

## Chapter 13: Hazardous Materials and Wastes

### Introduction

Problems resulting from hazardous materials and waste mismanagement in Egypt constitute a significant environmental problem linked to economic, social, and legislative aspects. Environment Law 4/1994 and its Executive Regulations generally defined hazardous materials and wastes, and clarified basic principles for dealing with them through a comprehensive methodology: starting with their generation up till their final safe disposal in appropriate places totally isolated from the remaining items of the ecosystem. It also assigned relevant agencies for their handling, denoting the roles of each of them, and obliging each to issue lists with hazardous wastes forbidden to be handled unless by virtue of licenses from the competent administrative agency. In this respect, MSEA makes a large effort to coordinate with line ministries handling hazardous materials and wastes to issue hazardous material and waste lists, in accordance with the provisions of Article 25, Executive Regulations, Law 4/1994.

International agreements endorsed and enforced by Egypt are part of the legislative framework. One of the most important agreements on hazardous wastes is Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Bamako Convention on the Ban of the Import Into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa, Stockholm Convention on Persistent Organic Pollutants (POPs), and Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

Therefore, hazardous material and waste management is a main MSEA activity; moreover, a most important basis for maintaining public health and environment. On the other hand, their negative impact pose a great danger the human being, living organisms, and facilities equally, and need huge efforts to develop appropriate solutions in order to avoid management unsafe. Efforts include controlling their leakage to the environment, or reducing their production, owing to the diversity of their forms and the inevitability of dealing with them. They have significantly impacted the balance of the ecosystem that current increasing practices need a clear and examined encounter to control, prevent, or reduce such impacts on the long run.

### MSEA Achievements

#### First: Supporting Legal and Institutional Frameworks of Hazardous Material and Waste Management

1. Constant coordination with officials of the six ministries involved in hazardous material and waste handling, in accordance with the provisions of Article 25, Executive Regulations, Environment Law 4/1994, to issue and update hazardous material and waste lists so as to be applied in all line agencies. In this respect, the following was implemented:
  - a. Issuance of hazardous material and waste lists for the Ministries of Industry (MOFTI), Interior (MOI), Agriculture (MOA), Health (MOH), and Petroleum (MOP).

- b. Issuance of ministerial decree adding 35 materials for MOFTI hazardous material list, and adding the amendment required by MOA to the unified hazardous material list.
- c. Updating MOI hazardous waste lists issued by virtue of Ministerial Decree 5030/1999, in accordance with the lists attached by MOI Ministerial Decree 18722/2004.
- d. Updating MOH hazardous waste lists following the approval of MSEA Hazardous Materials and Wastes Committee approval dated 13/5/2005.
- e. Amending hazardous material and waste management section in the Environment Law 4/1994 and its Executive Regulations as would fulfill the controls and requirements of safe handling of hazardous materials and wastes.
- f. Reviewing environmental commodity lists proposed by some WTO countries;
- g. Finally reviewing Ministry of Electricity and Energy (MOEE) hazardous waste lists in coordination with MOH, in preparation for their issuance upon MOEE ministerial decree, in compliance with the provisions of the Environment Law 4/1994 and its Executive Regulations.

## Technical Support

1. Developing MSEA technical proposal on asbestos risks, to implement the Prime Minister's Decree on forbidding import, presenting the proposal to People's Assembly Housing and Utilities Committee, participating in the actions taken by the ministerial committee involved in implementing the forbiddance decree, and achieving good results by stopping largest raw asbestos consumers' (Siegwart, ORA-Misr) work.
2. Developing monitoring and follow-up mechanism for incinerating hazardous wastes in cement furnaces (as an alternative for fuel) in the Egyptian Cement Company (ECC).
3. Finalizing selection procedures for a safe hazardous waste landfilling cell in Suez.
4. Supervising MobiNil's Project to collect expired mobile phone and electrical appliance batteries, and taking necessary actions to export expired mobile phone batteries to England (Fonback Company) through the project.
5. Developing MSEA technical proposal on the risks of using polyester in furniture paint and participating in the Health and Environment Committee discussions on this regard.
6. Coordinating with the Ministry of Foreign Affairs (MFA) on preventing Israel from disposing of its hazardous wastes in Sinai.
7. Providing MOH with 28 incinerators distributed to governorates all over Egypt to contribute to safe disposal of healthcare hazardous wastes, and to the development of the proposals for inspection and examination before the primary delivery of hospital waste incineration units.
8. Developing controls and procedures that must be followed to the hazardous medical waste treatment of health facilities by sterilization.
9. Finalizing a technical study and developing a status quo report on the production and use of plastic bags in packing food products and the relevant health and environmental problems (Pic. 13-1).

10. Finalizing quantitative and qualitative survey of expired chemical accumulations in all customs outlets in Egyptian ports (marine, air, or land), conducting survey data analysis, and developing a proposal for managing and disposing of such accumulations through the presidential electoral platform projects.
11. Making suitable arrangements to export lithium batteries of Halliburton Oil Services heavy equipment to Canadian Toxo-Waste for recycling.
12. Providing technical support to Egypt Air company on the environmentally-safe method to dispose of hazardous wastes resulting from overhaul maintenance wastes, such as hydraulic oils and airplane paints.
13. Providing technical support in the following areas:
  - a. Requirements for replacing and installing an incinerator in accordance with the provisions of the Environment Law 4/1994 and its Executive Regulations.
  - b. Method Transferring of hazardous medical wastes and disposing of ash resulting from medical waste incinerators.
  - c. Guidelines for POP waste management and non importing lead scrap.
  - d. Specifications and requirements for hazardous waste landfills.
  - e. Importing plastic scrap, including polyethylene terephthalate (empty previously used plastic bottles), or any other plastic scrap, as these are considered hazardous wastes according to industrial hazardous waste lists issued by MOI Ministerial Decree 165/2002 as a competent authority. In this respect, re-exporting such wastes at the expense of the importing company was followed up as per the provisions of the Environment Law 4/1994 and its Executive Regulations (Table 13-1).
14. Reviewing applications for customs release of chemical substances imported from abroad for local use as raw material in industry or for commercial or agricultural use during 2004-2007, totaling 998 applications (Fig. 13-1).



**Table (13-1) Statement on Re-Exporting Plastic Scrap at the Expense of the Importing Company**

Sr.	Importing Company	Quantity (Tons)	Wastes	Customs	Importing Destination
1	Roll	26.1	Plastic	6 <sup>th</sup> October	KSA
2	Cairo Cotton	20	Plastic	Mahmoudeya	Israel
3	Andalus Group	31.5	Plastic	Dekhela	Libya
4		220	Lindane	Adabeya	
5		22187	Plastic	Oga	
6		10000	Plastic	Alexandria	Libya
		40	Plastic	Port Said	
<b>Total</b>		<b>32524.6</b>			

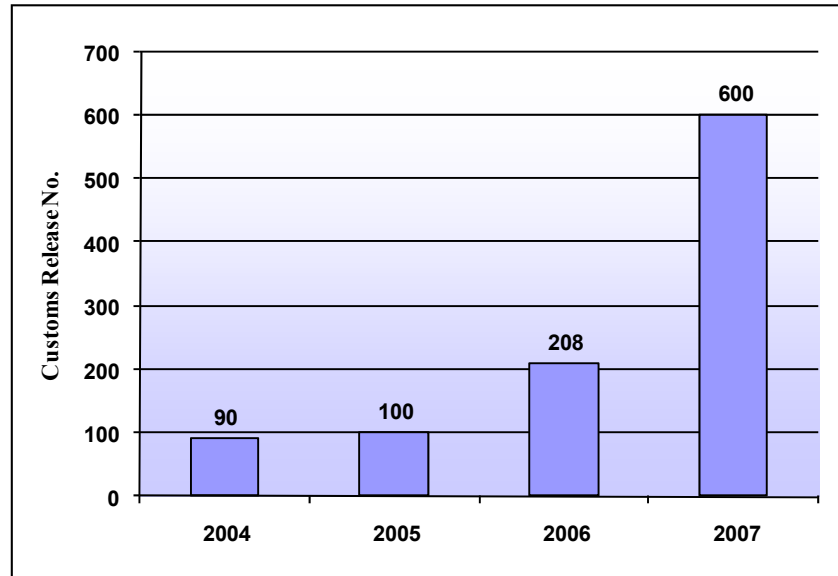


Figure (13-1) Total customs releases during 2004-2007

- a. Developing procedures for customs release of chemical substances upon the provision of all documents of a shipment, including the customs procedures certificate, bill of lading, invoice, material safety data sheet record for imported material, and company documents. Imported chemical substances are reviewed through the hazardous material lists issued by concerned ministries and a hazardous material information and management system, in order to ensure no forbidden material enters into the country. A letter is issued to decide on whether the substance is forbidden or not, and to identify the administrative agency competent of customs release in accordance with Article 25 of the Environment Law 4/1994.
15. Providing technical support to Alexandria on the procedures of constructing medical facilities in accordance with the provisions of the Environment Law 4/1994 and its Executive Regulations.
16. Providing technical support for MOA Cooperative Association for Staff Housing on their query on asbestos pipes safety in potable water networks and how much they are risky to human health.
17. Developing the national strategy for healthcare facility hazardous waste management and its executive plan and receiving MOH approval (Hazardous Materials and Wastes Committee) in accordance with the provisions of Article 25, Executive Regulations, Environment Law 4/1994.
18. Field follow-up of hazardous waste management and taking legal actions against violators, such as unlicensed companies dealing in handling medical wastes, in accordance with the provisions of Law 4/1994 and its Executive Regulations (Pic. 13-2).



Picture (13-2) Hazardous wastes of unlicensed companies dealing in medical wastes

19. Issuing technical guidelines on designing and operating hazardous waste landfills in highly arid areas in participation with an Arab expert team from Basel Convention Regional Center.
20. Developing technical guidelines on the safe disposal of expired insecticides, and issuing technical guidelines on environmentally-safe POP management in participation with the international working group formed under the Basel Convention.
21. Issuing a package of technical guidelines to classify, code, temporarily store, transfer, license the handling of, treat, and safely dispose of hazardous wastes (Pic. 13-3).



Picture (13-3) Storing hazardous material

22. Developing a simplified manual on the procedures followed to export hazardous wastes abroad according to the Basel Convention.
23. Developing a technical study in reply to the information from the People's Assembly National Security Committee on potential environmental impacts from Israeli Dimona Reactor, and the circulation of landfilling radioactive wastes near the border areas of Nekab Desert.
24. Studying the results of UNEP Post-Conflict Assessment Unit Report on Gaza Strip Environmental Survey after demolishing Israeli colonies, and coordination with MFA and the Public Intelligence Agency in this regard, especially after Palestinian challenge of the report result veracity.
25. Developing a status report on work progress in companies dealing in medical waste management in Cairo to study maximizing the benefits from these companies in sound disposal of medical wastes in Cairo, especially clinics, health centers, and private hospitals, in order to maintain the environment and public health.

26. Developing a proposal plan to raise the environmental status in Sinai Peninsula in co-ordination with the Armed Forces Chemical War Department through identifying plants and facilities resulting in environmental hazards (sanitary drainage, industrial effluent, and hazardous wastes), how much these hazards impact the environment in Sinai, and the most appropriate method to dispose of hazards wastes and its risk.
27. Technical support in hazardous waste management in free zones:
  - a. Presenting MSEA legal and technical attitude towards hazardous waste exit from free zones in accordance with the provisions of the Environment Law 4/1994 and its Executive Regulations stipulating the forbiddance of the importation, entrance, or passage of hazardous wastes in Egyptian territories.
  - b. Coordination with GAFI competent officials on disposing of and treating hazardous wastes resulting from Framchem activities abroad.
  - c. Implementing the inventory program of hazardous wastes resulting from the activities of facilities in Nasr City Free Zone, and developing a plan for inventorying hazardous wastes in the remaining free zones in coordination with EEAA RBOs.

### Third: Capacity Support

1. Participation in “Clean Tanning” Workshop organized by MOFTI in collaboration with the LIFE Project.
2. Issuing a leaflet on hazardous waste management to spread the importance of management tasks and laws and legislations on hazardous materials.
3. Issuing a leaflet on safe handling of pesticides to raise businessmen’s and NGO environmental awareness (Pic. 13-4).



Picture (13-4) Hazardous material (insecticide) safe handling leaflet

4. Issuing a booklet, “Beware of Poisons at Home”, dealing with the danger of household poisons and food poisoning resulting from mistakenly taking such insecticides.
5. Issuing a poster on safe storage of chemicals to raise environmental awareness in factories.
6. Implementing a training and awareness program on the project for inventory of polychlorinated biphenyls (PCBs), under the second component of environmental management improvement project entitled “Hazardous Material Integrated Management”.

## Fourth: Projects

1. Finalizing the first and second stages of Alexandria Industrial Hazardous Waste Management Project including a safe land filling cell for hazardous non-organic industrial wastes, a physiochemical treatment unit, a hardening unit, hazardous organic waste storage (Fig. 13-2) physics-chemical.
2. Initializing EU institutional twinning project aiming at exchanging institutional and technical experience between EEAA and its correspondent in an EU country in hazardous waste and material management:
  - a. Developing policies, systems, and strategies.
  - b. Developing EEAA institutional capacities (internal and external training to raise staff's technical and institutional capacities).
  - c. Providing technical support.

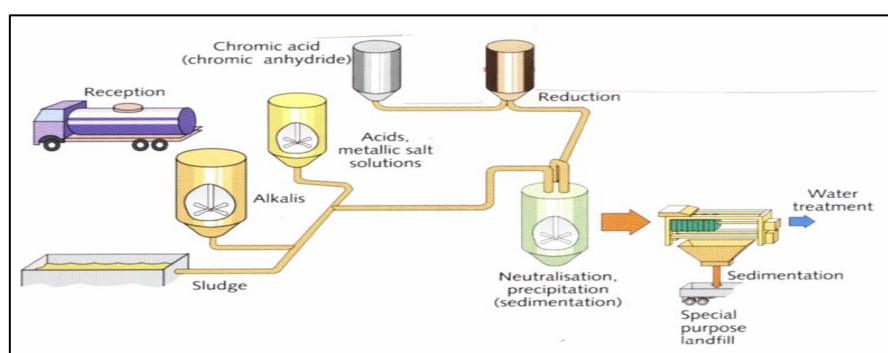


Figure (13-2) Safe Disposal of Hazardous Waste

3. Proposing the 3 millions \$ “Mercury Waste Management” Project to the Korea International Cooperation millions (KOICA), where project consultative meetings were held and the project approved in principle, and the second meeting for detailed discussion of the project was held in October 2007.
4. Developing a program for implementing a hazardous waste inventory and classification experimental project in coordination with the Basel Convention Regional Center for the Arab States.

## Fifth: Supporting Compliance with International Conventions on Hazardous Materials and Wastes

1. Applying the requirements of previous notification of importing/exporting substances listed in Rotterdam Convention.
2. Providing all reports required by the Secretariat whether for Rotterdam or Stockholm Conventions, and complying with the provisions of both Conventions.
3. Finalizing the development and issuance of the national action plan for implementing Stockholm POPs Convention. Egypt is the first Arab and African state to issue such plan.

4. Developing 40 short- and long-term projects with identified schedules and budgets, and cooperating with donor agencies to provide financial and technical support for their implementation as of 2006/2007.
5. Improving security and safety efficiency and standards for 2 potable water stations in Giza, and conducting environmental hazards studies for them through a funding by the Swiss agency.
6. Creating a national coordination committee to implement the Strategic Approach to International Chemicals Management (SAICM).
7. Participating in the International Committee on Lead and Cadmium.
8. Participating in the International Committee on the Prevention of Illegal Trade in Hazardous Wastes.
9. Issuing the following guidelines:
  - a. International conventions, treaties, and organizations on hazardous materials.
  - b. Safe handling of chlorine.
  - c. Safe handling of hazardous materials (309 materials).
  - d. Requirements and standards necessary for safely handling and storing hazardous materials.
  - e. Issuing the environmental perspective for 11 industrial sectors in 10<sup>th</sup> Ramadan City (pharmaceuticals, textiles, finishing metal surfaces, electrical painting, automobiles, paper, glass, dairy, plastic, detergents and soap, paints and inks).
10. Developing a hazardous substance information and management system and listing the data on 500 substances in Arabic, and connecting the system to Stockholm and Rotterdam Convention Databases, with lists of substances forbidden in Egypt, EU, and UN, in order to control illegal trade in these substances, as well as updating the system website, [www.ecaa.gov.eg/ehsims](http://www.ecaa.gov.eg/ehsims), and building the Coordination, Monitoring and Technical Information Exchange Unit (CMUIC) for building capacities on the sound management of chemical substances.
11. At Arab and African levels:
  - a. Developing a plan for an Arab network for capacity building and information sharing.
  - b. Developing Arab and African plan for SAICM implementation.
12. At the international level:
  - a. Participating with both Rotterdam and Stockholm Convention Secretariats to implement both Convention requirements.
  - b. Participating in SAICM preparatory committee.
  - c. Participating in heading the working group for SAICM high-level political declaration in the first Ministerial Conference held in Dubai in 2006, headed by the Minister of State for Environmental Affairs.
  - d. Holding the first Regional Meeting for SAICM Implementation in Cairo on 11-14 September 2006.

e. Holding the regional workshop for Coordination and Communication on Chemical Hazards and Implementing the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) for Arab countries in Alexandria on 30/10-2/11/2006.

13. Finalizing the development of the pre-notification system at the passage of hazardous-waste-loaden ships through Suez Canal in coordination with Suez Canal Authority, and receiving notifications incoming to MSEA as a Basel Convention focal point from all states on permitting the passage of hazardous-waste-laden ships from the Far East to Europe through Suez Canal for purposes of recycling or final disposal, in accordance with the passage requirements stipulated in Basel Convention, and Egypt requirements developed by the focal point in coordination with Suez Canal Authority. Following is a bar chart on the number of ships passing through Suez Canal in 2005 (Fig. 13-3).

In 2006, by monitoring the movement of hazardous wastes through Suez Canal, 141 notifications were received from exporting countries, with a total of 183.221 metric tons.

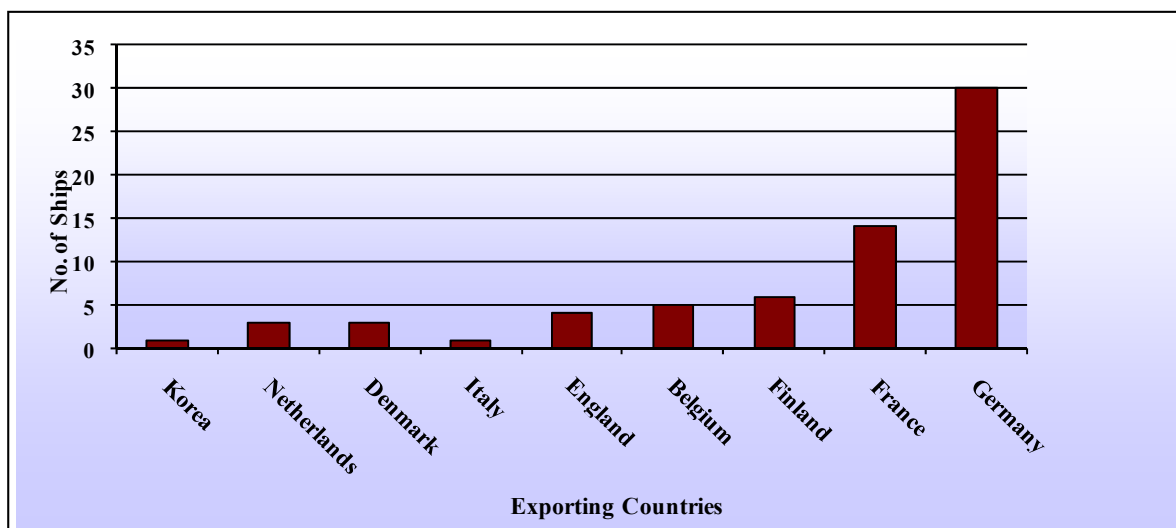


Figure (13-3a) Number of Hazardous-Waste-Laden Ships Passing through Suez Canal from Exporting Countries in 2005

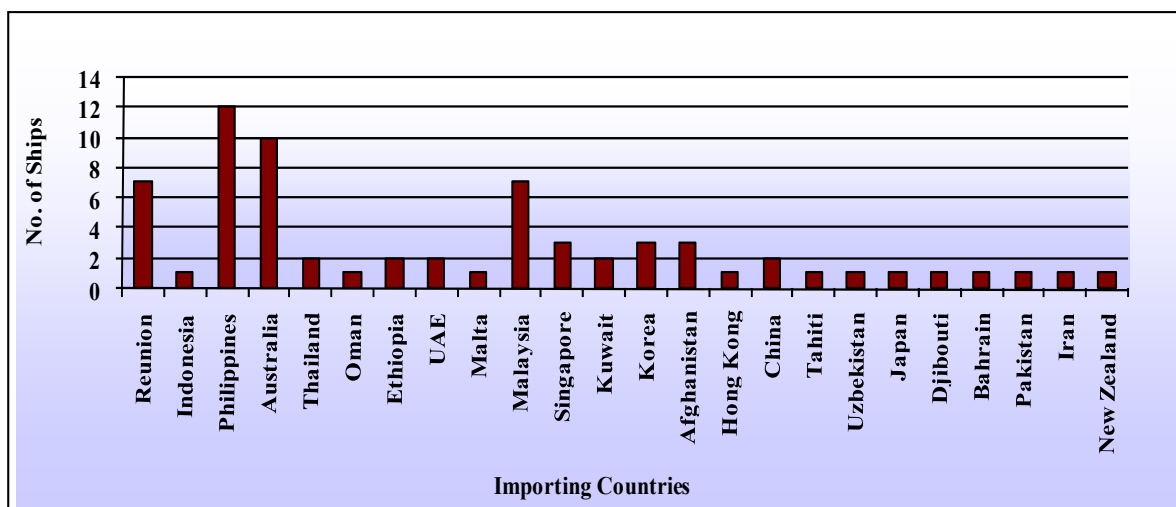


Figure (13-3b) Number of Hazardous-Waste-Laden Ships Passing through Suez Canal to Importing Countries in 2005

14. Participating in the Basel Convention small international working group for reviewing and developing notification forms and movement documents of hazardous-waste-loaden ship passage.
15. Finalizing the development of a regional Arab convention (sponsored by the Arab League) for monitoring and controlling Arab transboundary hazardous waste movement, and securing Arab boundaries against illegal trade in hazardous chemicals and wastes.
16. Finalizing the study of a proposal by the International Marine Organization on striking an international legally binding instrument for organizing the sail of ships intended for scrapping (Pic. 13-5).



17. Finalizing constitutional procedures and Egypt's endorsement of the Framework Agreement Document of Creating Basel Convention Regional Center, and initializing coordination with Arab countries on the implementation of the Center plan through the 3-year 1-million-Euro funding of the Finnish Government during 2005-2008.
18. Finalizing constitutional procedures and Egypt's endorsement of Bamako Convention on the Ban of the Import Into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa.
19. Under Basel Convention national focal point' role on the implementation of the executive action plan of Basel Convention Arab Regional Center, hosted by Egypt since 1998 according to a framework agreement between GOE represented by MSEA and UNEP/Basel Convention Executive Secretariat, the following activities have been undertaken:
  - a. WTO accepted Egyptian proposals on the important of excluding recyclable or reusable hazardous waste lists included in Basel Convention Annex IX from WTO negotiations.
  - b. Finalizing the development of a proposal on Basel Convention focal point's opinion on Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and Their Disposal, and studying national commitments before taking constitutional procedures to endorse it.

20. Participating with the Arab expert team on developing an Arab list of environmental goods and services to be submitted in WTO negotiations, similar to the lists of the EU, OECD, and APEC.
21. Developing a study on the legal aspects controlling hazardous-waste-loaden ship passage through Egyptian territorial waters under Constantinople and Basel Conventions, and submitting it to the People's Assembly Proposals and Complaints Committee in response to some Parliamentarians' demand of amending some of the stipulations on handling hazardous materials and waste in the Environment Law 4/1994.



**Picture (13-6) Incinerator of Hazardous Waste Generated from Activities of Health Facilities  
(Local Production – Military Factory 45)**