements consist of road widening in some narrow parts without removal of any trees, structures or infrastructures, and paving/rehabilitate of some damaged parts and expanding the pavement width up to 7.5 m, and final pavement cover were paved for all the road. Moreover, the rehabilitation included the cleaning of the access road from any dumped waste along the road.



Photo: Sofa Landfill Access Road





## Annex1: Summary of Environmental and Social measures to be taken in Al-Fukhary Sanitary Landfill

### مصفوفة الإدارة البيئية والاجتماعية لموقع مكب الفخاري (صوفا) أثناء مرحلة التشغيل<sup>1</sup>

ملخص الاعمال المنجزة	إجراءات التخفيف المقترحة	التأثير المحتمل
تم اتباع إجراءات التشغيل باستثناء إجراءات التشغيل المتعلقة بمعالجة وضخ العصارة. حيث من المتوقع أن يبدأ العمل بنظام معالجة العصارة عن طريق معالجتها معالجة بيولوجية وفيزيائية ومن ثم ضخها لمحطة معالجة الصرف الصحي المجاورة بحلول النصف الثاني من عام 2021.	يجب اتباع إجراءات التشغيل القياسية (SOPs) ودليل التشغيل	التأثيرات العامة
تم دمك النفايات وتغطيتها بشكل يومي بالتربة الطينية بسمك 20 - 30 سم. حيث تم استخدام كميات تربة طينية تقدر بمعدل 170 كوب يوميا لتغطية النفايات. وتم أخذ هذه الكميات من التربة من كميات التربة المشونة في موقع مكب النفايات وهي بالأصل ناتجة عن حفر مكب النفايات.	الالتزام بدمك النفايات والتغطية اليومية	تأثيرات الرائحة
تم تغطية النفايات بشكل يومية بالتربة الطينية المخزنة بالقرب من خلايا الطمر والناتجة عن حفر الخلايا.	الالتزام بالتغطية اليومية لمنع الاحتراق الذاتي للنفايات	تلوث الهواء بسبب الغبار او الدخان
تم منع النفايات المحترقة من الوصول الى خلايا الطمر، حيث يمنع دخول النفايات المشتعلة إلى خلايا الطمر منعاً بات، وذلك لمنع انتشار الحرائق في خلايا الطمر.	رفض أي نفايات محترقة يتم استقبالها في خلية التخلص لمنع انتشار الحرائق	
تم اتباع خطة تعبئة بخلايا الطمر كما هو مفصل في دليل التشغيل، بحيث يتم ضمان الحفاظ على طبقات النفايات مرصوفة بشكل هندسي وميول تم حسابها مسبقاً أثناء مرحلة تصميم المكب. ويتم التأكد من صحة التعبئة في نهاية كل طبقة بعمل الخرائط المساحية.	تأكد من اتباع الجدول الزمني وفقاً لخطة التعبئة بخلايا الطمر، وكذلك الغطاء اليومي.	
يتم صيانة جميع المركبات وفق جدول الصيانة الخاص بالأليات مع العلم أن الصيانة تتم داخل ورشة الصيانة في مكب النفايات.	يجب صيانة جميع المركبات والمعدات الثقيلة العاملة في المكب وفقاً لجدول الصيانة الموصى به من قبل الشركة المصنعة / المورد. يجب إصلاح أي مركبة يتم اكتشاف انبعاث دخان منها على الفور.	
تم رش المياه عند ملاحظة الغبار وتم التركيز على ذلك بالأيام الجافة، حيث تم خلال شهر مارس الرش عدد 59 مرة. مصدر المياه هو بركة تجميع مياه الامطار.	رش الطرق الداخلية بالمياه وخصوصاً بالأيام الجافة عند ملاحظة الغبار	

<sup>1</sup> كل ما ورد من إجراءات هو حسب دراسة الأثر البيئي والاجتماعي للمشروع والذي تم إعدادها في عام 2020.



ملخص الاعمال المنجزة	إجراءات التخفيف المقترحة	التأثير المحتمل
تم وضع يافطات تحذير حول موقع تخزين التربة.	يجب وضع يافطات تحذير حول موقع تخزين التربة المستخدمة في التغطية اليومية	
يتم اجراء صيانة بشكل دوري لكل من مضخات العصارة وشبكة تجميع العصارة.	يجب صيانة مضخات وشبكات تجميع العصارة بشكل جيد لضمان التشغيل الجيد	التأثيرات على المياه الجوفية والتربة
تم فحص جودة المياه الجوفية كل ستة أشهر. تم مقارنة النتائج الحالية مع المعايير الفلسطينية ولم يلاحظ أي اختلاف.	اجراء فحص لجودة المياه الجوفية والسطحية بشكل دوري	
تم العمل على فحص المياه الجوفية في 4 آبار حول مكب النفايات في شهر مارس، وسيتم نشر النتائج على موقع المجلس الإلكتروني بشكل منفصل.		
المكب مؤمن بسياج من جميع الجهات ويوجد كاميرات مراقبة.	تأمين الموقع بالسياج ومراقبة المكب بالكاميرات ومتابعة عدم تسرب العصارة	
لا يسمح بدخول غير المصرح لهم بالدخول، ولم يلاحظ أي سرقة للعصارة من الموقع.		
تم تدريب جميع العاملين في المكب وتم التوقيع على مدونة سلوك لجميع العاملين بالمكب.	يجب أن يتلقى عمال المكب تدريباً كافياً على قائمة النفايات المسموح بها والمحظورة التي سيتم استلامها / رفضها في موقع المكب بناء على اللوائح الداخلية للمجلس	مخاطر استقبال النفايات الخطرة
تم مشاركة قائمة النفايات المحظورة مع البلديات وكذلك تم طباعتها وتعليق يافطة على مدخل المكب بها.	يجب مشاركة قائمة النفايات المحظورة بوضوح مع البلديات	
يتم اتباع خطة السلامة الخاصة بتشغيل المكب وكذلك خطة الاستجابة للطوارئ	يجب اتباع خطة السلامة الخاصة بتشغيل المكب، وكذلك خطة الاستجابة للطوارئ.	مخاطر السلامة والصحة والنظافة المهنية
تم اجراء تدريب حول الإجراءات الاحترازية لـ COVID 19 وبروتوكول الصحة للعاملين. كما تلقى العمال تدريباً حول محتوى مدونة قواعد السلوك.	يجب اجراء برنامج تدريب أكثر تحديداً للعاملين حول أساليب العمل الآمنة وممارسات النظافة الجيدة. ضرورة تحديث البرنامج بما يتناسب مع أداء العاملين.	
يُمنع ملتقطو النفايات من دخول مكب النفايات، ولم يلاحظ ملتقطو النفايات في الموقع منذ تشغيل المكب.	منع الدخول غير العاملين إلى مكب النفايات وخاصة ملتقطي النفايات.	
لا يسمح بالتدخين في المكب	لا يسمح بالتدخين داخل المكب	



ملخص الاعمال المنجزة	إجراءات التخفيف المقترحة	التأثير المحتمل
تم تزويد جميع العمال بمعدات الحماية الشخصية	يجب تزويد جميع العاملين بالمكب بجميع معدات الحماية الشخصية	
لم يسجل أي إصابات منذ تشغيل المكب. تم إصابة عدد 2 عامل في المكب بكوفيد 19 2021، وقد تماثل للشفاء. ويتم يوميا قياس درجة حرارة العمال قبل دخولهم للمكب.	يجب توثيق جميع الإصابات، كما يجب كتابة تقرير بعد وقوع أي حادث	
يتم اتباع خطة إدارة الآفات. يلتزم العمال بمعدات الحماية الشخصية، والمبيد المستخدم هو PTI المسموح به من قبل وزارة الصحة. وتيرة الرش أسبوعيا.	يجب اتباع تعليمات خطة إدارة الآفات اثناء عملية التشغيل	اثار الآفات
لا توجد شكاوى من المناطق المجاورة للمكب بشأن وجود ضوضاء	في حالة تلقي مدير المكب شكاوى من المناطق المجاورة بشأن وجود ضوضاء داخل المكب، يجب وضع حواجز صوتية بين مصدر الضوضاء وموقع الجار المشتكي.	تأثير الضوضاء
تم تطبيق التغطية اليومية	ضع الغطاء اليومي للحفاظ على الظروف الجمالية"	التأثيرات البصرية والجمالية
يتم استخدام معدات مختصة بدفع ودمك النفايات	قم بدمك النفايات في خلايا الطمر لزيادة العمر الافتراضي للمكب اقصى ما يمكن	
عدم تجاوز السائقين للسرعة القصوى 20 كم / ساعة داخل المكب، كما تم تركيب حواجز على الطريق الداخلي لمكب النفايات	يجب ألا يتجاوز السائقون حد السرعة 20 كم / ساعة داخل موقع المكب	حركة مرور البات النفايات الواردة والصادرة
تم وضع حواجز وإشارات مرور	تركيب حواجز وإشارات المرور لتقليل سرعة القيادة	
نتواصل مع مؤسسة سلالة للتعامل مع الحيوانات داخل المكب	التواصل مع جمعيات الرفق بالحيوان للتعامل معهم.	الحيوانات والنباتات على سبيل المثال توزيع الكلاب / الطيور في موقع المكب
تم إنشاء نظام الشكاوى الإلكترونية التابع للمجلس في عام 2018. ويمكن أيضا استخدام قنوات أخرى مثل هواتف الاتصال.	يجب ان يكون هناك قنوات لاستقبال الشكاوي الخاصة بالتشغيل داخل المكب	الإزعاج للمجتمع المحلي



ملخص الاعمال المنجزة	إجراءات التخفيف المقترحة	التأثير المحتمل
يتم مشاركة المعلومات والصور حول تقدم العمل على وسائل التواصل (صفحة الفيس بوك الخاصة بالمجلس)	استخدام الوسائط المتعددة ووسائل التواصل الاجتماعي لمشاركة الصور ومقاطع الفيديو حول العمل اليومي لمشاركتها مع المجتمع.	
زار بعض أصحاب المصلحة موقع المكب في الأشهر الماضية مثل بعض المنظمات غير الحكومية ورؤساء البلديات ومجموعات الشباب ولجان المرأة. يتم الإعداد لعقد لقاء مجتمعي حول مكب النفايات في شهر أبريل 2021.	قم بدعوة أصحاب المصلحة لزيارة المكب لتعزيز العلاقة وتبادل المعرفة مع الأطراف ذات الصلة.	
يتم تأمين جميع العاملين في المجلس	تأكد من أن جميع العاملين في المجلس مشمولون بالتأمين	
لا توجد قضايا للاستغلال الجنسي والاعتداء والتحرش الجنسي	يجب السيطرة على الاستغلال والاعتداء الجنسيين والتحرش الجنسي	
تم تحديث مدونة قواعد سلوك العمال وتوقيعها من قبل كل عامل	مراجعة قواعد سلوك العاملين بالمنشأة وتحديثها عند الحاجة وفقا للحوادث والسلوكيات والمخاوف المسجلة والتأكد من أن جميع العمال على علم بها.	
تم توفير جميع مواد التنظيف والتعقيم المطلوبة للعمال	توفير كافة مستلزمات النظافة المطلوبة للعمال وإلزامهم باستخدامها بشكل خاص قبل تناول وجباتهم داخل المنشأة.	
تم توفير أدوات الإسعافات الأولية للعاملين في الأماكن المناسبة	توفير جميع أدوات الإسعافات الأولية المطلوبة وتخزينها في مكان مناسب يسهل الوصول إليه.	حقوق العمال
يتم عقد الاجتماعات مع العمال بشكل دوري	عقد اجتماعات دورية مع العمال للاستماع إلى مخاوفهم وتشجيعهم على استخدام نظام الشكاوى.	
يوجد مكان استراحة مناسب لجميع العاملين في الموقع.	توفير مكان راحة مناسب لجميع العاملين بالموقع ، وتخصيص ساعة راحة لجميع العاملين	
لا يوجد أطفال يعملون في الموقع	منع أي طفل دون السن القانوني من العمل في الموقع. يجب إجراء التحقق من العمر عند إشراك عمال المشروع ويجب مراقبته بحيث لا يقل عمره عن 18 عامًا.	



## Al-Fukhary Sanitary Landfill



## Disposal Cells

