

GAZA SOLID WASTE MANAGEMENT PROJECT (ADDITIONAL FINANCE RBF)



JSC Semi Annual Report: Environmental and Social Compliance

(July 2022 - December 2022)



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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 m², it is located east of Khan Younis Governorate (800 m from the eastern border of Gaza Strip), and it receives 600 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 m² 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 m² on 3 levels) for JSC-KRM operation personnel staff;
- Maintenance Workshop (528 m²); Storm water drainage and storage pond (10,531 m³ 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 m³), it is excavated to 2.75 m below natural ground level;
- Peripheral road (length 1,735 m);
- Old Dumpsite (40,000 m²);
- Stockpile of excavated soil (85,000 m²); and
- Fence is surrounding all the site.

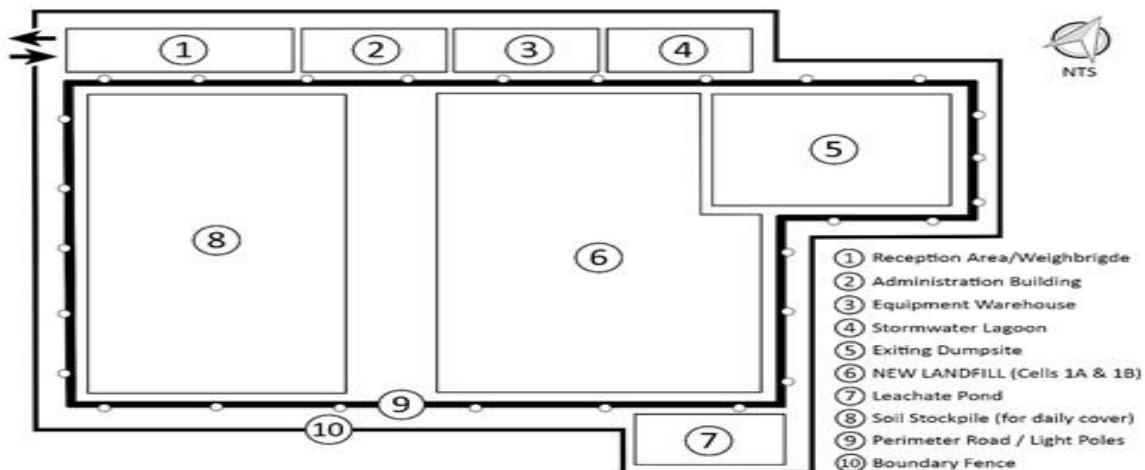


Figure 1. Schematic of Sofa Sanitary Landfill in Al-Fukhari



1.2 Operation of Al-Fukhary (Sofa) Sanitary Landfill

Al-Fukhary (Sofa) Landfill is a sanitary landfill which managed by JSC-KRM since July 15th, 2019. During the reporting period; it received an average **527** ton/day or **16024** Ton/month of municipal waste from 17 localities in middle and south of Gaza Strip. An average of **60** 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 are 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	3

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 January – June 2022, the landfill received **99,815.65 tons** of Municipal Solid Waste (MSW); the average received waste is **548 ton/day** or **16,636 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	18,875	15,326	15,093	16,682	16,688	16,483	99,815

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 628 ton/day. The Filling sequence is followed as planned in the operational manual. The density of the first layer was 935 kg/m³, and 1,090 kg/m³ in the second layer and 1260 kg/m³ in the third layer and 1260 kg/m³ 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 ³)	Density (Kg/m ³)
	from	to			
1 st Layer	(15 / July / 2019)	(19 / March / 2020)	134,783,686	144,135	935
2 nd layer	(19/ March /2020)	(17/ Sep /2020)	103,939,490	94,540	1,090
3 rd Layer	(17/ Sep /2020)	(10/ March /2021)	118,417,000	93,816	1,262
4 th Layer	(10/ March /2021)	(23/ August /2021)	89,366,765	79,788	1,120
5 th Layer	23/august/2021	(6/ January /2022)	87481.115	94.714	0.92
6 th Layer	(6/ January /2022)	on-going			

2.3 Daily Coverage of Waste

The construction of Al-Fukhary Sanitary landfill resulted in excavation of 1,350,000 m³ 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 m³, so that the clay volume used for the daily cover in the reporting period is 16779 m³.

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 (NO₃) 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 10400 m³. The leachate is pumped automatically. The leachate are treated biologically by aeration before sending to the adjacent WWTP for additional treatment .

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 m³. The collected stormwater is used for irrigation of green areas inside the landfill site, and for dust control inside the landfill .

During the reporting period, the quantity of leachate pumped to the leachate lagoon is 6619 m³ with a monthly average 1103 m³/month. Table (7) shows the monthly pumped volumes of leachate. Also joint service council start to pumped the treated leachate to the WWTP from 1/10/2022 , the quantity of treated leachate pumped was 2,292 m³ .

Table 5. Leachate Volumes at Al-Fukhary site

Month	July	August	September	October	November	December	Total (M ³)	Average (M ³ /month)
Volume	952	925	1912	1276	952	602	6,619	1,103

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 102 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).

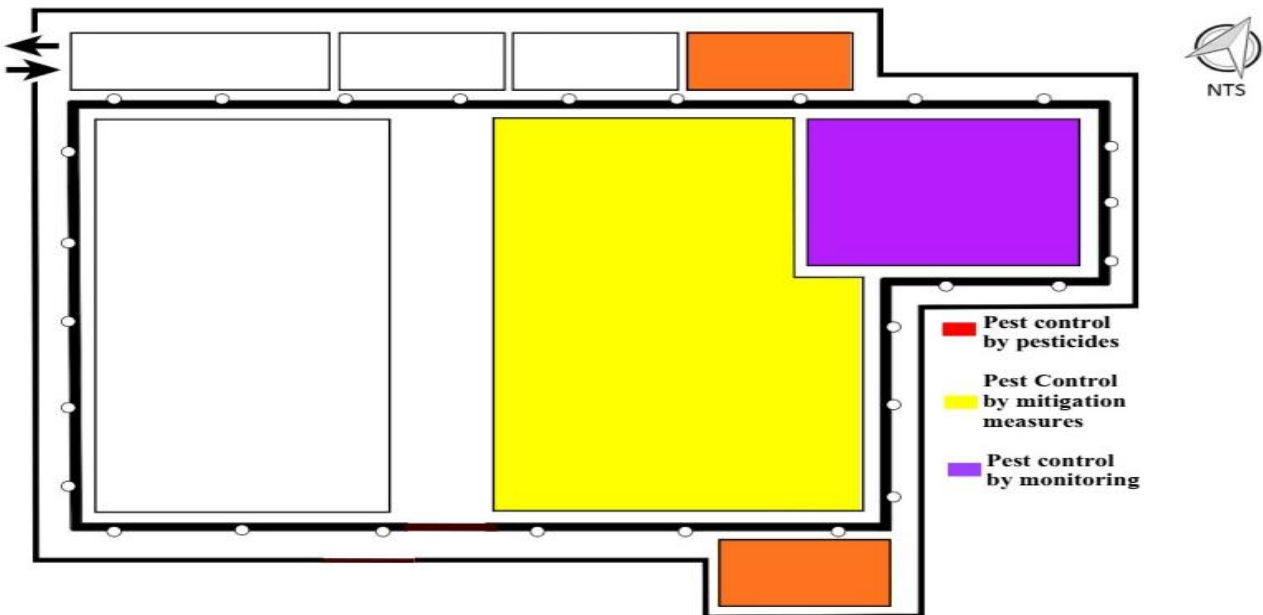


Figure 3. Levels of pest management at Al-Fukhary (Sofa) Sanitary landfill

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 August, 2022, JSC-KRM landfill workers and guards collected 3 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) 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 logo on the left and menu items: JSC-KRM, Municipalities, Projects, Activities, Media Center, Complaints (highlighted), and Contact Us. Below the navigation bar, the form is divided into two main sections. The left section contains input fields for 'Full Name', 'Mobile', and 'Email'. Below these is a blue header for 'Complaint Information', which includes a 'Complainant' field, a 'Select Type of Application' dropdown menu (currently set to 'AlFukhari Landfill'), a list of complaint types with checkboxes, and a 'Details' section with a 'Type Here' text area. The right section, titled 'Council facilities', lists three departments: '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 (1st July 2022 - 31th December 2022)

Type	Complaint Title	#
1 Collection Services from Containers	1. Rubbles and sands in the container	24
	2. Burning the containers and the wastes	10
	3. Littering wastes around the container	13
	4. Random waste collection point	1
	5. Containers need maintenance or replacement	1
	6. Request to move container from place to place	0
	7. Request a new container	0
	8. Delays on evacuation the containers on time	1
	9. Collection workers violating safety measures	0
	10. Odors from waste containers	0
	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	0
	3. Al-Fukhari Landfill fire accident or Gas emissions	0
	4. Change in the characteristics of groundwater wells	0
	5. High speed of the vehicles in the road to the landfill	0
	6. Solid waste trucks without coverage in Sofa road	1
	7. 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



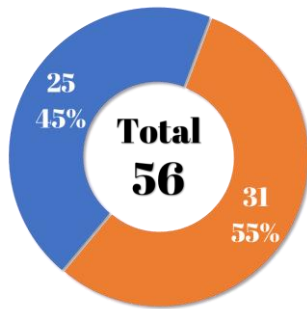
	2. Medical Waste in the secondary collection container	2
8 Invalid Complaints	1. Complaints related to primary collection services and referred to the municipalities (not related to JSC-KRM services)	31
Total		56

Table 9. The distribution of the received complaints by channels & location (1st Jan 2022 - 31th May 2022)

GRM Active Channels	No.	Location of Complaints	No.
1 E-Complaints System (Website)	2	1 Khan Younes	18
2 Phone Calls	0	2 Deir Al-Balah	27
3 Awareness Team	0	3 Al-Nusirat	5
4 Waste Collection Workers	53	4 Bani Sohila	3
5 Facebook page	1	5 Al-Fukhari	2
Total	56	6 Al-Qarara	1

Table 10. Numbers of received complaints by types, and status (1st January 2022 - 31th May 2022)

Status of Complaints	No.	Type of Complaints	No.
1 Solved and Closed	25	1 Collection Services from Containers	50
2 Referred to the Municipalities	31	2 Al-Fukhari 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	4



■ Solved and Closed ■ Referred to the Municipalitie



2.11 Stakeholder Engagement and Communication Activities

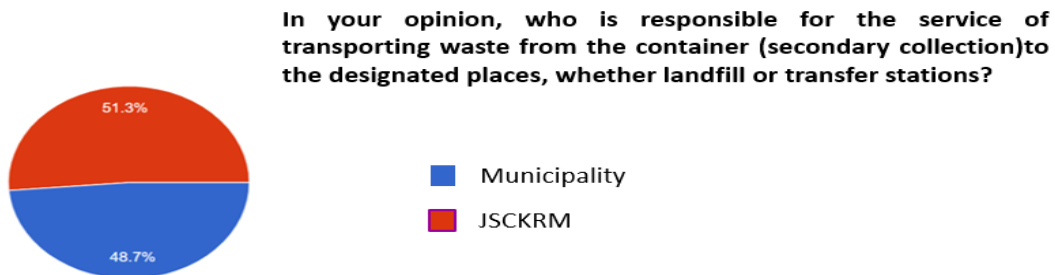
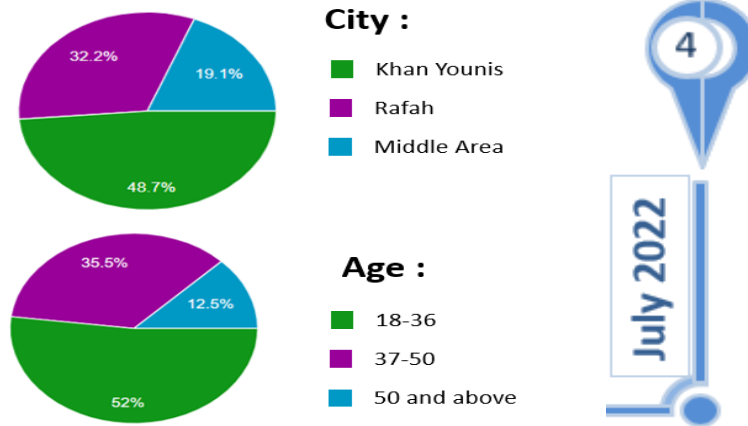
This section shows the progress regarding the indicators of stakeholder engagement and wider communication activities during the report period as follows:

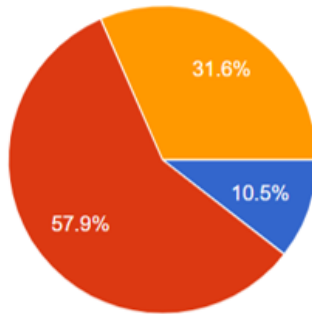
2.11.1 Female project beneficiaries aware of solid waste management practices

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

Action 1 || Conduct a short survey

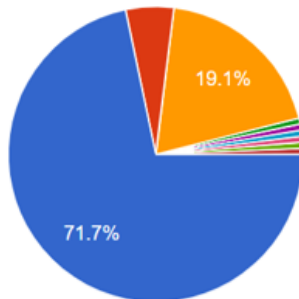
- This survey was conducted in three areas to measure *female knowledge about solid waste management*.
- Where the questionnaire targeted 150 women at the level of the three governorates (Khan Younis, Rafah, Middle area) to measure women's knowledge of solid waste management and in order to strengthen the unity of women in the council.





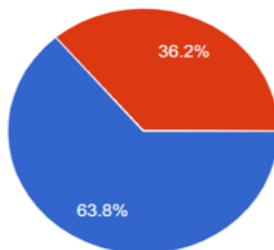
How satisfied are you with the solid waste management services provided in your neighborhood?(such as the waste containers, their number is sufficient, their geographical location is close and easy to reach,..)

- Not Satisfied
- Satisfied but need improvement
- Completely satisfied



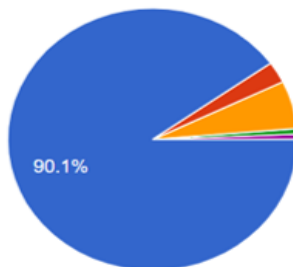
Where do you go to register a complaint if you have a problem with solid waste?

- Municipality
- JCKRM
- I don't make a complaint
- Communicating with the janitors



Did you know that medical waste disposal methods from clinics and hospitals have disposal procedures that differ from ordinary household waste disposal methods?

- Yes
- No



If you know that the process of sorting waste will benefit many families by providing job opportunities in recycling, in addition to reducing the amount of waste, Will you voluntarily agree to separate household waste before taking it outside?

- I will be very cooperative and encourage my family and friends.
- Not interested, I will just collect waste in only one bag
- Maybe but for a short period of time

Action 2 || School Outreach Program

- Targeting 45 schools as part of the awareness program in the three governorates. The school's Awareness program focuses on waste management, reduction, and sorting "3Rs Model".
- Providing a school with colored containers for sorting waste.



- The council also received a high-level delegation from the Ministry of Education and Higher Education, which includes the delegation of health and environment directors in the directorates of the Gaza Strip governorates to enhance joint cooperation between the ministry and the council.





Photos: Different photos from different schools during The school’s Awareness program

Action 3 || Households Outreach Program

- The awareness team of JSC-KRM has worked on a daily basis in household program in Middle area and Khan Younis governorate (June 2022- December 2022).

Area	# of houses	Women	Men
Khan Younis	4820	6200	2350
Middle	3025	4430	1780
Total	7845	10630	4130



Photos.: Household field visit in the targeted areas

- Starting Awareness Campaign at Alamal neighborhood in Khanyounis includes :
 - ✓ Targeting all residential unit in this neighborhood and educating its residents on the importance of sorting organic and inorganic waste. (Through field visits with distributing the educational awareness brochures).
 - ✓ Providing two colors of plastic bags to sort the organic waste and inorganic waste in the targeted neighborhood.



Photos.: The Awareness Campaign in Alamal neighborhood



- 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 Allinsan Palestinian Association, as well as the engineers syndicate.
- The discussed topics: Waste reduction, Disposal practices, Complaints system “GRM”, Financial stability of JSC
- In all field visits, the council’s team presents an overview of the council's operations in the landfill and the other facilities, also JSCKRM presents an educational presentation about the proper solid waste disposal practices. The type of educational and awareness materials varies depending on the target audience, which can include children, university students, and others.

No. of CBO/Neighborhood	Place
18	The three governorates



Photos: The educational session, entertainment day and the field visit to Al-Fukhari landfill, by Different NGOs



Photo : A delegation from the Environmental Quality Authority with a delegation from the Islamic University were hosted by JSC on a field visit to the Al-Fukhari landfill .



Photos : from Different NGOs Field visits to AlFukhari Landfand fill

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 will receive trainings about JSC-KRM services, and the benefits accrued to the beneficiary population under GSWMP.
- JSC-KRM will conduct regular meetings and consultations with this committee.
- All recommendations taken by this committee will be discussed with the JSC executive director.



- A representative of the female group will participate in the JSC Board of directors' meetings.
- Observe needed actions/ roles that may enhance the work of JSC to be officially required.
- Increase the level of awareness and learning for women with regard to solid waste management practices through a developed action plan.

Action 1 || Women's Committee Activities

- They are required to coordinate with awareness team in households outreach program, and NGOs outreach program.
- They provide the JSC KRM team with a monthly complaints report.



Action 2 || A Representative of the female group to attend official JSC board meetings and other important meetings





- JSCKRM Board of Directors Participation in the 16 -day event to combat violence against women



2.11.3 Improved Citizen Satisfaction with JSC-KRM Performance (CE).

Action 1 || Interviews and field visits to the residents of the neighborhoods adjacent to the council's facilities (Al-Fukhary landfill, Rafah transfer station, and medical waste treatment unit)



Photos : The Executive Director of the council personally attended certain field visits to hear residents' comments also to observe their satisfaction level.

Action 2 || Publish Videos targeting the results of survey

- Communication material is planned to be designed and published after finishing the tender procedures.
- Produce and publish (15) short videos.
- Sponsor advertainments with a reach of (5000) person/month.
- Design and publish (8,000) posters/brochures.



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 7. 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 التشغيل¹

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	

¹ 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. تم العمل على فحص المياه الجوفية في 4 آبار حول مكب النفايات في شهر مارس، وسيتم نشر النتائج على موقع المجلس الإلكتروني بشكل منفصل.	اجراء فحص لجودة المياه الجوفية والسطحية بشكل دوري	
المكب مؤمن بسياح من جميع الجهات ويوجد كاميرات مراقبة. لا يسمح بدخول غير المصرح لهم بالدخول، ولم يلاحظ أي سرقة للعصارة من الموقع.	تأمين الموقع بسياح ومراقبة المكب بالكاميرات ومتابعة عدم تسرب العصارة	
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

