



Palestinian National Authority

**National Strategy for Solid Waste
Management in the Palestinian Territory
2010-2014
(Executive Summary)**

May 2010
Palestinian Territory



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The full English version of the strategy document and the Arabic Annexes are available on the CD.

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National Strategy for Solid Waste Management in the Palestinian Territory

(Executive Summary)

1. Introduction

This document is an executive summary of the “National Strategy for Solid Waste Management in The Palestinian Territory 2010-2014”, hereinafter referred to as NSSWM, which is the first cross-sectoral strategy for solid waste management (SWM) in The Palestinian Territory. It constitutes the reference point and strategic framework for all decisions, programs, activities, and medium-term investment plans, aiming at developing the SW sector in the next five years.

The NSSWM was issued by the Steering committee formed according to the Palestinian Ministerial Cabinet decision No. 53 of Year 2008. The document was produced and lastly endorsed by the Ministerial Cabinet on May 16, 2010, after wide consultation through a partnership process including Palestinian ministries and national entities, and in participation with other stakeholders involved in the SWM sector. The project was supported by the German Federal Government, through the German Technical Cooperation's (GTZ) Solid Waste Management Programme.



This strategy aims at setting the development path for the Palestinian SWM sector for the upcoming five years. The vision, strategic objectives and sectoral policies set by the strategy are aligned with the national development goals and the common vision for establishing a Palestinian State according to the 2009 plan: “Palestine — Ending the Occupation and Establishing the State”. The NSSWM aims at addressing key strategic issues, developing the legislative, organizational, technical and economical foundations needed to achieve an efficient and effective SWM system, in addition to reducing the negative health and environmental impacts of SW in response to priority issues and mid-term needs. This will pave the ground for the Palestinians to attain a more sustainable and integrated SWM and to ensure higher quality of life for the Palestinian citizens.

2. Methodology for strategy preparation

The strategy was drafted following effective participation of national institutions involved in the SWM sector. These included the Palestinian Ministry of Local Government, the Ministry of Health, and the Environmental Quality Authority, in addition to the Ministry of Industry, Ministry of Agriculture, Ministry of Planning, and the Palestinian Water Authority. The strategy was prepared in the following stages:

The preparatory phase

1. The document: “The General Framework to Prepare the National Strategy for Solid Waste Management in The Palestinian Territory” was approved by the Ministerial Cabinet in 2008
2. The document of the policy principles governing the NSSWM was prepared with the participation of ministries and national authorities presented in the technical team (Core Team) formed by the Steering Committee
3. Workgroups were formed for data collection and analysis of the current institutional, technical, and financial dimensions.

The strategy preparation phase

1. The study on the current status assessment of SWM in The Palestinian Territory was completed, with participation from workgroups and the Core Team. It included the different aspects of the sector, resulting in identifying the key issues.
2. The vision and strategic objectives were defined based on the results of the assessment of the current status and the key issues identified.
3. Strategic alternatives were studied and analyzed and policy directions were drafted.
4. Policies and strategic interventions were formulated based on the outcome of numerous workshops, meetings and discussions involving all concerned ministries and institutions.

The tasks of concerned leading parties in implementing the strategy were identified and the final drafting for the NSSWM was completed and endorsed by the Ministerial Cabinet on May 2010 under decree No. 13/49/05.

3. General background on the SW sector in The Palestinian Territory

The amount of solid waste produced in the Occupied Palestinian Territory is estimated, according to the Palestinian Central Bureau of Statistics, at 78,644 tons per month, with organic waste constituting about 80% of that amount. The average daily domestic SW production per household is 3.5 kg/day (3.9 in West bank and 2.7 in Gaza Strip), at an average rate of 0.6 kg/capita.day

The daily production rate of residential SW was estimated in 2009 at about 2,321 tons per day, based on data available from the Palestinian Central Bureau of Statistics. The amount of SW produced by healthcare centers was estimated at 1,202 ton per month and solid waste from industrial establishments was estimated at 7,807 ton per month.

The management of this SW is faced with many hurdles at the legislative, organizational, technical, environmental, and financial levels, especially in light of the lack of accurate national statistics on the SW produced. This resulted in difficulties in planning and decision making in relation to the SW sector. The Political reality of the Palestinian Territory adds yet another challenge, presented by the limited Palestinian control over land and resources. The Israeli practice of disposing of Israeli waste, including hazardous waste, in the occupied Palestinian land violates the Palestinian Environmental Law, Oslo accords and the international conventions. This has further aggravated the health and environmental impacts of the SW problem.

The SW issue has gained significant attention in recent years, not only due to its environmental implications, but also due to the social and economical consequences of this issue. The Palestinian government became aware of the level of the SW problem, and managed to take actions to promote and advance this sector. These actions include the passage of Local Authorities Law No. 1 of 1997, the Environment Law No. (7) of 1999, and the Public Health Law of 2004, which are the most relevant laws to SWM. This is in addition to other laws, such as the Investment Law, the Water Law, the Agriculture law, and other laws which are indirectly related, but of no less importance, to the SWM sector. The Palestinian government has also prepared regulation drafts, such as the SWM regulation and the medical waste management regulation, which are currently under study.

Other achievements made in the last several years, such as the launching of a number of regional sanitary landfills (Zahrat Al-Funjan landfill in Jenin, Jericho landfill in Jericho, and Deir-El-Balah (Gaza Strip), respectively), have contributed to limiting the health and environmental damage caused by the



random dumpsites, commonly spread throughout the Palestinian Territory. They also helped secure safe SW disposal services to a number of urban and rural communities in several governorates. A number of international donor entities have played a significant role in the development of SW sector, since the establishment of the Palestinian National Authority.

In general, the SW sector still suffers a number of problems, due to the lack of a strategic vision and the insufficiency of legislative, organizational, and institutional frames for the management of the SW sector. These shortcomings in planning and insufficient funding over the last years obstructed key infrastructure-development and facility-building projects. This is particularly true at the level of the local authorities, which are usually at most disadvantage in securing funding and building capacity. Ultimately, it was not possible to take the needed actions to guarantee the elimination of health and environmental impacts of SW and to optimize the use of available resources.

The shortcomings in developing integrated SWM systems in The Palestinian Territory have manifested themselves in other aspects of the management process as well. For example, SW reduction, treatment, recycling and reuse efforts of SW were largely limited to unorganized initiatives. This had consequences on the economical, social, and environmental aspects of the Palestinian quality of life.

To summarize, the Palestinian SWM file has been managed without paying enough attention to the social, economical, environmental, technical, and legislative aspects of relevance to this sector or the magnitude of resulting complications. These complications carry a high price tag should the status-quo be allowed to continue without change. This led the Palestinian government to declare this sector of national priority

4. Policy principles

The policy principles governing the NSSWM are:

- The principle of sustainable SWM, which ensures optimal use of resources and protection for the environment.
- Clarity of roles and responsibilities and the separation between regulatory, monitoring, and executive duties.
- Facilitated availability of information and its transparent exchange among parties involved
- Transparency of institutional, financial, monitoring, and administrative systems
- The principle of partnership based on integrity and clarity of roles of the various parties
- Recognizing the importance of the private- (formal and informal) and non-government sectors
- Recognizing the vital role of local community and the importance of citizen's participation in SWM
- Transparency in dealing with citizens' complaints
- The principles of "polluter-pays" and "producer-pays"
- The principle of self-funding and providing services at reasonable cost
- The principle of "economy of scale" in planning and developing SW services
- The gradual implementation of initiatives, technologies, and new models in the fields of SW reduction, treatment and recycle.
- Creating incentives to encourage successful initiatives and practices
- The compatibility of technology and equipment used in SWM to local conditions
- Penalty system against parties that do not adhere to the appropriate procedures in dealing with SW

5. Assessment of current status and key issues

The assessment of the current status of SW sector in The Palestinian Territory, which was detailed in the appendix of the strategy document, resulted in the identification of the following key issues:

Institutional issues

- Lack of effectiveness and update of the legislative framework governing the SWM sector
- The need to develop specifications and standards for various stages of SWM
- The ambiguity of general institutional arrangements for SWM and the overlap and conflict in roles and authorities
- Insufficiency of financial, human, and organizational capacities of institutions involved in management of the SW sector
- The absence of a comprehensive system for authentication and analysis of data and the insufficiency of monitoring and evaluation systems
- Limited participation of the private sector in SWM
- Insufficient public awareness in SWM issues and weakness of participation mechanisms

Technical issues

- The need to increase the efficiency of SW collection and transport operations
- Closure or rehabilitation of random dumpsites to avoid their environmental, health, and aesthetic impacts
- Limited initiatives and expertise in the areas of waste minimization, reuse, and recycle
- The need for effective management of medical waste
- The need for appropriate mechanisms to collect and treat special wastes
- Insufficiency of legal, organizational, and institutional frameworks for handling hazardous waste
- The limited experience in minimizing gas emissions from landfills or in recycling these gases to reduce their greenhouse impacts, thus gaining credit using the carbon trade mechanisms



Financial issues

- Dependence on external funding to cover SMW running costs of investment and multiplicity of funding channels
- Inadequacy of current financial systems to provide needed financial data
- Inability to recover SWM costs threatens service sustainability

6. The National Strategy for Solid Waste Management in The Palestinian Territory

The Vision:

“Integrated and sustainable management of solid waste that contributes to achieving economical and social benefits to the Palestinian people”

National strategic objectives:

| | |
|-----------------------------------|--|
| Strategic Objective One: | An effective legal and organizational framework for SWM |
| Strategic Objective Two: | Strong and capable institutions |
| Strategic Objective Three: | Effective and environmentally-safe management of SW services |
| Strategic Objective Four: | Financially viable and efficient SWM services and activities |
| Strategic Objective Five: | Principles and mechanisms suitable for managing medical, hazardous, and special wastes |
| Strategic Objective Six: | Increasing the participation of the private sector |
| Strategic Objective Seven: | A more participating and aware community |
| Strategic Objective Eight: | Effective information and monitoring systems |

Sectoral policies:

Strategic Objective One: An effective legal and organizational framework for SWM

Policy (1): Development and update of the legislative framework supporting integrated SWM

Policy (2): Strengthening the organizational frame of national institutions and supporting their complementary roles in SWM

Strategic Objective Two: Strong and capable institutions

Policy (3): Establishing an integrated, coordinated, and sustainable institutional approach to support institutional capacity building in the SWM sector

Strategic Objective Three: Effective and environmentally-safe management of SW services

Policy (4): Developing the current management systems for SW collection and transport, in order to improve the quality and effectiveness of services and its availability to all citizens

Policy (5): Safe and efficient disposal of SW in regional sanitary landfills servicing all communities

Policy (6): Encouraging the reduction of SW quantities destined for landfilling

Policy (7): Prohibiting the use of random dumpsites and closing or rehabilitating the existing sites to limit their environmental and health risks

Policy (8): Reducing the amounts of green house gases (GHG) emitted as a result of SW activities

Strategic Objective Four: Financially viable and efficient SWM services and activities

Policy (9): Reducing the cost for SW collection and transport

Policy (10): Achieving cost recovery and self-financing for SWM operating costs

Strategic Objective Five: Principles and mechanisms suitable for managing medical, hazardous, and special wastes

Policy (11): Creating appropriate inventory and tracking systems for hazardous waste

Policy (12): Treatment of medical waste before its final disposal according to the “polluter pays” principle to limit its negative health and environmental impacts

Policy (13): Minimizing the negative health and environmental impacts of special waste

Strategic Objective Six: Increasing the participation of the private sector

Policy (14): Creating an enabling investment environment that encourages the private sector to participate

Strategic Objective Seven: A more participating and aware community

Policy (15): Promoting the partnership spirit and strengthening the alliance between service providers and the served communities to enhance the awareness of SW issues.

Strategic Objective Eight: Effective information and monitoring systems

Policy (16): Establishing a unified national database for SW and institutionalizing monitoring systems.

Strategic interventions:

The NSSWM identified a number of strategic interventions for each of the sixteen policies determined by the strategy. Table 1 illustrates the relationship between these interventions and their respective policies and strategic objectives.

7. Strategy implementation, monitoring and evaluation

The NSSWM has identified the roles and responsibilities of the institutions involved in implementing the strategic interventions. These interventions were approved by all involved parties in the final workshop of preparing the NSSWM. The key executing parties, identified in Table 1, are committed to executing the interventions in close coordination and collaboration with other relevant entities.

In order to implement the NSSWM within the next five years (by the end of 2014), action plans must be developed. The first of these plans must have a 3-year horizon, with detailed rolling up plans. These plans will identify the priorities of programs and activities and the detailed responsibilities of the executing institution and its partners. They will also identify the time frame and the needed funding according to an appropriate funding mechanism.

Mechanism and procedures for monitoring and evaluation must be determined by the action plans. The indicators (shown in table 2 of the strategy document) set forth by the NSSWM at the objectives, policies, and interventions levels provide the baseline for monitoring and evaluation. These indicators will determine the level at which the strategy has achieved its national goals and the level of achievement at the other levels.

Considering the complexity of fields and issues of SWM and their overlap with many other sectors, and in light of the absence of an exclusive responsibility for SWM to any of the many institutions and stakeholders involved in this sector within the Palestinian Territory, it is necessary to form an entity representing all key players in SWM. This entity (namely the National Team for the Implementation of the Strategy) will be in charge of supervising the execution of the NSSWM, while maintaining the responsibility of each partner institution for implementing their part of the NSSWM and the action plans. The involved parties have recommended the formation of the supervising National Team in the final workshop of the NSSWM formation, and several specific responsibilities were identified for this entity. These responsibilities include providing necessary guidance and measures that ensure adopting coordinated approach and appropriate mechanisms for monitoring and evaluation, and for revising and updating the NSSWM and the action plans, if needed, in light of political, social, or economical developments in the Palestinian Territory, while maintaining effective collaboration and coordination mechanisms among all involved parties.

Table 1: Strategic interventions and responsibilities of implementing parties

| Strategic Objectives | Policies | Interventions | Key executing party |
|--|---|--|---|
| An effective legal and organizational framework for SWM | Development and update of the legislative framework supporting integrated SWM | Establish a new integrated and updated regulatory regimes for SWM | Ministry of Local Government |
| | Strengthening the organizational frame of national institutions and supporting their complementary roles in SWM | Review and update of legal provisions in other laws in accordance with modern directions for SWM | Ministerial Cabinet |
| | | Form executive instructions for aspects of SWM | Each institute as involved |
| Strong and capable institutions | Establishing an integrated, coordinated, and sustainable institutional approach to support institutional capacity building in the SWM sector | Form an organizational frame clearing and defining the roles and responsibilities of national institutes involved in SWM | The supervising entity |
| | Developing the current management systems for SW collection and transport, in order to improve the quality and effectiveness of services and its availability to all citizens | Review and update existing organizational structural units of relevance within involved institutions and in accordance with the general organizational frame and feeding these units with sufficient human resources | Establish partnerships with local, regional, and international institutes specialized in SWM to exchange knowledge and expertise and conduct research and studies |
| Effective and environmentally-safe management of SW services | | Develop continuous (annual) plans and programs to build institutional capacity and expertise. | Ministry of Local Government |
| | | Develop a plan to expand serviced areas for collection and transport services to include all citizens. | Ministry of Local Government |

Table 1: Strategic interventions and responsibilities of implementing parties

| Strategic Objectives | Policies | Interventions | Key executing party |
|--|--|--|--|
| Effective and environmentally-safe management of SW services <i>(Continued)</i> | Developing the current management systems for SW collection and transport, in order to improve the quality and effectiveness of services and its availability to all citizens <i>(Continued)</i> | Transfer collection and transport services to Joint Service Councils (JSCs), especially where Local Authorities offer partial service coverage at a high cost Prepare a manual on development and operation plans for SW collection and transport Prepare development and operation plans for SW collection and transport by all municipalities and JSCs Develop a unified system to check and monitor effectiveness for SW collection and transport | Ministry of Local Government Ministry of Local Government Ministry of Local Government Environmental Quality Authority & Ministry of Health |
| | Safe and efficient disposal of SW in regional sanitary landfills servicing all communities | Develop standards for sanitary landfills and transfer stations Complete the establishment of Al-Minya sanitary landfill in Hebron district and expand its scope to service areas in Jerusalem Governorate until a dedicated landfill is established for the latter Complete the establishment of Rammun sanitary landfill in Ramallah governorate and expand service areas to serve parts of Salfit and Jerusalem governorates in the interim Prepare plans to establish new landfills in Jerusalem governorate and in Gaza Strip, including associated transfer stations Construct and operate at least one sanitary landfill in Gaza Strip Devise a national vision for SW disposal | Environmental Quality Authority Ministry of Local Government Ministry of Local Government Ministry of Local Government Ministry of Local Government Environmental Quality Authority |

Table 1: Strategic interventions and responsibilities of implementing parties

| Strategic Objectives | Policies | Interventions | Key executing party |
|--|--|--|---------------------------------|
| Effective and environmentally-safe management of SW services <i>(Continued)</i> | Encouraging the reduction of SW quantities destined for landfilling | Prepare a research study to identify opportunities and priorities for SW reduction and the needed implementation tools | Environmental Quality Authority |
| | | Prepare an incentives system for organizations and projects that aim at reducing and/or recycling waste | Ministry of Economy |
| | | Implement pioneering projects for domestic SW reduction and recycle, in collaboration with the private sector and disseminate the relevant experiences | Ministry of Local Government |
| | | Implement pioneering projects for agricultural SW reduction and recycle, in collaboration with the private sector and disseminate the relevant experiences | Ministry of Agriculture |
| | Prohibiting the use of random dumpsites and closing or rehabilitating the existing sites to limit their environmental and health risks | Implement pioneering projects SW reduction using clean production technologies in the industrial sector and disseminate the relevant experiences | Ministry of Economy |
| | | Prepare the general directives and standards for the closure and/or rehabilitation of random dumpsites | Ministry of Health |
| | | Prepare a national program for the closure and/or rehabilitation of random dumpsites to determine the closure priorities and allocate needed funding | Ministry of Local Government |
| | | Execute the closure and/or rehabilitation of 20 random dumpsites in the West Bank and Gaza Strip, according to the priorities of the national program | Ministry of Local Government |

Table 1: Strategic interventions and responsibilities of implementing parties

| Strategic Objectives | Policies | Interventions | Key executing party |
|--|--|--|---|
| Effective and environmentally-safe management of SW services (Continued) | Reducing the amounts of green house gases (GHG) emitted as a result of SW activities | <p>Evaluate the opportunities for participation in Clean Development Mechanism regarding the reduction of GHG emissions from regional sanitary landfills and finding the mechanisms to utilize the relevant international agreements</p> <p>Formulate standards to collect, treat, and use GHG emitted from sanitary landfills within the general standards for SW disposal</p> <p>Prepare a study to evaluate the options for the reduction of methane and carbon dioxide resulting from SWM (waste-to-energy, composting, recycling)</p> | <p>Environmental Quality Authority</p> <p>Environmental Quality Authority</p> <p>Environmental Quality Authority</p> |
| Financially viable and efficient SWM services and activities | <p>Reducing the cost for SW collection and transport</p> <p>Achieving cost recovery and self-funding for SWM operating costs</p> | <p>Prepare a guide for suitable technical, administrative, and organizational options suitable to reduce the cost for SW collection and transport</p> <p>Delegate the collection and transport services to the joint service councils, especially in local authorities that offer this service at high cost (see second intervention of Policy 1 of the third goal)</p> <p>Prepare a guide for the usable methods and alternatives to determine SW collection fees</p> <p>Develop a system that includes solutions and effective mechanisms for SW fees collection from users to cover costs</p> | <p>Ministry of Local Government</p> <p>Ministry of Local Government</p> <p>Ministry of Local Government</p> <p>Ministry of Local Government</p> |
| Principles and mechanisms suitable for managing medical, hazardous, and special wastes | Creating appropriate inventory and tracking systems for hazardous waste | <p>Prepare and publish a list of categories of hazardous waste</p> <p>Prepare and implement a system to document, track, and update the data of hazardous waste (including types, quantities, sources, and impacts)</p> <p>Prepare a plan for hazardous waste management</p> <p>Prepare and implement a system to track the hazardous waste, including documentation of transported material, its source, authorized transporting agency, treatment, and disposal</p> | <p>Environmental Quality Authority</p> <p>Environmental Quality Authority</p> <p>Environmental Quality Authority</p> <p>Environmental Quality Authority</p> |

Table 1: Strategic interventions and responsibilities of implementing parties

| Strategic Objectives | Policies | Interventions | Key executing party |
|--|--|--|---|
| Principles and mechanisms suitable for managing medical, hazardous, and special wastes <i>(Continued)</i> | Treatment of medical waste before its final disposal according to the «polluter pays» principle to limit its negative health and environmental impacts | Evaluate and disseminate the preliminary solutions for medical waste handling, based on the pioneer best practices of collection, transport, and treatment of medical waste in the cities of Ramallah and Gaza | Ministry of Health |
| | Minimizing the negative health and environmental impacts of special waste | Update and implement the current plan for medical waste collection, treatment, and disposal Establish a unified systems and indicators for medical waste monitoring Develop a training program to elevate the capacity of institution involved in regulating and monitoring of medical waste management Formulate directives and standards for the collection, transport, recycle, and treatment of construction and demolition waste Implement pioneering projects in the field of reuse and recycle of tires and construction and demolition waste in collaboration with the private sector | Ministry of Health Ministry of Health Ministry of Health Environmental Quality Authority Ministry of Local Government Ministry of Local Government |
| Increasing the participation of the private sector | Creating an enabling investment environment that encourages the private sector to participate | Document and disseminate best practices in waste recycling Take preventive measures by removing randomly-disposed special waste (C&D waste, automobile frames, etc) and dispose of it in designated locations Provide incentives needed to encourage private sector to invest and participate in SWM Prepare guides for private sector participation in SWM, including templates for standard contracts, participation options, and methods for regulating of performance Implement a training program for local authorities and joint service councils, covering actions for habilitation of the private sector, bids preparation and evaluation, contracts preparation and negotiation, and performance monitoring tools | Ministry of Local Government Ministry of Local Government Ministry of Economy Ministry of Local Government Ministry of Local Government |

Table 1: Strategic interventions and responsibilities of implementing parties

| Strategic Objectives | Policies | Interventions | Key executing party |
|--|--|--|--|
| A more participating and aware community | Promoting the partnership spirit and strengthening the alliance between service providers and the served communities to enhance the awareness of SW issues | Develop and implement community awareness programs aiming at developing positive behavior of citizens and participatory approach between governmental and non-governmental institutions and stakeholders involved in SW issues (at the national/regional/local levels) Institutionalize planning through partnership with concerned stakeholders Institutionalize community awareness and participation tasks in the frameworks and plans of joint service councils and local authorities Implement joint projects with civil society institutes to familiarize the informal sector with the technical, health, and environmental aspects Establish avenues for dialogue and participation between governmental, private, and non-governmental sectors | Environmental Quality Authority Ministry of Planning Ministry of Local Government Environmental Quality Authority Each institute as involved |
| Effective information and monitoring systems | Establishing a unified national database for SW and institutionalizing monitoring systems | Create a data management system to identify the sources of information, systems for data collection, authentication, update and analysis, and the mechanisms for data exchange and reporting Implement an experimental project on utilizing Geographical Information System (GIS) in SWM Scrutinize and develop the monitoring mechanisms and procedures regarding the adherence of involved parties to relevant laws, regulations, and standards. This includes periodical inspection procedures and mechanisms and reporting at various levels Formulate indicators to monitor the environmental impacts of SW on air, surface water and groundwater, and soil | Ministry of Local Government Ministry of Local Government Each institute as involved Environmental Quality Authority |