



Activity EFH-PS-4 Support hazardous waste management

Task 3: Report on the gap analysis and recommended improvements in the MP in Palestine on hazardous waste for its update

| Version | Document Title | Author | Review and Clearance |
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THE SWIM AND H2020 SUPPORT MECHANISM PROJECT (2016-2019)

The SWIM-H2020 SM is a Regional Technical Support Program that includes the following Partner Countries (PCs): Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, [Syria] and Tunisia. However, in order to ensure the coherence and effectiveness of Union financing or to foster regional co-operation, eligibility of specific actions will be extended to the Western Balkan countries (Albania, Bosnia Herzegovina and Montenegro), Turkey and Mauritania. The Program is funded by the European Neighborhood Instrument (ENI) South/Environment. It ensures the continuation of EU's regional support to ENP South countries in the fields of water management, marine pollution prevention and adds value to other important EU-funded regional programs in related fields, in particular the SWITCH-Med program, and the Clima South program, as well as to projects under the EU bilateral programming, where environment and water are identified as priority sectors for the EU co-operation. It complements and provides operational partnerships and links with the projects labelled by the Union for the Mediterranean, project preparation facilities in particular MESHIP phase II and with the next phase of the ENPI-SEIS project on environmental information systems, whereas its work plan will be coherent with, and supportive of, the Barcelona Convention and its Mediterranean Action Plan.

The overall objective of the Program is to contribute to reduced marine pollution and a more sustainable use of scarce water resources. The Technical Assistance services are grouped in 6 work packages: WP1: Expert facility, WP2: Peer-to-peer experience sharing and dialogue, WP3: Training activities, WP4: Communication and visibility, WP5: Capitalizing the lessons learnt, good practices and success stories and WP6: Support activities.



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ABBREVIATIONS

| | |
|--------|--|
| EQA | Environment Quality Authority |
| GS | Gaza Strip |
| HZW | Hazardous Waste |
| MoA | Ministry of Agriculture |
| MoF | Ministry of Finance |
| MoH | Ministry of Health |
| MoEHE | Ministry of Education and Higher Education |
| MoLG | Ministry of Local Government |
| MoNE | Ministry of National Economy |
| MoT | Ministry of Transportation |
| NHWMP | National Hazardous Waste Management Plan |
| NMWRGL | National Medical Waste Regulations and Guidelines by Law |
| PENRA | Palestinian Energy and Natural Resources Authority |
| PFI | Palestinian Federation of Industries |
| PSI | Palestine Standards Institution |
| PWA | Palestinian Water Authority, PWA |
| PCBS | The Palestinian Central Bureau of Statistics |
| UNEP | United Nations Environment Program |
| WB | West Bank |



This document is the deliverable of Task 3 of activity EFH-PH-4 “Support hazardous waste management” of the SWIM H2020 SM Project, on the gap analysis and recommended improvements in the Masterplan on hazardous waste management towards its update.

1 GENERAL COMMENTS FROM THE MEETING WITH THE STAKEHOLDERS

An overview presentation of the main objectives of the project was delivered to stakeholders during a meeting of 25th July 2017 at the premises of Environmental Quality Authority - EQA, in Ramallah, Palestine, where discussions were opened to all attenders. The stakeholders were mainly identified through EQA and shared with the Consultant prior to the meeting. Those were the following:

Main comments were as follows:

- 1- There is a need to update the inventory data on Hazardous Waste Management (HWM) on regular basis as data presented in the report were taken in 2010-2011.
- 2- There is a need to enhance surveillance of the illegal import and export of hazardous waste and this should be clearly presented in any national HZW management plan.
- 3- The Hazardous Waste Management (HWM) bylaw is now approved by the cabinet but it is still inactive and needs to be activated.
- 4- It was proposed to incorporate three other stakeholders in the implementation activities of the national hazardous waste management plan. These are the Palestinian Central Bureau of Statistics, the Palestinian Energy and Natural Resources Authority and the Palestine Standards Institution (PCBS, PENRA and PSI). Their responsibilities towards the HZW management plan are outlined as follows

- a. The Palestinian Central Bureau of Statistics (*PCBS*) as per its mandate stipulated in the General Statistics Law No. 4 of 2000, PCBS has become the source for official statistics on social, economic, and environmental fields in Palestine. Working within the parameters of its mandate as part of PCBS's programs is to articulate the commitment to fulfill its obligations and serve the public and private sector efficiently in accordance with international recommendations and best practice in waste management. So PCBS input will be to provide the available data on HZW to enrich the strategy.

- b. Palestinian Energy and Natural Resources Authority (PENRA)

They are responsible for PVs and environmentally friendly disposal of the used batteries.

- c. Palestine Standards Institute (PSI)

PSI works according to the law on standards and metrology no 6/2000. PSI has an autonomous status, considered the sole body responsible for issuing Palestinian standards, and recognized both locally and internationally as the focal point for Palestinian participation in the global system of harmonized



standards. PSI will play the role of issuing labels for HZW for training services for employees in testing HZW and for providing technical advices necessary to implement the recently approved Hazardous Waste Management by law.

Below is a summary table of the gap analysis and actions to be carried out in the implementation program.

2 GAP ANALYSIS –SUMMARY TABLE

Table 1: Gap analysis and actions to be implemented

| HZW management step | Existing Gap | Actions needed |
|---------------------------------|--|--|
| Generation and characterization | <ol style="list-style-type: none"> Several assumptions were used in measuring the generated HZW. Not all premises producing HW were visited. Generated HZW from Gaza Strip were estimated and not measured. Still there is no approved HZW lists | <ul style="list-style-type: none"> Assumptions should be minimized by well-prepared time frame field visits to HZW generators using Basel convention guidelines Force HZW generators to have a bookkeeping system of all generated HZW. Therefore a scheduled plan for HZW generators visit should be carefully planned taking into consideration the capacity building needs of inspection departments from all stakeholders. Carry out site visits to Gaza strip's HZW generators and record the quality and quantity of HZW. Adoption of Basel convention HZW list (by the time of preparation of this report, the list is already adopted by national legislation) Carry out HZW inventory on regular basis based on the HZW list |
| On site storage | The NHWM report stated that all HZW generators claim they store their HZW in proper containers | <ul style="list-style-type: none"> A comparison between HZW bookkeeping records and physical inspection of stored HZW should be carried out National programs should be carried out to educate/inform HZW generators of benefits gained from proper storage and possibility of applying 3R's concept to minimize on site storage. A training program should be arranged for educating HZW generators of the best onsite HZW management practices |
| HZW transport | <ol style="list-style-type: none"> No proper specification for HZW transport vehicle are assigned No proper regulations are mentioned in the | <ul style="list-style-type: none"> All regulations regarding HZW transportation for final disposal (internally or transboundary) should comply with the recently issued Hazardous waste management system for the year 2017 More implementation programs should be proposed to educate HZW generators about the Palestinian regulations of HZW. |



| HZW management step | Existing Gap | Actions needed |
|-------------------------|--|--|
| | <p>NHWMP for internal and transboundary movement of HZW. (Until the start of this assignment (2017), the HWM bylaw was not approved by the cabinet</p> | <ul style="list-style-type: none"> • Revisit all forms and guidance prepared to the national competent authority in making a decision whether to consent or reject a proposed trans-boundary movement of waste subject to the Basel convention. Check their consistency with the regulations outlined in the recently issued Hazardous waste management bylaw which approved by the cabinet in 2018). • Prepare an implementation program to educate stakeholders of how to use HZW transportation forms and procedures. • A contingency plan should be design of how to deal with HZW emergency cases in terms of illegal transportation or incidents during transportation in cooperation of civil defense. |
| HZW disposal | No HZW indicators exist | <p>In response to the need for monitoring the performance of HZW management, sets of indicators have to be created within larger scope of environmental performance indicators for industry. The HZW indicators should address three themes:</p> <ul style="list-style-type: none"> • compliance to regulations, • HZW generation, and management • cleaner production. <p>Opportunities for use of indicators particularly as a decision – making support tool and expected challenges facing their applications should be outlined</p> |
| Implementation programs | No fiches exist | <p>There should be fiches for all suggested implementation programs taking into consideration all resources available by public bodies, private enterprises and stakeholders. The cooperation of all stakeholders is essential for the success of implementing the NHWMP to comply with BaselL Convention</p> |
| Monitoring of HZW | No fiche exists for the infrastructure of establishing HZW audit office. | <p>There should be a project fiche for the establishment of HZW management audit office that will regularly monitor the lifecycle of HZW of certain industries and record HZW indicators</p> |
| Stakeholders | Essential stakeholders are missing | <p>Three key player stakeholders need to be added to the list and their responsibilities towards HZW management should be identified. These players are: PSI, PCBS and PENRA</p> <p>Redistribute all responsibilities between all stakeholders taking care of their human capacity.</p> |



Table 2 below is a table summarizing the tasks of each stakeholder relevant to Hazardous Waste Management to include key players, advisory or just observers. Symbols in the below table are presented according to the discussion with all stakeholders during the 26th July meeting. In particular:

- Key players are considered the stakeholders mainly responsible for the task assigned.
- Advisory are considered the stakeholders assigned to regulate through TA (prepare laws, guidelines)
- Observer are considered the stakeholders that need to be informed, copied and receptors of filled forms as they are also assigned to keep records

Table 2: Roles of different hazardous waste stakeholders



| Regulatory | Task | EQA | MoH | MoLG | MoNE | MoA | MoF | PSI | PCBS | PENRA | MoT | PWA |
|-------------------|--|-----|-----|------|------|-----|-----|-----|------|-------|-----|-----|
| | Development of HZW by-law | √ | A | A | A | A | A | A | | | √ | A |
| | Reinforcement of HZW department | √ | | | A | A | | | | | | A |
| | Environmental inspection | √ | √ | | A | M | | | | | | |
| | Regulation of the rules for handling medical waste | M | √* | √ | | A | | | | | | |
| | Control over agricultural chemicals | M | | A | | √ | | | | | | |
| | Monitoring of import/export of HZ material and waste | M | | | √ | √ | | A | | A | M | |
| | Permitting import/export of HZ material | √ | | | A | √ | | A | | M | | |
| | Issuing list of HZ material specification | A | M | | A | | | √ | | | | |
| | Issuing a list of HZ material allowed/*forbidden | √ | A | | A | A | | | | A | | |
| | Preparation of MSDS | √ | A | | √ | A | | A | | | | |
| | Monitoring HZ material movement | √ | M | √ | M | √ | M | | | | | |
| | Fund allocations for HZW management | √ | √ | √ | √ | √ | √ | | | | | |
| Key role in NHWMP | √ | √ | √ | √ | √ | √ | | | | √ | √ | |



| | | | | | | | | | | | | |
|--------------------|--|---|---|---|---|---|---|---|---|---|---|---|
| | Specification of Tech requirements of HZW vehicles | M | M | √ | | | | √ | | | √ | |
| Operational Issues | Collection and segregation at source | M | M | √ | M | M | | A | | | C | |
| | How dealing with HZW | M | A | √ | | A | A | A | A | A | C | |
| | Amount of HZW | √ | √ | √ | √ | √ | | | √ | | C | C |
| | HZW cell for pesticides and fertilizers | M | M | | | √ | | | | | C | |
| | Deciding the location of HZW management facilities | √ | M | √ | | A | | | | | C | A |

√: Main responsibility: means filling forms and follow up for any incident /accident actions

M: Monitoring means checking out filled forms and compare it to actual case

A: Technical assistance means providing all technical assistance needed to create a law, regulation or guidelines

C: copy: means a copy of any filled forms must be send to the stakeholders for their records.



3 MODIFIED IMPLEMENTATION PROGRAMS

In order to facilitate the capacity building action plan, table 3 below is a modified **implementation programs** of that previously suggested in the report. In the table M stands for month. In the table, modifications were carried out in blue color to comply with Basel requirements.

| No | Follow up Projects | Stakeholders | Suggested implementation time |
|---|--|--|-------------------------------|
| I.1 | Capacity building for the Enforcement of a Hazardous Waste Department and staff training | EQA, MoH, MoA, Civil defence, custom authority, Mo Labor | M1-M3 |
| Scope: Policy/regulation; permitting of HW services and facilities; tendering and contractual issues; technical guidance; support to monitoring/enforcement / inspection | | | |
| I.2 | Innovative web-based technologies for Hazardous chemical and waste management In Palestine. | EQA, PCBS, MoH, MoA | M2-M6 |
| Scope: One of the key advantages to using web-based tools is to improve hazardous chemical and waste programs that multiple sectors and materials can be targeted simultaneously. Through the application of specialized tools. This project will focus on three keys: Hazardous chemical lists and suppliers, hazardous chemical consumers; and hazardous waste generators | | | |
| 1.3B | Implementation of HZW disposal fee/surcharge | EQA, MoF, MoLG, MoA | M7-M10 |
| Scope: Regulations and technical standards for (interim) disposal; management of funds and financing/co-financing criteria and conditions. | | | |
| I.3A | Guidelines of cost recovery measures | MoLG, EQA, MoF, MoNE, MoA | M3-M6 |
| Scope: Promote the gathering together of knowledge and information on the impacts of waste such that their socio-economic effects can be considered, particularly in respect of prevention versus disposal | | | |
| I.4 | “Needs assessment” for monitoring/inspection & enforcement, including pilot projects | EQA, MoLG, MoH, MoA | M10-M16 |
| Scope: A comprehensive control system over the movement, recovery, treatment, and disposal of the wastes is required to minimize the possibility of their causing damage to human health or harm to the environment. The degree of control needed can best be decided initially on a national level in a | | | |



| No | Follow up Projects | Stakeholders | Suggested implementation time |
|------|---|-------------------------------------|-------------------------------|
| | <p>form which can be translated locally to take into account local circumstances in relation to the properties of the waste. Controls and management regimes could be applied uniformly by countries in respect of hazardous wastes. The control systems required should seek to provide controls over the storage of wastes produced, its movement from the generator to the site of its eventual storage, recovery or disposal. The concept of a "Duty of Care" could be provided under which waste generators and others that manage the waste maintain a responsibility for the environmentally sound management of all wastes they produce from their generation to their eventual recovery, disposal and post disposal management of residuals.</p> | | |
| I.3C | (Bankable) feasibility studies for hazardous waste and medical waste segregation at source. | EQA, MoH, MoLG, MoA, private sector | M6-M10 |
| | <p>Scope: Technical concepts; institutional and financial arrangements; legislation & technical standards; tender documents.</p> | | |
| I.6 | Closure / reclamation of industrial hot Spots | EQA, MoA, MoNE, MoLG | M16-M24 |
| | <p>Scope: Risk assessment; technical design and cost estimates; tender documents; post closure monitoring needs; donor consultations</p> | | |
| I.7 | Closure/reclamation of existing landfills | EQA, MoH, MoLG, MoA | M20-M24 |
| | <p>Scope: Risk assessment; technical design and cost estimates; tender documents; post closure monitoring needs; donor consultations.</p> | | |
| I.8A | Pilot "compliance scheme" for tire recovery | EQA, MoLG, PRIVATE SECTOR, MONE | M10-M13 |
| | <p>Scope: Targets for tire recovery; regulations; "compliance scheme"; institutional arrangements and financing options (taxes, surcharges); monitoring.</p> | | |
| 1.9A | Prevention program | EQA, PFI, MoNE, MoH, MoA, MoLG | M6-M10, M14-M18, M22-M24 |
| | <p>Scope: Promote the application of prevention program starting from waste minimization to a selected sector. This includes a careful understanding of hazardous materials and their chemical properties.</p> | | |
| 1.9B | Toxic Use Reduction | EQA, PFI, MoNE, MoH, MoA | M6-M10, M14-M12 |



| No | Follow up Projects | Stakeholders | Suggested implementation time |
|--|---|---|-------------------------------|
| Scope: minimizing of the use toxic materials | | | |
| 1.9C | Education of Hazardous waste Generators | EQA, PFI, MoNE, MoH, MoA, MoLG | M6-M10 |
| Scope: Educate HZW generators of the dangerous nature of the materials they use and its impact on the environment and how to select alternative less hazardous material. Promote education at all levels on the adverse effects of hazardous wastes in the environment, including the provision of institutions for the dissemination of such information | | | |
| 1.9D | Public Awareness and Education: | EQA, PFI, MoNE, MoH, MoA, MoLG, PWA, MoEHE | M3, M8, M12, M14, M20 |
| Scope: Promotion and stimulation of HZW reduction/ minimization through public awareness and education at all levels; Improve inter stakeholders cooperation; Favorable conditions for private sector involvement; promotion of partial tax rebate principle for less hazardous waste generators/ importers. Promote waste prevention and minimize its generation through the use of cleaner production methods. Avoid the use of hazardous substances where less hazardous materials could be substituted without significant detrimental effects or other risks on product quality or economic costs. Whenever possible promote the adoption of environmentally sound methods of resource recovery by direct reuse, alternative use, reclamation or recycling. | | | |
| 1.13 | Emergency Response plane | EQA, MoLG, MoNE, MoH, MoA, CIVIL DEFENCE, PSI | M10, M22 |
| Scope: Early emergency response of any hazardous waste contamination, setting up plans for reduction of hazardous and dangerous waste., Public awareness of how to deal with Hazardous waste emergency cases. | | | |
| 1.14 | Pollutant Release Transfer Register (PRTR) | EQA, MoLG, MoT, MoA, MoF/CP | M6-M10, M24-M30 |
| Scope Establish a technical working group to elaborate technical guidelines and regulations for the trans-boundary notification and movement of hazardous waste in line with Basel convention. | | | |
| 1.15 | Pilot project for the recycling of tires | MoLG, EQA (advisory), Private | M10-M20 |



| No | Follow up Projects | Stakeholders | Suggested implementation time |
|------|--|--|-------------------------------|
| | | sector, Investment Promotion Authority | |
| | Scope: Establishment of collection infrastructure (transportation and storage), small scale unit for the crushing of tires, and a test site facility for recycling crushed tires as raw material for road or sport facilities construction with bitumen. | | |
| 1.16 | Rehabilitation of the Tanning wastewater treatment unit and introducing new environmental friendly technologies for tanning waste water treatment | Private sector, EQA, MoNE, MoLG | M10-M14 |
| | Scope: Rehabilitate the existing tanning wastewater treatment unit in Hebron. This might take a political side in order to allow the supply of sulphuric acid for the treatment unit. | | |
| 1.17 | Promotion of Clean Production Principles | EQA | M6-M10 |
| | Scope: Establish a cleaner production centre to provide training and capacity building for HZW stakeholders. Capacity building should include: (a) waste prevention audits should be promoted to qualitatively and quantitatively identify hazardous inputs, wastes and products and the corresponding cleaner production techniques with a view to minimize and eliminate, where possible, the generation of waste; as well as a waste prevention strategy. (b) Promote and continue to strengthen the effectiveness of international co-operation in the field of wastes management, particularly that involving the transboundary movements of hazardous wastes, including its control and monitoring to accord with international legal instruments. This will be along the lines of those already set up by UNEP and other international organizations. | | |