Chapter 1

Hazardous Waste – Characteristics, Principles, Management, and Definition

1. Hazardous Waste – Characteristics, Principles, Management, and Definition

1.1 Hazardous Waste Characteristics - What is hazardous waste?

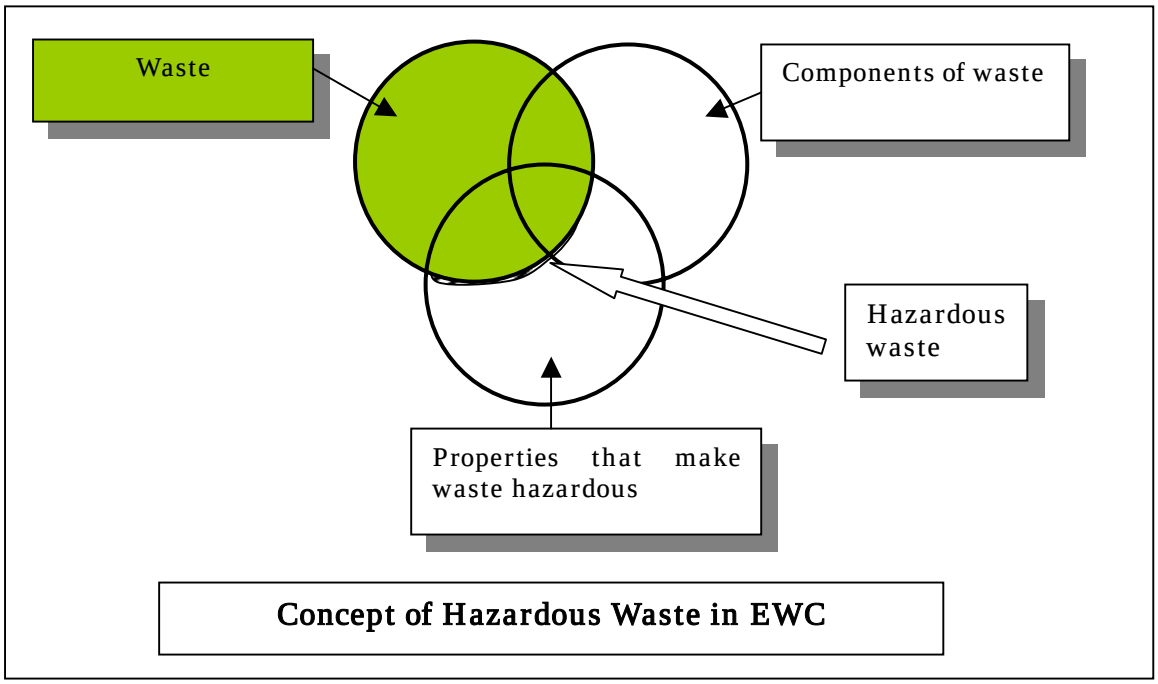
Why is hazardous waste an important issue? As the word itself shows hazardous waste is hazardous to human health as well as biological environment. Industrial activity utilises artificially synthesised chemicals and various heavy metals extracted from underground which were not present nor abundant in natural biosphere where living organisms were originated and evolved. Thus wastes containing such chemicals and/or excessive contents of heavy metals cause hazardous risk to living things. Industrial activity that made our life comfortable and better generates hazardous wastes that impose risk to our life and environment.

One of the historical examples showing negative impact to human health and environment is Love Canal case in the United States. Housing estate built on the closed disposal site of chemical waste became seriously contaminated and 900 families were forced to evacuate. Clean up of the site cost approx. US$ 140 million. This example clearly demonstrates the importance of proper management of hazardous waste.

Technically hazardous waste can be defined in three aspects as follows:

1. **Waste types** presenting one of the `hazardous properties', and from certain **processes** OR waste containing one of the listed components and having the prescribed hazardous properties
2. **Components** of waste types that cause the waste to be hazardous when having the prescribed hazardous properties
3. **Properties** that make waste hazardous

The following figure shows the basic concept of hazardous waste in European Waste Catalogue (EWC) using such three aspects.



Source: JICA Study Team

Figure 1.1.1 Concept of Hazardous Waste

Human health and environmental risk of the hazardous waste cannot be assessed only by the hazardous character of the waste. Risk can be characterised and assessed by the following three components:

1. Hazardousness of the waste (including, volume, concentration, distribution and so on)
2. Exposure path by which hazardous substance from the waste travels from the source to the receptor (including geographical and hydro-geological setting and so on), and
3. Receptor situation.

Therefore it is important to know such data and information to evaluate the risk caused by the hazardous waste generation, storage and disposal.

1.2 Proposed Principles

"Prevention is better than cure." This is a lesson learned from Japanese experience in urban environmental management. This is true particularly for hazardous waste management. This is also a guiding principle in the environmental pollution control policy applied in Japan and many other countries.

The JICA Study Team proposes the following principles for improving hazardous waste management (HWM) in Romania.

A. HWM Responsibility, Role and Objective

1. Responsibility for Hazardous Waste Management

Generators of hazardous waste are responsible for management of hazardous waste generated. The Romanian government will take responsibility for management of old waste of which generators are not existent or not identifiable. Having said this, however, the government must take necessary measures to avoid a situation where generators of old wastes attempt to escape from the management responsibility by deliberate liquidation, illegal dumping or other malicious arrangements.

2. Responsibility of Hazardous Waste Generators

Generators of hazardous waste are responsible for management of hazardous waste including prevention and recycling in addition to handling, storage, collection, transport, treatment, disposal of generated waste.

3. Role and Responsibility of the Romanian Government

Roles and responsibilities of government in connection with hazardous waste are as follows:

1) Relevant law making and enforcement in accord the transposition programme for EU directives and the environmental acquis
2) Establishing a national data and reporting system on hazardous waste
3) Awareness raising of hazardous waste generators
4) Awareness raising for the general public concerning impacts of hazardous waste on health and environment.
5) Provision of economic and financial incentives to enhance appropriate hazardous waste management and create a market for hazardous waste management services
6) Management of hazardous waste for which generators or owners are non-existent or not identifiable, much of historical wastes for example.
7) Encouragement of enterprises to acquire Environmental Management System (EMS) (ISO 14001)

Note: Through the provision of GEO120/2002 and GD1570/2002, the Romanian government supports companies to implement EMS by financing from the state budget the cost of implementing accreditation according to ISO 14001. The programme is carried out by MIR.

4. Objectives and Benefits of Improvement on Hazardous Waste Management

The objectives of improvement of hazardous waste management are as follows:

Objective:

1) To minimize impacts of hazardous waste on health and environment
2) Maximize effective use of resources

Benefits:

3) To increase productivities and save costs with waste prevention and recycling
4) To create more favourable conditions for foreign investment
5) To create a more favourable image of the Romanian industry

B. HWM Activities and Components, and Relationship to IPPC & CP

5. HWM Tctivities

There are the following three major activities with respect to hazardous waste management:

a. Prevention through
   - Improvement in in-plant house keeping
   - Changes in operation
   - Changes in production process
   - Changes in types of materials used
   - Changes in product design, and
   - Changes in consumption (demand)

b. Recycling
   - On-site recycling
   - Off-site recycling

c. Management of generated hazardous waste
   - On site handling and storage
   - Collection and transport
   - Treatment and disposal

6. Components of Waste Management System

As explained earlier, waste management system consists of the following components:

1) Legislation,
2) Enforcement,
3) Facilities, and
4) Support services

All four elements need to be present and 'balanced' in order for the overall system to be effective.

7. HWM as part of environmental and industrial management

1) Hazardous waste is closely related to, and a part of Integrated Pollution Prevention and Control (IPPC) and Cleaner Production (CP), which are part of industrial and environmental management.
2) Solution to or improvement of HWM is very much dependent on overall progress of IPPC/CP and other industrial and environmental management improvements.
3) IPPC: Technically, hazardous waste can take three different forms, i.e., solid, liquid and gas. Without air and water pollution control systems, hazardous waste may be emitted to the air and water. In which case, emitted hazardous exhaust gas

or effluent is excluded from the reported hazardous waste generation quantity. Installations of air and water pollution control systems will in fact cause recorded solid hazardous waste generation amounts to increase. From the viewpoint of Integrated Pollution Prevention and Control (IPPC), such increases of recorded solid hazardous waste due to improved air and water pollution control is desirable provided that the generated solid hazardous waste is properly managed. In this sense, stricter enforcement of air and water pollution control is desirable.

4) EPIs factory inspection must look at all types of emissions (gas, effluent, solid waste) in an integrated manner by understanding the industrial process (materials and waste flow) of the factory.

C. Policy, Laws, Standards, Enforcement, and Awareness Raising

8. Environmentally sound and economical management of hazardous waste

1) Dedicated hazardous waste treatment that meets EU standards will generally cost 10 – 100 times higher costs as compared to the cost spent by majority of the existing Romanian waste generators, which is minimal at present.

2) It is unrealistic to expect that the Romanian industry can pay such high cost in near future.

3) The Romanian industry should use economical yet environmentally sound methods and technologies for disposal of hazardous waste.

4) With its high incineration temperature and general configuration, a cement kiln has a possibility to accept various kinds of hazardous waste including waste oil or even old pesticide waste if the cement kiln equipped with additional and appropriate facilities for accepting and destroying such waste.

5) With strong evidence and experience gained in Japan, EU and many other countries and also considering the Romanian economic conditions, it is strongly advised that the Romania should use the existing industrial facilities such as cement kilns, smelting plants and steel making plants, for treatment or energy recycling of industrial waste including some hazardous waste. This will reduce total investment costs required for proper destruction of this category of hazardous wastes.

6) Although prevention and recycling of hazardous waste is important, and generally given a high priority, hazardous waste amount that can possibly be avoided with prevention/recycling efforts would be typically one quarter of total hazardous waste generation. Environmentally sound disposal is very important particularly for hazardous waste, and should be given a high priority. Appropriate disposal of hazardous waste must be emphasized especially in view of the fact that there exists a persistent illegal waste oil market in Romania where waste oil is “reused” or “recycled” in environmentally non-sound manner.

9. Realistic Standards and Strong Enforcement for Steady and Step by Step Improvement

1) It is possible for a government to create very stringent hazardous waste management laws and standards, but it is very difficult for the government to enforce them if they are unrealistically stringent or proper facilities do not exist..

2) The higher the law requirements, the more the time and costs required to enforce them.

3) Too much gap between the legally required standard and actual prevailing standard will create unfavourable and disrespectful attitude towards the law within the society.

4) Though it is necessary for Romania to maintain harmonization with EU legislations, the time schedule for implementation of the legislation should be realistic.

5) MWEP and the subordinated Agencies / Inspectorates must be strong in the law enforcement based on challenging but realistic standards and requirement.

6) Based on the Japanese experience it is advised that there should be a law requiring enterprise to appoint an environmental pollution control manager, who has the responsibility and power within enterprise, and is legally answerable for EPIs, and may be punished in case the enterprise does not comply with the environmental laws. It is quite common in Japan that one of directors of the board is appointed as such manager.

10. Heightening of Hazardous Waste Generators' Willingness-To-Pay With Stronger Enforcement and Awareness Raising Activity

1) A fundamental condition for improving hazardous waste management is the willingness of hazardous waste generators to pay costs higher than a level that they pay at present. The current level of cost paid by hazardous waste generators is very low. Such low cost is made possible because they are allowed, in reality, not to apply even minimal environmental standards.

2) In Romania, waste oil generators tend to think that the waste oil is something that brings money to them rather than requiring cost. This thinking is enhanced by the existence of an illegal market of waste oil, where they can sell waste oil at certain price or even full market price.

3) This is the reason why waste oil generators are not willing to pay cement kiln operators an appropriate cost of treatment of the waste. This cost would be higher than the current cost the generators pay, but much lower than the cost of dedicated hazardous waste incineration.

4) This is also a reason why hazardous waste generators are not so enthusiastic about waste prevention and recycling, which also implies some cost. If waste generators have to pay the much higher disposal cost required by improved standards, they will be more interested in developing and utilizing waste prevention and recycling opportunities.

5) A stronger law enforcement and awareness raising activity by MWEP and their subordinated units (eg EPIs) are essential to eliminate the illegal market of waste oil, and to ensure that the waste generators will apply waste treatment methods of minimal acceptable environmental standard.

11. Waste Generators' Awareness Raising About Hazardous Waste – Its Definition and Appropriate Management Needs

1) Segregation of hazardous waste from non-hazardous waste would be the first step of the waste management.

2) However, the hazardous waste generation survey conducted by the JICA Study Team indicates that waste generators generally do not know how to identify and classify waste into hazardous or non-hazardous types with reasonable accuracy, without which, hazardous waste segregation is not possible.

3) MWEP and EPIs should do all they can do to ensure that waste generators understand waste identification, classification and reporting as well as needs for appropriate waste management.

12. Management of Contaminated Sites

1) According to EPIs response to the questionnaire sent by JICA Study Team, there are 97 contaminated sites in 26 counties.

2) Most of the contaminated sites are actually dumps and deposits of industrial waste (contaminants). Main contaminants reported are waste oil and waste containing heavy metals.

3) The existing Romanian legislation has many articles about contaminated sites – soils and water that were contaminated with contaminants. However, there do not exist adequate regulations concerning `fly deposits' or historical deposits of contaminants. There is a limitation to apply legislation meant for contaminated sites to deposits of contaminants.

4) It is strongly advised that MWEP will draft a legislation of appropriate form such as government order that can address the issue concerning deposits of contaminants. Such legislation should adequately deal with such issues as definition, and responsibility for contaminants' deposit management activities including site identification, monitoring, environmental impact assessment, reporting, inventory making, safety measures, cleaning and restoration activities.

5) MWEP and EPIs should pay more attention to deposits of contaminants, and as a first step, make at least preliminary inventory of such deposits with a very preliminary assessment of their impacts, and show collected information in respective county environmental management plan so that it can be accessible by public.

D. Financial and Policy Reforms

13. The Government Positive Role in Creating Financial Market and Mechanism to Provide Waste Generators With Easier Access to Funds

1) At present, the Romanian enterprises generally have very limited access to funds or loans needed for development of industrial facilities including waste management facilities.

2) The rate of industrial development will be higher with easier access to funds.

3) Improvement of hazardous waste management will be faster with faster industrial growth.

4) Enterprises can better comply with the law with easier access to necessary funds.

5) In general, the government law enforcement cost is lower with higher level of compliance by enterprises.

6) In most EU member countries, the government played a positive role for developing hazardous waste management facilities. Without this support, the implementation plan is longer and is more difficult to enforce.

7) The Romanian government, if not playing the same role, should at least play a role for creating a financial market and mechanism to facilitate development of industrial facilities including hazardous waste management facilities.

14. Importance of Energy and Water Price Reform, Privatisation of SOE's, and Other Enabling Factors

1) Efficient use of energy, water and raw materials is a base for a good industrial and environmental management including HWM.

2) A key role of the government is to ensure that the society has an incentive for efficient use of those resources.

3) Energy and water price reform, privatisation of state owned enterprises, market liberalization, and awareness raising are key instruments to enhance such incentives, particularly in a transition economy such as Romania.

4) The need for reform in these areas is well recognized, and the strategic issues involved go well beyond the specific concerns of hazardous waste management. Nevertheless, in addition to overall macroeconomic considerations, hazardous waste and environmental management provide further reason why such policy reforms are required.

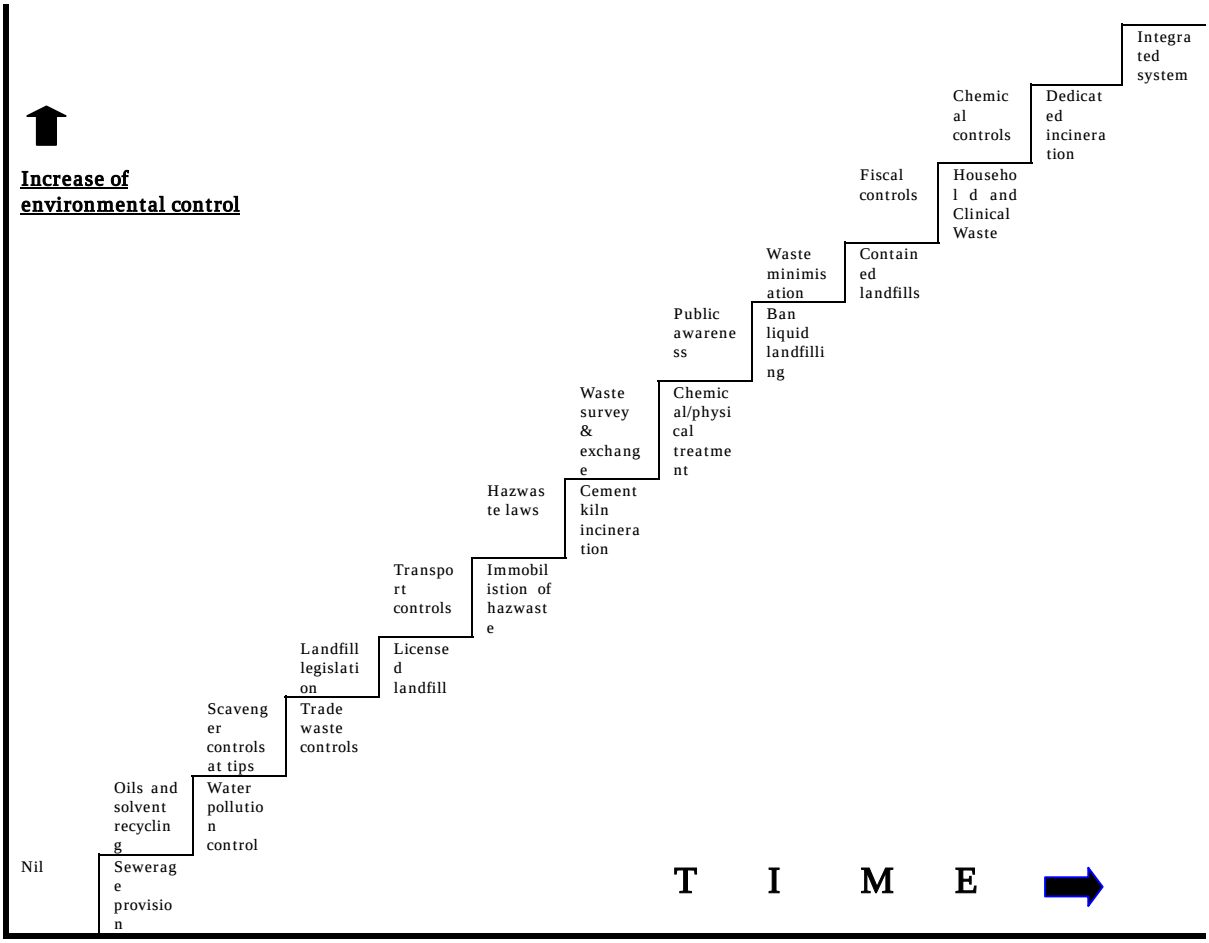
1.3 What Is Hazardous Waste Management?

The purpose of this section is to provide a general introductory description to the scope of any strategy or plan for waste management and why such plans are necessary and important.

These considerations equally apply for municipal, industrial or any specific waste types (eg hazardous wastes).

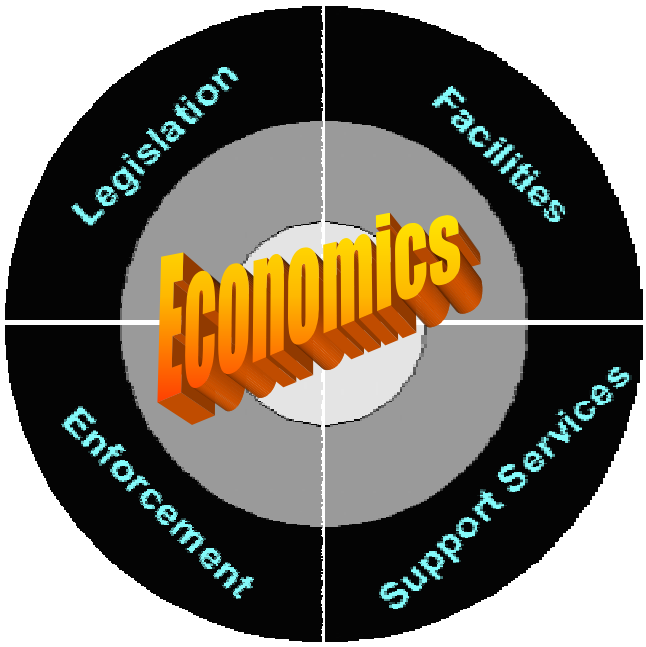
1.3.1 Components of A Waste Management System

Any waste management strategy will have many components and will take time to implement. Implementation of the strategy will be very much dependent upon the economics of the whole situation, and indeed the economics component of any strategy and implementation plan is very important. These two aspects can be illustrated by the following Figures (these are indicative only): Figure 1.3.1 Example of a step-by-step evolutionary approach to hazardous waste management, and Figure 1.3.2 Components of a waste management system bound by economics.



Source: *Waste Management and Research, March 1990*

Figure 1.3.1 Example of a Step-by-Step Approach to Hazardous Waste Management



Source: JICA Study Team

Figure 1.3.2 Components of a Waste Management System Bound by Economics

Within European and OECD countries, the evolution of waste management has followed a fairly common pattern. As a first step, general environmental enabling legislation is approved and standards for water, air and solid wastes are defined. These "performance standards" are an important element of any system. Environmental agencies are then established, although the mandate for hazardous waste management (and pollution control) usually remains defused. Political support is generally weak and, in the absence of enforcement, there is relatively little response from the private sector. Eventually, information requirements are introduced for new investments in the form of environmental impact assessments. And, finally, because of the continued absence of an effective response from the private sector, and growing concern about the damage occurring to the environment, the environmental regulators mandate is clarified and the institutional component strengthened. Its resources are increased, and the monitoring and enforcement of the environmental standards begins in earnest. Provision of a suitable technical infrastructure is then important so that the regulated parties can comply.

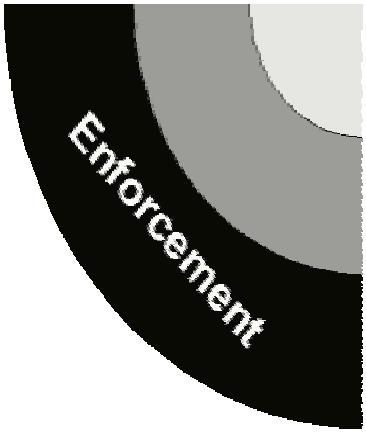
1) Legislation

The first component of hazardous waste control system is a legal framework. Legislation generally comprises primary legislation (Laws and Acts) and secondary legislation (regulations, instructions etc.) legislation also needs associated guidelines to clearly identify actual requirements and how compliance can be achieved. Such a legal framework providing at least the following:

- Definitions, waste classification system, and database
- Requirements for all parties involved in the waste management chain/establishment of the obligations and responsibilities (permitting, facility standards, responsibilities etc.)
- A legal basis for environmental taxes, the revenue of which can be used for the financing of the waste policy
- Facilitation of enforcement, such as definition of the authorities that are competent to inspect facilities, the terms under which inspections can be carried out, the potential responses, penalties and mechanism for application of penalties in case of contravention etc.

2) Enforcement (Ie Institutional Component)

Legislation on its own is not sufficient, it is only effective if enforced, i.e. the target of the legislation (hazardous waste generators and hazardous waste management organisations) are encouraged to comply with the legislation. The threat of enforcement must be credible. It is necessary for non-compliance to be detected and enforcement action taken when justified. In addition, the penalties or sanctions imposed must have deterrent value. This will only be achieved if the cost of non-compliance is significantly more than the cost of compliance. Enforcement, however, should only be used when necessary – once it is demonstrated that enforcement will be the result of non-compliance (i.e. the threat of enforcement is credible) persuasion can be a far more effective tool.

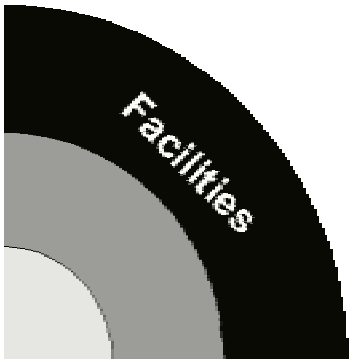


Regulatory authorities should promote self-regulation. In order to do this, industries must be aware of their performance requirements (emissions and wastewater discharge limits and waste management standards to be achieved). These performance requirements should be appropriate and equitable. The regulatory activities should then be focused on *monitoring compliance* with these performance requirements.

Enforcement action should be taken in cases of **significant** non-compliance. In terms of what is significant, regulators should consider the seriousness of the non-compliance, frequency of non-compliance and any mitigating circumstances.

3) Facilities (Ie Technical Component)

A key issue is that the regulated parties can only comply with the requirements of legislation if the necessary infrastructure (ie the facilities and support services) physically exists to be able to comply.



- The planning and development of an adequate network of waste management facilities with suitable transportation capability is an absolute requirement.
- It is not practicable to implement and enforce legislation, which tells waste generators, for example, that certain types of facilities need to be used for specified types of industrial wastes, unless those facilities exist and are accessible.
- An industrial waste control system must therefore include measures to ensure that adequate facilities are planned and developed as necessary, and subsequently used.

4) Support Services (Also a Technical Component)

The fourth component is the support services and technical infrastructure, which are needed within the country or region to underpin the development of a industrial waste management system. Examples here include the availability of:

- Research, design and development
- Laboratory facilities
- Technical information
- Consulting services
- Advisory centres (e.g. cleaner production centres / centres of technical expertise)
- Training schemes
- Public awareness

5) Economic Factors

Economic factors touch all components of a waste management system from legal fiscal incentives to promote environmental policies to funding resource requirements for implementation of the Action Plan.

1.3.2 Why a Hazardous Waste Management Plan Is Necessary and Important?

Management of hazardous waste is of growing world-wide concern. Clearly and by definition, it is these wastes which have the greatest potential impact upon health and the natural environments. Hazardous wastes, as well as representing a wasted resource, may exhibit one or more of a range of properties (eg flammable, corrosive, toxic etc), and require very rigorous management from `cradle to grave'. The holders of such wastes will realise the potential liability costs associated with this rigorous management regime. Experience in other countries has shown that this can result in illicit trade, illegal dumping, and significant environmental contamination (eg soils, sewers and waste water treatment plants etc).

The need to adopt a more strategic approach to hazardous waste management has also been reinforced by the need to implement the Landfill Directive and the IPPC Directive, as well as the specific measures to remove the most dangerous chemicals from the environment.

Furthermore in December 1999, the 5th Conference of Parties to the Basel Convention made a high level declaration on the environmentally sound management of hazardous wastes.

Effective waste management is a complex issue and requires a systematic and coherent approach with an emphasis on prevention. Romanian policy objectives are noted in various documents* (NEAP 1999, Strategy for Environmental Protection 200~2004, and Medium term national strategy for Economic Development). More specifically, Article 8 of the Waste Management Law 426/2001 prescribes development of National Waste Management Plans, with specific measures and objectives, and timescales for implementation, monitoring and review. Under Article 18, the competent authorities shall develop special sections for hazardous waste management within the framework of these waste management plans.

In Romania, as well as in other countries, the impact of waste on the environment has increased at an alarming rate during the past 20 years. The inappropriate management of this problem has caused soil, subsoil and ground water sheet contamination, emissions of methane, CO_2 and toxic gases, with direct effects on public health. Storage units are full, and finding new ones poses big problems. Recycling of materials is a priority of sustainable development for the following reasons:

- For certain raw materials the natural resources are poor or insufficient. Industrial processing of low quality raw materials is made in conditions of inefficiency or at a very low margin of competitiveness. The alternative of importing the respective materials is only possible to the extent that the national account balance allows.
- The generation of resources by recycling waste (non-ferrous metals, steel, paper, and glass, etc) has benefits. It can be done at low costs, because the consumption of energy and water is very low. Also, the quantity of slag and the degree of pollution may be reduced significantly (as compared to the extraction of useful substances from ore).
- Hazardous and radioactive wastes pose special problems, since they expose population to risks that involve high protection costs. In Romania there are no systematic, accurate and comprehensive records regarding the exact amount of the various types of dangerous waste and storage spaces, nor are there records regarding the costs and annual expenses for their neutralisation and the decontamination of affected areas.

These are all reasons why a hazardous waste management plan is necessary and important.

1.4 Hazardous Wastes Within the Scope of This JICA Study Project

The purpose of this section is to clarify the definition of hazardous wastes both in the context of the applicable legislation and the scope of this JICA Study Project.

1.4.1 Legal Definition and the European Waste Catalogue & Integrated Waste List

To meet the requirements for transposition of the EC Waste Framework and Hazardous Waste Directives, the Government Emergency Ordinance No. 78 of 16 June 2000 on waste, published in the Official Journal of Romania, Part I, No. 283 of 22 June 2000 was adopted (as Law 426/2001), with some changes and additions, by the Deputies Chamber in the session on 28 June 2001, in compliance with the provisions under Art. 74, par. (1) of the Romanian

Constitution.

"Hazardous waste" is defined in Annex I A of this Law (426/2001) as: *waste specified under Art. 18[1] par. (1) and belonging to the categories or generic types of hazardous waste presented in Annex No. 1 C, and the components of such waste, presented in Annex No. 1 D, these components making such waste hazardous when having one or more of the properties described in Annex No. 1 E.* (but these do not include concentrations referred in Art 1 of Council Decision 94/909/EC)

These Annexes list types and constituents of waste that will render it hazardous and list specific hazardous properties. They are a direct correlation with the Annexes supporting the EC Hazardous Waste Directive (91/689/EC)

Article 21 of Law 426 modifies Art 18 of the GEO No 78 and states: "competent authorities shall prepare a list of hazardous waste within 90 days from the date of implementation of this emergency ordinance. The list will be based on categories or generic types of hazardous waste presented in Annex 1C. Periodic updating will be approved by Government Decision."

This list was provided in Government decision 155/1999 on keeping records for waste management. This introduced the European Waste Catalogue (EWC) and Hazardous Waste List (HWL) into the Romanian legal system as the method for grouping wastes, including hazardous wastes. These lists are source and process-based listings of wastes.

The EWC is a six-digit waste classification system based on the source of the waste. The first two digits defines the type of industry or overall process; the second two digits refine this definition and the third two digits identify specific types of wastestream. Some of these EWC categories have the potential to contain hazardous materials and are also on the EC Hazardous Waste List. The original (Dec 1994) HWL is a subset of EWC and consisted of 236 of the 645 EWC waste types. In May 2000 this was revised for the first time and the HWL was amended significantly; this version consisted of 687 waste types of which 290 were considered as hazardous. In the EU, these were further amended in July 2001 as the Integrated Waste List and the EWC and HWL were replaced with the new Integrated Waste List (IWL) on 1 January 2002; this includes 849 codes of which 404 are considered hazardous waste.

The IWL increases the number of waste streams compared with the existing EWC, and identifies wastes to be considered hazardous waste within this integrated list. Those wastes marked with an * are hazardous wastes by definition, and will aid some of the waste classification problems referred elsewhere in this Report.

The key difference between the old and new systems (apart from the increase in the number of separately identified wastestreams) is that wastes identified with an * on the new Integrated Waste List are hazardous waste for the purposes of EC legislation. There is no further requirement to test the waste for the presence of hazardous properties.

The new list has been produced after many years of consultation and review. Further changes will be made to it over the next few years as part of the review process required by the EC Hazardous Waste Directive. Since all have had an opportunity to discuss changes to the list, it is expected that all countries across Europe will ensure that their domestic waste legislation will introduce this Integrated Waste List without the need for additional substances to be added in different countries.

Since neither 78/2000, 426/2001 nor 155/1999 created a direct link with the EC waste

and hazardous waste Directives, the requirement to introduce this IWL on 1 January 2002 was not applicable for Romania. However Law 24/2000 commits Romania to changing its domestic legislation when changes are made to EU legislation and therefore it was expected that this new list will be adopted during 2002, before the IPPC Directive is adopted in Romania in 2003. This has happened and a Government Decision (GD 856/2002), on the Records of Waste Management and the Approval of the List of Wastes, including hazardous wastes, was adopted 16 August 2002 at which time GD 155/1999 was revoked. In this new regulation (856/2002), the definition of hazardous properties is also clearly linked with the definitions in GEO 200/2000 (on the Classification, Labeling and Packaging of Hazardous Chemical Substances and Compounds), approved and modified by law 451/2001 and used in conjunction with the provisions of GD no 490/2002 for the approval of the methodological norms for enforcing GEO 200/2000.

This change of definition has substantially increased the quantities of hazardous waste reported throughout the EU. It is also expected that the new IWL will increase the amount of waste recorded as hazardous waste in Romania.

1.4.2 Waste Categories

The definition of hazardous waste regulated by this legislation (Law 426/2001) is subsequently defined in Articles 1 and 2 (see also 1.4.3) as follows:

Art. 1.

(1) The object of this emergency ordinance consists in regulating the activities of waste management, under conditions able to protect the human health and the environment.

(2) The provisions of this emergency ordinance apply to:

a) Household waste;

b) Production waste;

c) Waste from construction and demolition works;

d) Hazardous waste.

(3) The waste categories are those specified in Annex No. IB.

ANNEX No. IB

WASTE CATEGORIES

1. Production or consumption residues, not specified under the following positions.
2. Products that are outside the technical specifications.
3. Products past their expiry date.
4. Materials scattered or destroyed in an accident, including any materials, equipment, etc., contaminated following the accident.
5. Materials from construction, demolition, refurbishment in built areas, etc.;

6. Materials contaminated or fouled following a voluntary action (e.g. residues from the cleaning operations, packaging materials, containers, etc.).
7. Consumable goods and their parts (e.g. used batteries, spent catalysts, etc.).
8. Substances that become unsuitable for use (e.g. contaminated acids, solvents, spent salt mixtures, etc.).
9. Residues from industrial processes, (e.g. slag, etc.).
10. Residues from processes of combating pollution (scrubber slurries, powders from de-dusting filters, used filters, etc.).
11. Manufacturing/finishing residues (e.g. lathe or mill shavings, etc.).
12. Residues from extraction and processing of raw materials (e.g. waste from mining and oilfield extraction, etc.).
13. Contaminated materials (e.g. oils contaminated with PCB, etc.).
14. All materials, substances or products whose use is prohibited by law.
15. Products that are no longer used by the holder (e.g. residues from agriculture, household waste, waste from offices, commercial activities, etc.)
16. Contaminated materials, substances or products resulting from soil rehabilitation.
17. All the materials, substances or products included in the above categories.

1.4.3 Wastes Excluded from Law 426/2001

Art. 2.

(1) The provisions of this emergency ordinance do not apply to:

a) Radioactive waste;

b) Rock and soil deposits and mineral resources deposits resulted from drilling, geological field work, underground mining for natural resources, including from surface quarries;

c) Animal carcasses and following waste resulting from agriculture: faecal waste and other natural materials, non-hazardous substances used in agriculture;

d) Gaseous effluents issued into the atmosphere;

e) Waste waters, excepting liquid waste;

f) Waste of expired explosives.

(2) Management of waste generated from the activities carried out in the administration sector of the Ministry for National Defence may be carried out without complying with the provisions of this emergency ordinance in case law enforcement might jeopardize national security. In such cases, the Ministry for National Defence shall recommend waste management measures complying with

guidelines drawn up by the central national authority for environmental protection.

(3) Wastes specified under par. (1) are or shall be regulated by other normative acts.

1.4.4 Mining and Agricultural Wastes

It is not unusual that the regulation of these categories of waste are separated from that of normal household, production and construction and demolition wastes. This simply recognises that the management of such wastes is generally at source and very sector specific.

Essentially the EC currently takes the position that the Waste Framework Directive (WFD) excludes agricultural, mining etc waste where it was not covered by other Community legislation (i.e. that the term 'legislation' clearly meant EU-level legislation). For many years, however, they acted as though it was in practice outside the scope of the WFD. Member States (certainly the UK, but several others too) take the position that the WFD allowed them to exclude agricultural, mining waste etc from national legislation brought in to regulate most wastes, provided that they had other national legislation covering those wastes. In practice, most Member States have very little legislation covering pollution aspects of mine waste management.

The Romanian mining legislation stems from Law no. 61/1998 - Mines Law. This law establishes the general rules for exploration and exploitation of mineral resources from Romania. In the content of this law the word “waste” appear only one time, in art.29 (l), where is specified that “it is forbidden to store wastes and hazardous, toxic, radioactive, or any other pollutant substances, not complying with legal provisions”. Subsequent supporting Government Decisions and Ministerial Orders identify the requirement for EIAs and environmental permits to ensure compliance with environmental legal provisions.

There is actually a cautious welcome in the EU for the proposed Mining Waste Directive from several quarters (Governments and industry), because it's adoption will make it clear that an appropriate management regime is not in conflict with the WFD, Landfill Directive etc. It also covers several topics that are/will anyway be covered in response to the Water Framework Directive. This requires Member States and others to assess sources of pollution (including old tailings heaps), and to do something about them, as well as requiring new installations to avoid polluting groundwater and surface water. In other words, the proposed Mining Waste Directive will be an instrument for implementing the obligations created by the Water Framework Directive without leaving mines and others open to challenge that they should really be classified as landfills. In the specific case of cyanide, very little is currently used, and the Commission's aim is to keep it out of tailings dams by pre-treatment of residues where relevant. Some EU mining companies already do this and the only likely resistance will come from small-scale gold mines unwilling to invest in the technology. Historic cyanide is another matter, and tips containing it would be covered by general contaminated land legislation. The big 'problem' with the proposed Mining Waste Directive will come from the fact that it seeks to include aggregate and industrial mineral quarries, on-shore oil and gas, peat etc as well as coal/metal mining.

1.4.5 Waste Waters Excluding Wastes in Liquid Form

This is another category of Wastes that are or shall be regulated by other normative acts. This situation particularly applies to effluents from industrial processes where in most cases

pollution control is managed in the form of a permit to discharge waste water in accord with national standards and norms. These are regulated in the EU in accord with the Framework and Daughter Water Directives (eg 60/2000/EEC etc), except where such waters are discharged from a waste management facility or if the `waste water' is itself within the definition of a waste on the Integrated Waste List.

1.4.6 Household Wastes

Household wastes that have hazardous properties, such as bleach and some batteries, are at present excluded from the Directive. However, the EC has signalled its intention to propose a new Directive dealing with household hazardous wastes.

Reference:

Waste Management and Research, March 1990