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State of Palestine

JSC TODAY

Directorate of Joint Service Councils, Ministry of Local Government and Japan International Cooperation Agency

The Project for Capacity Development in Solid Waste Management in Palestine Phase-III

The aim of this Newsletter is to discuss the news and activities of MoLG-JICA Technical Cooperation Project for Capacity Development in Solid Waste Management in Palestine - Phase-III (CDSWMP-III), which is implemented by the Ministry of Local Government (MoLG) and supported by the Japan International Cooperation Agency (JICA) and contribute to the awareness raising process for the Joint Service Councils (JSCs), Local Government Units (LGUs) and citizens

INAUGURATION REMARKS FROM MOLG MINISTER



Ministry of Local Government (MoLG), as a leading agency representing the Palestinian Government, in supervising the management of Municipal Solid Waste sector with Joint Service Councils (JSCs), are facing a group of challenges, directing all possible national and international resources to develop the service performance of providers and elevating this sector to a better level in comparison with the previous years. However, there are still many obstacles and challenges are treated within the current capacities of all related partners in parallel, starting with legal frame updating, especially related laws and bylaws for 3Rs policies and practices (reduce, reuse and recycle) and waste incineration through piloting waste-to-energy in the northern part of West Bank, to be disseminated to all Palestine in case of success. In addition to activating 3Rs pilot projects, funded by Japan International Cooperation Agency (JICA), for recycling the different components of municipal waste, such as cardboard, plastic and the most important and largest component of organic waste to produce compost, added to the improvement of collection and transfer system, through Japan Grant Aid Project, and other donors funded projects.

On the other hand, MoLG is proceeding in supporting and ensuring the efforts for solving the disposal issues by expanding or rehabilitating existing sanitary landfills, while trying to establish Rammoun Landfill in the middle of West Bank.

Moreover, other types of waste are getting more attention by the Palestinian Government, especially the infectious waste, C&D (Construction and Demolition) Waste and recyclable materials.

Eng. Majdi Al Saleh
Minister of Local Government

STIRRING REMARKS FROM THE CHIEF REPRESENTATIVE OF JICA PALESTINE OFFICE



On behalf of JICA, I would like to express our sincere appreciation of the ongoing effort led by MoLG to develop, strengthen and sustain the Solid Waste Management (SWM) system and services in Palestine, and all actors concerned including the JSCs, the LGUs, the National Team, and many development partners. JICA is proud to be one of the long-term development partners in this effort: Our partnership with the Palestinian Authority in the sector has now exceeded 20 years. This also represents the continued high level of support from the people of Japan for the people of Palestine.

At the moment, JICA is supporting the effort through a grant worth approx. USD 15.9 million to MoLG, with which the equipment to enhance the efficiency of SWM services are being procured for the use across West Bank and Gaza. In addition, through the current phase of the technical cooperation project "the Project for Capacity Development in Solid Waste Management Phase III", JICA is working with MoLG towards the establishment of a sustainable SWM system with emphasis on waste reduction and the promotion of 3Rs: Reduce, Reuse and Recycle. This includes support of the formulation of new legislations and a National Waste Reduction Program. It also includes support for JSCs to develop their own waste reduction plans, and some pilot projects to test workable systems to reduce waste. In addition, the Project includes a component on infectious waste management against the backdrop of the spread of COVID-19.

This partnership joins many ongoing efforts in Palestine to realize a more sustainable and green way of living. With the combined efforts of all parties and with the active participation of the people of Palestine towards this goal, we hope that the beautiful nature and environment of Palestine will be sustained for future generations.

The prosperity of a society is driven by its people. JICA's technical cooperation puts emphasis on supporting the process of building capacity of the people whom we work with. Our partnership with MoLG and JSCs goes on for over a decade, and I see confidence and pride in their faces, as they accumulate experiences, and as the systems they have established are getting stronger and better. New people have also joined the efforts, who are as much motivated and eager to contribute as the colleagues who have been with us for many years. We are looking forward to seeing that the renewed efforts of the 'Team SWM Palestine' will achieve what has been planned and more.

Toshiya Abe
Chief Representative
JICA Palestine Office

THE CURRENT DISPOSAL OF MUNICIPAL WASTE

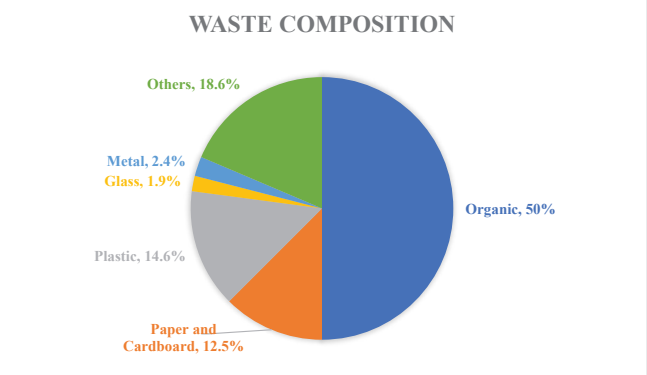
The municipal waste generation rate in Palestine is Averaged Between 0.65-0.83 kg/capita/day, as estimated, where a part of collected municipal waste is weighed, almost two thirds of collected municipal waste is sanitary landfilled in Zahret Al-Finjan, Al-Minya, Al-Fukhari, Juhor ad Dik, Jericho and Beit Enan sanitary and controlled landfills, while other collected quantities are randomly dumped without weighing; negatively affecting environment and health, without any measures, due the delay of establishing the sanitary landfill at the middle of West Bank – Palestine, resulting in use of about 84 random dumping sites, added to the random dumping of C&D waste all over Palestine.





The Daily Coverage of solid waste in Sanitary Landfills

In general, the total generated municipal waste in Palestine, is estimated by around 3600 ton\day, of which more than 50% is organic waste, to be considered as important resource of composting, and a potential for major waste reduction, through reducing the final disposal volumes, in both sanitary landfills and random dumping sites.



Some studies showed that 14% of municipal waste are plastic, 12% of paper and cardboard. These percentages with the organic waste accumulate about 75% of total generated municipal waste, of course most of other remaining components are recyclable too, i.e., glass, metals and others.

We need to focus on utilizing these resources; especially through involving private sector in Palestine, enhancing the central government role by encouraging investment in this sector, due to its importance impact on environment, health, economic and social aspects of life.

In this regard, MoLG supported by JICA, is preparing for the implementation of a group of pilot projects for recycling these types of waste in West Bank and Gaza Strip, in partnership between JSCs and private sector, seeking to implement successful pilots for dissemination and attracting more involvement of private sector.

Mr. Suleiman Abu Mufarreh
Project Manager (PM)
General Director - DJSC – MoLG

LEGAL FRAMEWORK OF SWM IN PALESTINE

Waste overview:

In 2019, Palestinians had produced about 3,900 tons of solid waste per day, or nearly 1.4 million tons in one year, which is approximately equivalent to 0.8 kg/person/day (0.9 kg/p/d in the West Bank, and 0.7 kg/p/d in Gaza Strip). These numbers, which include East Jerusalem, are expected to increase by approximately 4% annually, due to population growth and current consumption patterns. About 65% of municipal waste is disposed in sanitary landfills, while the remaining quantity is disposed in dumpsites, most of them are random/illegal, which is considered as a pollution constant cause of Palestinian environment.

Sectors in charge of SWM and their main activity:

Sector	Main activity
1. National Government Departments of Environment: MoLG, Environment Quality Authority (EQA), Palestine Standards Institution (PSI), Ministry of National Economy (MoNE), Ministry of Health (MoH), Ministry of Agriculture (MoA), Ministry of Finance (MoF)	• Develop policies and legislations for 3Rs Promotion (3Rs guideline). • Conduct public awareness and campaigns at the national level. • 3Rs Monitor activities implemented by LGUs and other stakeholders. • Collate and share good practices and lessons learned among stakeholders (through workshops, seminars, websites, etc.).
2. JSCs and LGUs	• Integrate 3Rs practices into current SWM system. • Develop 3Rs-related regulations. • Implement, promote and monitor 3R activities (conducting public awareness and environmental education).
3. Private Sector (Businesses)	• 3Rs activity at hotels (composing, recycling, etc.). • Glass bottle, plastic bottle and aluminum cans collection for recycling.
4. Community	• Cooperate with JSCs and LGUs by participating actively in 3Rs activities.
5. Others (NGOs, etc.)	• Cooperate with the JSCs and LGUs by participation in 3Rs activities.

SWM in West Bank and Gaza Strip is regulated by several laws, reflecting the National Strategy and Waste Management Policy of the Palestinian Authority. The most important policy documents and laws are as follows:

- The National Strategy for Solid Waste Management in Palestine (2017-2022).
- The Environment Sector Strategy (2017-2022).
- The National Development Plan (2014-2016).
- Municipal and Local government Law or Local Authorities Law No. 1 (1997).
- Joint Services Councils (JSCs) Bylaw (2016).
- Environmental Basic Law No. 7 (1999, revised in 2003).
- Palestinian Environmental Impact Assessment Policy (2000).
- Palestinian Law (2003).
- Public Health Law No. 20 (2004).
- Medical Waste Management Bylaw (2012).
- Law on the Encouragement of Investment in Palestine Law No. 1 of (1998), amended in 2004, 2011 and in 2014 (decree No. 7 of 2014).
- Solid Waste Management Bylaw.
- Construction and Demolition waste Bylaw, as well as a Guideline Manual on Construction and Demolition Waste (C&D).
- Hazardous bylaw (draft).

Due to the steady increase in the quantities of waste produced, in addition to awareness it is necessary to work on the preparation of Bylaws and regulations to reduce the quantities of waste and work to enforce it.

Policies, regulations and laws that need to be prepared and formulated in order to establish the national policy to reduce solid waste:

- Extended Producer Responsibility (EPR).
- Promotion of public-private partnership.
- 3Rs promotion bylaw.
- Individual recycling rule, guideline.
- Separated collection and sorting rule.
- Pay-as-you-throw (PAYT) system.
- Green procurement bylaw.
- Deposit/refund system.

Eng. Muhammad Barghouthi
Specialist on Institutional Development/CDSWMP-III
Japan International Cooperation Agency (JICA)

WHAT IS ZERO WASTE INITIATIVE?

Zero Waste is defined as the conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land or water that threaten the environment or human health (based on the definition given by Zero Waste International Alliance, 2018; http://zwia.org/).

The Zero Waste Initiative is a movement to work at the municipality and community level with the aim of realizing the Zero Waste. Firstly, Canberra City, the capital of Australia, stated Zero Waste Declaration, a number of cities followed the movement. Currently, a number of local governments and communities around the world have issued the Zero Waste Declaration or Policy and are working on it.

The Zero Waste concept refers to waste prevention as opposed to conventional one-way solid waste management, such as waste generation, collection, and disposal. Zero Waste encompasses more than Reducing waste through Recycling and Reuse, which can be recognized that the 3Rs have been expanded to the entire society for the realization of SDGs Goal 12 (responsible consumption and production). Zero Waste provides guiding principles for continually working towards eliminating waste. Strong public awareness on waste problems and environmental protection is the key factor. Appropriate government regulations are needed to promote the cooperation with people as well as industries. In many countries, intensive **material recycling** and **organic waste** composting are the pillars of Zero Waste Initiative. Yet its impact goes beyond these approaches, to the contribution of the waste management sector to the wider business and economy.

In January, JICA Tokyo Center organized an online Webinar of the Knowledge Co-Creation Program (KCCP) on Recycling Policy, and Project Manager, Institutional Development Specialist, and Waste Reduction Specialist attended from the Project. They exchanged ideas with the officers and NGOs of Kamikatsu Town of Japan, 1,580 inhabitants in some 800 households gathered into 55 communities of various sizes, which is the first municipality in Japan to promulgate a Zero Waste policy. Actually, under the policy intervention, the Kamikatsu residents are sorting their generated waste into 45 types in 13 categories and managed to recycle and composting by themselves. Then, more than 80% of generated waste have been continuously recycled/composted, which is the top record of recycling rate in the world.

Our Project colleagues attended the Webinar, commented that it is worth to be considered for introducing the Zero Waste Initiative and applying intensive recycling/composting in municipalities or villages in Palestine, which can contribute drastic reduction of the waste amount flowing into landfills.



The Zero Waste center, Kamikatsu, Japan (photo by Dr. Yoshida, 2020)

Dr. Mitsuo Yoshida
Chief Advisor/CDSWMP-III
Japan International Cooperation Agency (JICA)

OUTREACH REPORT OF THE PROJECT

Five Papers have been published in International E-Conferences

Our Project is supported by Palestinian and Japanese peoples and is also supported by the international community. Therefore, it is required that the results of the Project be disseminated not only within Palestine but also widely to Japan and the world, which is a Project Outreach activity. We have made a lot of achievements in the preceding Technical Assistance Project Phase-II (2015-2019). Some of these achievements need to be widely published from a scientific & technical point of view. In the process of summarizing the achievements, we can also gain a deeper understanding of our attainments and let people around the world know about the situation in Palestine.

Such an opportunity can be obtained by presenting the results of the Project as a presentation at international conferences. In September 2020 and January 2021, international e-conferences called International E-Conference on Advances in Engineering, Technology and Management (ICETM) organized by the Institute of Research Engineers and Doctors (IRED), New York. Based on the results of the Phase-II Project, the following five papers have been published by the members of our Project:

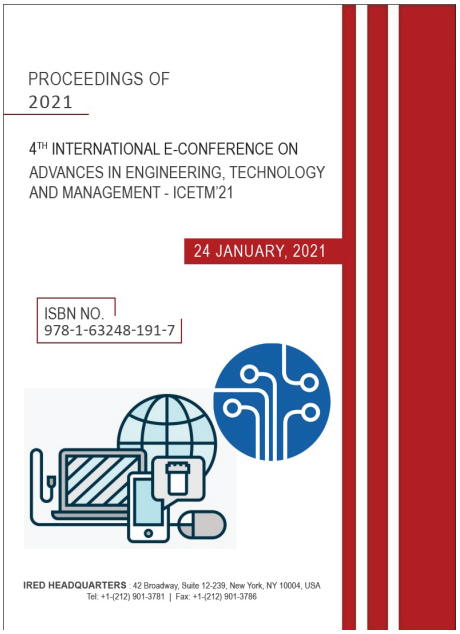
Suleiman Abu Mufarreh and Mitsuo Yoshida (2020) "National Solid Waste Management Strategy and Challenges for Waste Minimization in Palestine." Proceedings of the 3rd ICETM, p. 49-55.
www.seekdl.org/conferences/details/342.html

Ziad Tawafsheh, Mitsuo Yoshida and Suleiman Abu Mufarreh (2021) "Waste Reduction through Promoting Public-Private Partnership Projects for Material Recycle in Palestine." Proceedings of the 4th ICETM, p. 18-24.
www.seekdl.org/conferences/details/343.html

Yousrea Ramadan and Yasumasa Tojo (2021) "Environmental Auditing of the Solid Waste Sanitary Landfills in Palestine." Proceedings of the 4th ICETM, p. 108-114.
www.seekdl.org/conferences/details/343.html

Nisreen Hamad, Mitsuo Yoshida and Suleiman Abu Mufarreh (2021) "Construction and Demolition Waste and its Management in West Bank, Palestine." Proceedings of the 4th ICETM, p. 131-137.
www.seekdl.org/conferences/details/343.html

late Abdel Jabbar Abu Halawa, Suleiman Abu Mufarreh, Mitsuo Yoshida, Yousrea Ramadan, Mohammed Isayed (2021) "Recycling Agricultural Organic Waste as Reducing Waste and Generating Income in Jericho City, Palestine".
www.seekdl.org/conferences/details/343.html



The cover page of Proceedings of the 4th ICETM

Presented papers have been published in the open access IRED Seek Digital Library. If you are interested in the contents, please visit the Library web sites (above Links), where you can find our Project papers and also various papers over the world. It is expected that the results of the Project Phase-III will be also published on such an international stage in future.

Dr. Mitsuo Yoshida
Chief Advisor/CDSWMP-III
Japan International Cooperation Agency (JICA)

Mr. Suleiman Abu Mufarreh
Project Manager (PM)
General Director - DJSC – MoLG

BASELINE SURVEY QUESTIONNAIRE ON SWM

It is important to measure the level of public knowledge on SWM and compare the results time to time in order to know what the residents are thinking and how their mentality has changed or not changed according to our activities. During

the first phase of the Capacity Development Project in SWM; a baseline survey questionnaire is distributed among the residents of Palestine in West Bank and Gaza Strip via two methods; the first method is through online web survey and the second method is through direct interviews to the residents with strong support from JSCs.

The baseline survey included four sections that were used as key indicators that reflect on the general idea about SWM topics. These sections are: General information of the respondent's status, General knowledge about the SWM sector including terminology, the financial section that included questions about the billing system and the level of willingness to pay of the residents for their SWM bills and finally; the public awareness activities and how the public receive information about different terminology in SWM. Total participation number in the questionnaire was 768 answers.

The analysis of the results are divided into quantitative and qualitative analysis; 54% of the population are willing to separate their waste which is crucial in the 3Rs strategy (Fig.1), 47.3% of the people are thinking that they can pay up to 40 NIS/month to have the 3Rs (waste reduction, reuse and recycling) practice. Level of satisfaction of people about the service provided (Fig.2) is almost 70% and they indicated that their neighborhoods are quite clean and 24% indicated that they participated in neighborhood cleanup campaigns, in addition to those composting activities were known to about 10% of the surveyed public. Despite the above information, the 3Rs system is not being implemented by the service provider and the level of involvement of the public in SWM activities is minimal and 52% of the surveyed public have never participated in any SWM activity, although there is some experience in waste separation through informal private sector. On the other hand, 53% of the 353 people who answered that they are participating to activities has joined to neighborhood cleanup. Composting (24%), Separation of the wasted material (11%). Finally, 62% of the surveyed public indicated that the best way to receive knowledge about any SWM issue or activity is via social media networks, following that through campaigns/ activities with 48% of the answers. The project CDSWMP-III is utilizing social media (Facebook page "JSC Today": https://www.facebook.com/Jsctoday/) as one of Public Awareness tools.

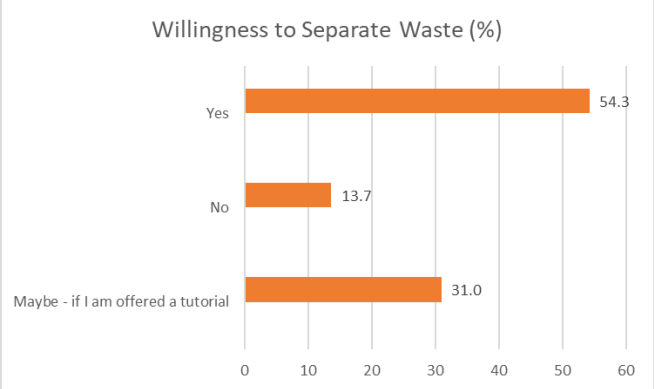


Figure 1: Willingness of the public to separate their waste (it can be shown that the majority of the people are willing to separate their waste but a tutorial is crucial to figure out what type of waste shall be grouped together)

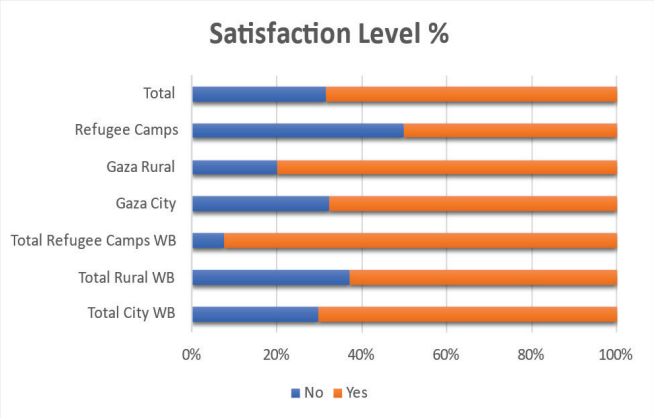


Figure 2: Level of Satisfaction of the public on Solid Waste Management Activities

This survey is still continuing with more collaboration from JSCs. The results shall be used as a tool for analysis and for formulating strategies related to SWM and shall serve as the baseline for measuring the impacts of future campaigns, laws and regulations on the public perception on SWM.

Ms. Reiko Shindo
Project Coordinator/CDSWMP-III
Japan International Cooperation Agency (JICA)

Eng. Ula Aboudi
Specialist on Awareness Raising for 3Rs Strategies-Policies/CDSWMP-III
Japan International Cooperation Agency (JICA)

MESSAGES FROM PROJECT MEMBERS AND EXPERTS

The National Team for SWM Strategy in Palestine, headed by MoLG, and the membership of 8 governmental institutions, including Ministry of Education (MoE), Ministry of Agriculture (MoA), Ministry of Health (MoH), Ministry of National Economy (MoNE), Ministry of Finance (MoF), Environmental Quality Authority (EQA) and Palestinian Water Authority (PWA), in addition to a representative of the Prime Minister Office as a team secretary. This high-level of coordination enables MoLG to develop the National Strategy with a comprehensive vision and a group of policies with a detailed intervention for each national partner.

I would like to thank you all for your valuable contributions and follow up for supporting the implementation of this important strategy; especially after your help in visualizing the achievement level. It has been four years since the approval of this strategy; MoLG, supported by JICA, is now reviewing the achievement level, so we can start preparing for the next strategic term (2023-2027). The down attached table shows the related 96 interventions for each partner, under different 19 policies - considering the ambitious current strategy - we need together to assess the implementation level and carefully design the new strategy to meet the huge challenges facing the solid waste sector in Palestine, including institutional, technical and financial aspects, where the public awareness and the activation of 3Rs practices are urgently needed, seeking to a sustainable SWM system in Palestine.

Thank you, my colleagues, for your efforts!

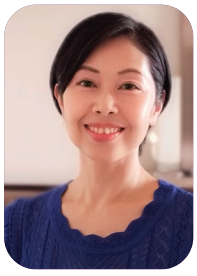


Dr. Tawfiq Al-Budairi
Project Director (PD)
Deputy Minister of MoLG

I joined this Project as a Short-term expert of procurement in June and am now working remotely from Japan. I have never had a chance to connect to the field of waste management ever before. However, I became interested in it from a very unique opportunity. It was the time when I traveled in Osaka, one of the major cities in Japan, I came across a mysterious, indescribable building. Look at this picture.



What do you think this is? An amusement park? No, It's a waste incineration facility! As long as we live, everyone discharges garbage. Nevertheless, how many people consider waste disposal as their own issue? I think that this photo can be a good example to solve such problem. In fact, quite a few people (even if they were not interested in waste disposal issue) are attracted to its appearance, then visit and learn about the structure of the facility.

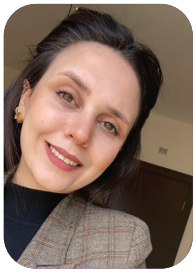


Ms. Yukako Akasaka
Procurement/Infectious Waste Equipment/Short-term Expert
Japan International Cooperation Agency (JICA)

I started working in the Technical Cooperation Project of JICA and MoLG at its third phase as a Waste Reduction Specialist. The goal of this Project is to achieve waste reduction at the national level. Of course, this means collaboration between many stakeholders; JSCs, Ministries, NGOs and community.

The field of waste reduction includes waste minimization at source, sorting and treatment of waste using suitable technologies to their composition. I work directly with JSCs under the collaboration with JICA experts, Project staff and members to help developing plans and activities to achieve waste reduction. I also facilitate pilot projects targeting many types of solid waste; plastics, cardboard and organics. In addition, I support to strengthen and promote technical knowledge on waste reduction measures.

I am very glad for this opportunity, which enables me to share and receive the knowledge and experience in the field of waste management and be part of the sustainable approaches regarding waste management and resources recovery.



Eng. Rawan Tayeh
Specialist on Waste Reduction /CDSWMP-III
Japan International Cooperation Agency (JICA)

I am glad that I have recently joined the SWM sector in Jericho and Jordan Valley region as an executive director of the JSC, where I had previously worked in Jericho municipality.

Since the beginning of our work, we have been facing several challenges. The most important of which is the lack of sufficient land to accommodate the increasing quantities of solid waste in the only sanitary landfill in the Jordan Valley, in addition to the accelerating urban growth in the area, which requires good planning and coordination in order to provide resources to collect and dispose solid waste in acceptable ways.

The challenges emphasize the necessity of integrating efforts aimed at reducing the volume of solid waste produced and transferred to sanitary landfills, which is not a long-term solution.

Therefore, raising awareness among citizens in addition to encouraging the private sector to invest in solid waste recycling and/or converting it into energy, so it becomes an investment opportunity and not a threat to the environment and public health.



Dr. Mohammed Isayed
Executive Director
Joint Council for Services, Planning and Development for Solid Waste Management in Jericho and JRRV

First of all, Gaza and North Gaza JSC, represented by its Board of Directors and employees, would like to express their sincere gratitude and appreciation for all parties supporting the development of SWM sector in Palestine.

The service area of JSC GNG represents more than 54% of the population in Gaza Strip, with a population of approximately 1,150,000 and a daily waste generation of 1,100 tons, produced by 8 municipality members. The current political situation in Gaza Strip, represented by the blockade and the donors' delay in fulfilling their commitments in solid waste sector, had negatively affected SWM through the increase and expansion of random dumpsites, which constituted an environmental and social disaster. The JSC is continually cooperating with international experts in order to develop an updated master plan in GNG governorates, based on the SWM feasibility study in 2012 in Gaza Strip. The purpose of this master plan is achieving the JSC's objectives and improving SWM as follows:

- Closure of random dumpsites in an environmentally sound manner.
- Expansion and development of Juhor ad Dik Sanitary Landfill.
- Establishment of transfer stations in Gaza and North Gaza Governorates.
- Improvement of solid waste secondary collection.
- Reduction of waste quantity through public awareness programs and community participation, in cooperation with the private sector.

The JSC GNG's vision aims to improve and institutionalize a sustainable integrated SWM system, which can only be achieved through the cooperation between all stakeholders on local and international levels. We hope we can work together in order to preserve our society through a sound environmental SWM.



Eng. AbdelRaheem Abu AlQumboz
Executive Director
JSC GNG

For more information and comments

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