

THE CONCEPT OF WASTE MANAGEMENT

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Abstract

In this present paper give a definition of waste management which represents in fact a succession of actions by collecting, transport, processing, recycling and finally of elimination of these. The waste management methods are different in function of level of development at that country, of area type (rural, urban, and industrial) and of the waste type.

Keywords: concept, waste, management, processing, development level

INTRODUCTION

Managing waste represents one of the most important problems with which Romania has to confront as regarding the environment. This refers at collecting activities, transport treatment and elimination of these. Dates regarding managing waste in Romania make distinction between 2 important waste categories – public waste and from commerce, industries and institution, waste from constructions, demolitions and waste water treatment sludge – production waste.

The present situation of waste management in Romania is characterized by:

- the rise of waste quantities at unchanged conditions for waste disposal;
- insufficient collecting and transporting equipment;
- inadequate infrastructure appropriate recovery.

Along with the raising claims on sanitation demanding, towns and villages responsible for waste removal must expand their tasks. The sanitation task will now include not only waste removal but also their capitalization.

For obtaining competence in the field of new tasks and for realizing efficiently the waste issue, is necessary a planning in the field of waste management, that can contain a global solution. Not the consideration of steps and individual techniques, but an integrated waste management, all other ways of combining and cooperation of all strategies of waste production limitation, capitalization and removal.

The main objective is that of reducing as much as possible the quantity of removable dregs and that of storekeeping the produced waste according to some ecological techniques. The methods and the measurements that are necessary, individual steps and their chronological order are clearly exposed in an integrated concept of waste management.

MATERIAL AND METHOD

The need of a waste management concept results on one side, directly from legislative dates. Also **article 7 of directive E.U. regarding waste** (transposed in O.U. 78/2000 regarding waste regime, modified and completed by law nr. 426/2000) the elaboration is requested by the authorities responsible of some **waste management plans**. The plans must

contain the type, quantity and the origin of improved and removed waste, technical instructions, such like surfaces of sanitation equipment.

In European law, article 14 of **E.U. directive regarding packages and the waste inside the packages** we discover the prescription that waste management plans for the member states to contain a separate chapter about packages and the waste managing which results from these.

The concepts for the waste management plans at national level, respective regional are provide by the waste management concepts elaborated by the towns and villages responsible with waste management.

The need for elaborating concepts of waste management also results that along with **rise demanding**, the problems in waste management become more and more complex and require differentiated solutions. A series of individual measures must be implemented which can satisfy an objective, an organization and a global coordination.

The most important **guidelines** are sketched in following:

- implementation of concrete measures for sanitation (for example: selective collection of old fabric in view of separate collection and ecological removal of harmful waste, the safety of removing waste);
- the coordination and order of sanitation measures (for example: choosing a legal form suitable for the waste management functioning the searching and finding of private parties) adequate for the performance of some operations regarding waste evacuation and sanitation measures, along side the respectively community, supporting and coordinating measures for marketing and keeping safe the component in capitalization materials.
- the control of performing the sanitation service (for example: elaborating some surveys regarding quantities and materials, such like examination cost as the base for an eventual continuance or change, improvement of the waste management objective);
- informing and advising waste producers in view of reduction waste quantities such as encouraging capitalization measures;
- conceiving and issuing some local provisions (decision of the local board, rules and regulations) considered as being the most important legal base for the achievement of removing waste, with the possibility of influencing the citizen's behavior in the spirit of reducing waste quantities (ex.: regulation waste sanitation, the obligation of having scraping containers, and that of using the sanitation, collecting, transport taxes system, etc.) such as forming a conscience in the spirit of a safer and ecological sanitation.

The sanitation of waste in counties must be established and coordinated along with the cities and towns from around. In the future it will be more and more necessary **regional solutions, with large practicability of waste management**, which doesn't necessarily mean the necessity of high technology equipment. Here, for example we can think of the collaboration of more cities and/or villages in the view of organizing a regional strategy.

The solutions with large practicability don't exclude measures with limited practicability at the level of cities and villages. Villages can have an advantage at inhibiting forming and separate collecting of capitalization waste, where is necessary the active collaboration of citizens.

Within a global concept **measures with large and limited practicability** must be established. As well, in the global concept, it must be taken in consideration and integrated the structure as well as the capitalization measures public or private. The integrated management concept of waste can be useful within the authorization of some treatment and removal waste equipment for proving understanding of waste management priorities

inhibiting training before capitalization, before ecological removal – and for argument the necessary respective equipment.

We add here that the implementation of waste sanitation equipment, especially landfills and cremation equipment will be made difficult in Romania, because the ecological conscience of the population is still in the process of making.

The necessary of a landfill for scraping must be exposed within a global concept; along side the related measures for limitation of capitalization, in a believable manner for the population.

It must be avoid, at adopt and implementation waste management concepts, in particular **wrong decisions** because of the uncoordinated action and oriented towards individual measures and along with the **implementation problems**, as well as the **difficulties appeared in the sanitation process**.

RESULTS AND DISCUSSIONS

Waste management concepts must provide an overview regarding the management of waste in a region (for example at national or regional level). It must point perspectives and actions necessary and this way, to play the role of a guideline for the action in the waste management field.

A concept of integrated waste management contains several small concepts which relates to different fields. **The general objectives** can be presented as follows:

- the depletion of all possibilities of avoiding training and reduction waste quantities, in cooperation with the economical section and the population;
- sorting, collecting and improving household waste must be realized complying the economical and ecological points of view;
- the decrease of pressure over the landfill by using the classical capitalization method, composting as well as through pretreatment of the deposited scrapings;
- the optimal use of energy, the correct elimination from the harmful materials point of view and the prior control efficient in materials of this type;
- establishing waste management concepts at local level, with the purpose of territorial renewing and organization, as well as the purpose of satisfying regional and supra-regional interest;
- the maximum safety of sanitation by creating a regional and supra-regional system of associations, ecological and representative from economical point of view, for recycling scrapings, energetic composting and capitalization for controlled storage, ecological of the remainder garbage, impossible to capitalize.

By elaborating a waste management plan, using the concept of integrated waste management for a sanitation region the sizing of **necessities of sanitation for a defined period of time is made** (in most of the cases of 10 years).

This thing proposes the next measures:

- measures of sanitation infrastructure;
- managerial measures;
- organizer-economic measures;
- financial measures, including tax related;
- measures in the field of public relation/of the board in charged with waste.

The individual steps of planning are described in what follows:

1. Analyze of the situation in the existing county: the size of the sanitation county (number of households, the population's evolution, etc.), the structure and industrial development, treatment and storage equipment.

2. Development forecasting: estimating scrapings and material quantities tracking the equipment efficiency and action strategies in encouraging the prevention of scrapings forming;
3. Processing objectives, preventing waste before capitalizing and before remove determining the possibility of preventing the forming of waste in the industry, the rise of selective collection of different fractions from the garbage or from dangerous waste, the adequate informing of the waste producers, the rise of the accepting degree of the producers regarding the selective collection, defining the indicators for measuring objectives (recycling rates);
4. The documentation over different technologies: treatment proceedings and collecting systems, possibilities and proceedings of capitalization, the ecological utility of capitalization;
5. Auctioning plan, elaborating different strategies: the concrete and comparative analyze from the quantity and quality point of view of the materials, costs and requests for jobs, quantity of capitalize waste, strategies proper, organization measures, advisory, taxes structure, and timetable.

Assuring a sanitation structure adequate to new realities imposes a careful plane. The especially plans have for premise the existence of **a base of substantial dates**. This aspect refers to dates about infrastructure, types and quantities of waste, as well as the system of sanitation equipment available.

CONCLUSIONS

In conclusions, it must be taken in consideration the fact that in **each county** is an **issue of differentiated waste**, after type and content, which necessities a **specific solution**. Because of the different strategies of limited forming and re-capitalization of waste, of possible systems of selective collection and treatment methods, results in practice often **more possible variants of sanitation** plan for a county. This must be verified from the efficiency point of view, to be able to choose each time the **optimal solution**.

Along with the county conditions the next criteria can be applied:

- sanitation safety;
- the impact over the environment;
- the rate reduction of waste and remained quantities;
- the existent situation on the capitalization materials market;
- rentability;
- the rank of population's accepting;
- the organizer effort.

Elaborating the waste management concept finally leads to **a choose solution in the view of planning for the respective county**, which has to be supported by **decisions of the administration and political forums**, which constitutes the base for forming concrete measures in the waste management. **The implementation of each stage** is made **step by step**. By this reason, **establishing priorities** is recommended, as well as, **the design of timetable**.

Because waste management concepts must represent an instrument, which can contain new developments, but also to facility the purchasing of new equipments, these must be **elaborate constantly** (rarely once at 10 years). A verifying of the concept or of part of it is necessary when:

- a new installation of treatment and removing waste will be realized;
- the technique has progressed considerably;
- the quantity or composition of waste has modified significantly.

The experience clearly shows that at elaborating an integrated waste management concept a complete and complex procedure is necessary. We have to start from the idea that administrations won't be able to accomplish by themselves this task, because of the small number of staff and actual deficiencies in what regards the qualification. That's why collaboration with independent experts is recommended during the elaboration. Next we have to take in consideration the fact that in each county **an issue of differentiated waste exists** after type and content, which require a **specific solution**.

Because of the different strategies of limitation and forming of waste, of possible selective collection system and treatment methods have been checked, resulted in practice of many time **more possible variants of sanitation planning for a county**. This has to be checked from efficiency point of view, and in this way we can choose each time the **optimal solution**.

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