

Auditing the Implementation of the Waste Management Policies In Iran

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Introduction:

Wastes and waste management do not have a long history in Iran. So that its regulatory provisions are the latest environmental regulations. Nearly two decades after the Islamic Revolution and the growth of large cities and industrial development, wastes as the most stable and troubled contaminants were considered by lawmakers and environmental authorities.

Therefore, in accordance with the 50th Article of the constitution which prohibits irreversible destruction of the environment, and in order to manage wastes and protect the environment from their harmful effects and improve the living conditions and prevent diseases outbreaks due to lack of sanitary waste disposal, the Parliament passed the Waste Management Act.

This law and its executive regulations have clearly determined duties of the executive agencies and other parties and their responsibilities and mandate. The law has classified wastes into 5 categories as follows:

1. Ordinary waste
2. Medical waste (hospital)
3. Special waste
4. Agricultural waste
5. Industrial waste

Importance of audit:

The following are the major causes of the importance of waste management audit.

- Necessity of paying Attention to human health

- Necessity of paying Attention to preserving the environment for future generations and the pursuit of sustainable development.
- The limitation of the Mineral and natural resources
- Possibility of supplying the required energy through recycling process
- The hidden Wealth in the Waste
- Preventing contamination of the environment and natural resources due to non-normative waste disposal

Audit objectives:

- Ensuring that required legal means and sufficient guarantee for wastes management are provided
- Ensuring that the guidelines, standards and criteria are timely prepared and concerned by the implementing agencies
- Ensuring that the performance of implementing agencies comply with waste management Act
- Ensuring that the funds allocated in line with the waste management Act are properly spent by the implementing agencies
- Doing the effective waste management auditing in relevant implementing agencies

Used criteria:

- Quality standards and the standards for the safety of the products and recycled materials should be developed
- Workshops and training courses should be held for village administrators and villagers on solid waste management
- Instructions on how to calculate the cost of solid waste management services should be provided
- environmental standards for landfills should be regulated and communicated
- landfills for special waste must be determined
- funds and facilities for establishing waste disposal sites must be provided
- Medical waste should not be mixed with other wastes and discharged and spread into the environment

- producer of special (hazardous) waste must reduce the amount of waste and pollution intensity

Audit scope:

- Considering that the year of 2015 was the first year of waste management auditing in Iran, so the audit scope covers the provinces of Gilan, Golestan, Mazandaran during the years of 2013 - 2014.

Methodology:

- Supreme Audit Institutions can detect problems in systems, procedures and regulations and reflect them adequately in order to assist the government to achieve the environmental goals.
- Supreme Audit Court of Islamic Republic of Iran, implements environmental audit in order to help implementing agencies, including Environment Protection organization and Management and Planning Organization, to recognize the problems in mechanisms, procedures and policies of the waste management system. Then it gives some supportive recommendations for correcting and improving the situation based on the audit findings. Thus finally, it reports the results of the audit to the parliament.

Pathology concepts:

- Pathology: refers to analyzing the causes and effects of the problems and deficiencies
- Problem: whatever causes failure at achieving system's goals.
- Pathology requires systematic approach to processes and aims at understanding the nature of the problems that need to be solved. It detects and remedies vulnerabilities across different regulatory areas over time and can promote continuous improvement of affairs.

Necessary steps to identify the problem:

- **First: understanding the nature of the subject:**
In this step we try to understand regulations, rules, guidelines, standards, and mechanisms governing waste management system.
- **Second: recognizing the potential red flags:**
In this step the signs of the problem are detected.
- **Third: identifying the causes of the problem:**

In this step we try to identify causes such as lack of guidelines and standards for dealing with waste, lack of proper interaction between systems and organizations responsible for waste management

- **Finally: offering solutions to deal with problems:**

At this stage some recommendations to deal with the Problematic factors are presented.

Results:

1- National Standards Organization in cooperation with the Ministry of Health and other relevant agencies has provided the standards for the safety and quality of the products and recycled materials. In this regard, twenty-two national standards on recycling and recycled products have been developed that are available on the mentioned organization's Website.

2. Interior Ministry in line with Article 6 of solid waste management has held various training workshops and courses on Solid Waste Management Act for villagers and village administrations and numerous measures has been taken to promote the culture of citizenship with an emphasis on waste management at the national level including:

2.1_ Preparing Manual of Style called "Production of bio-compost from corruptible waste and animal waste in rural areas" and communicated to all parts of the country in order to instruct villagers on proper management of perishable solid and agricultural wastes including both natural (organic) and non-natural wastes in the rural areas in the country.

2.2_ Holding courses and workshops on "waste management and compost production" for village administrators through the provincial offices and also special wastes disposal courses and training seminars for experts and managers in 2013.

2.3_ Holding training workshops on Regulations of Solid Waste Management Act for the target group in villages in all provinces.

2.4_ Interior Ministry, according to solid waste management act, has prepared instructions on how to determine the cost of solid waste management services based on comments received from municipalities and has communicated to all Governors and related agencies. Based on the mentioned guidelines, determining the tariffs are the responsibility of city council and currently in most cities of the country the tariffs are received from the waste producers as per the guidelines of the city council.

3. In order to execute the waste management by-law, Environment Protection Organization has determined the environmental criteria of locating the ordinary and special waste landfills and notified all of these criteria to ministries and related implementing agencies.

4- Considering that municipalities are interested in locating landfills, the draft environmental criteria to determine waste disposal sites was prepared by the Environmental Protection organization in cooperating with the Municipalities' Organization and after approval they were notified to the executive agencies concerned with waste management.

5- In Mazandaran Province, Most normal waste disposal sites are not located based on environmental regulations and in coordination with the Environmental Protection and Agriculture Organization. And only 15 out of the 28 sites are licensed by Environment Organization and the rest are unlicensed. The only site in Sari is equipped with a leachate treatment system and the site for waste disposal and composting plant in Babol has a lagoon for treatment of leachate but it is not yet sufficient.

6- In 28 municipal solid waste sites in the province, garbage is collected inappropriately and environmental health management at the centers is not suitable. In most landfills, the garbage is left away after collecting. In many cases the mentioned sites are nearby rivers, so leachate enters into rivers that can lead to dangerous complications for the population of the province.

7- No special industrial waste disposal site has been specified in Mazandaran province.

8- In Gilan province no landfill has been specified during the years after approval of the solid waste management act, so provisions of the Act has not been implemented yet.

9- In Golestan Province, Environment Protection organization has specified a convenient site for special wastes disposal on the basis of studies conducted in collaboration with Shahrood University. According to the act, the Supreme Council for Urban Planning is required to consider suitable areas for wastes disposal in comprehensive plans.

10- Municipalities Organization, proposes required fund offers in the annual budget and given the amount allocated to this organization and within the framework of exchanged agreements, interest and charges on loans taken for ordinary waste recycling projects are paid.

11- Immunization of wastes at public hospitals has been executed In Gilan province, but in private clinics medical wastes are still discharged with other wastes and distributed in the environment. So the Health Organization has not had effective and adequate monitoring in this regard.

12- After follow-ups by the Department of the Environment in Mazandaran province, at the first stage, hospitals and large clinics were equipped with wastes safety systems. In the second phase, province Wastes working group decided to follow-up the same for all wastes in small health centers, clinics and etc. It was also decided that the centers report all information and procedures

relating to infectious medical and special wastes to the Secretariat of the province Wastes working group. And the issue is still being pursued.

13-In Golestan province, University of Medical Sciences monitors the medical wastes and the university has emphasized segregating special wastes from other wastes by issuing circulars, but no effective action has been taken in obligating the producers of medical wastes

Audit recommendations:

1- Imposing regulatory requirements and necessary guarantees to expedite the process by executive agencies in charge of law enforcement, municipalities and village administrations, and more.

2- Constant Follow-up by related officials in order to hold Waste Steering Committee meetings in province and implement approvals of the workgroup and take necessary measures to resolve ambiguities arising from different perceptions within some provisions of the Waste Management Act and its Regulations.

3- Allocating funds, equipment, manpower etc. to the relevant agencies to support waste management projects.

4- Taking appropriate measures to supply suitable land for landfill (as a short-term solution) and establishing an Incineration and composting project.

5- Developing and communicating guidelines to all executive agencies for proper implementation of solid waste management act.

6- The Ministry of Health should introduce standards for medical wastes disposal so that health canters can select best practices based on the standards.

7- Industrial and especial waste management in power plants is necessary and important. Therefore, identification of these substances and preparing a list of them at the national level is recommended.

8- Networks for transporting oil and petroleum products are very important for waste management and preventing water and soil pollution. So in order to avoid any leakage or pipeline burst and environmental pollution, equipping them with continuous monitoring system is recommended.

9- Source separation, also called curbside separation, requires strengthening infrastructures such as separated waste collection system, high participation of private sector, establishing separated waste processing and recycling units and so on. Funding such projects mentioned above is recommended.

10- culture-making is a critical and time consuming process in implementing source separation and is directly related to culture and income level of the society and cooperation among agencies

concerned (TV, universities, scientific and research centers, schools, mosques and etc.) public training and culture-making should be given due consideration.

11- Agricultural products in the Northern Provinces are important and fertilizer is also one of the most important agricultural inputs. So establishing composting plants is recommended in order to immunize agricultural and even urban wastes and produce high-quality fertilizer in a controlled process without any environmental problems. The resulting gas can be used for electricity generation process.

12- Provincial Medical Council must require infectious waste producers to enter into contracts with agents to collect and immunize infectious waste before using them.

Detected Problems:

Due to the lack of the adequate supervision on implementing solid waste management act and newly formed steering committees in the mentioned provinces during recent years, some problems are recognized as follows:

- There are numerous ambiguities due to numerous interpretations from provisions governing the agencies concerned.
- Diversity of agencies and administrators concerning the wastes management (especially large number of municipalities and village administrations)
- Lack of legal obligation in order to expedite the implementation of the act and regulations related
- Lack of sufficient funding, facilities, equipment etc. for agencies concerned with waste management projects
- Required manuals to implement waste management act haven't been correctly prepared and communicated to the provinces
- Failure in allocating necessary funds to the projects of the composting and incineration plants
- Inappropriate usage of technical knowledge relating to waste management process
- Criteria required for special and industrial waste management in power plants have not been developed
- Failure to identify, analyze and assess contaminated soils around oil facilities (such as refineries, oil and gas pipelines, utilities, etc.)
- Consultants who prepare waste management plans lack enough competence and experience

- Lack of competent, qualified and experienced experts in the field of wastes in the province to monitor and evaluate the projects

Effects:

1. The above mentioned audit report has been presented to parliament and government then the legislative body (parliament) has been observing and pursuing the results of the audit report.
2. To use the obtained environmental benefits of this article, the results of the audit and implementation of recommendations should be concerned by the Ministry of Interior, the Environment Protection Organization and other implementing agencies.

5. Challenges and obstacles

Some important auditing challenges are as follow:

1. Due to the extension and high numbers of the implementing agencies, the auditors faced with a lot of problems.
2. Due to the vast amount of the information and auditing findings, the possibility of combining the findings of the audit is very difficult.
3. Since the waste management auditing report was prepared for a first time the auditors had different interpretations on some of the laws and regulations used in audit.
4. The high extension of the waste management laws and rules reduces the speed of auditing. By the way some of the above mentioned challenges were solved by having coordination meetings with the audit teams before starting the auditing process.

6. Learned Lessons

1. By using the pathology method, meanwhile detecting the problems, if the mechanisms be done precisely and quickly, the waste and environment problem of the north provinces will be improved.
2. Since the environment audit object is to ensure the adoption of appropriate and sufficient processes and policies and their implementation in order to achieve the goal of sustainable development, though achieving this goal in the field of wastes, development of procedures, policies and appropriate guidelines has the highest priority.
3. Environment auditing is able to prepare opportunities of helping our country to establish an effective plan to protect cities in order to omit the wastes contamination.
4. In the end, it's essential to express that this paper is not different from the accepted environment audits and Supreme Audit Court of Islamic Republic of Iran intends to have the maximum usage of INTOSAI environment guidelines