ANNALS of Faculty Engineering Hunedoara
– International Journal of Engineering
Tome XIII [2015] – Fascicule 4 [November]
ISSN: 1584-2673 [CD-Rom; online]
a free-access multidisciplinary publication of the Faculty of Engineering Hunedoara

[1.] Nicolae JOLDES, [2.] Anton POP-SZOVATI, [3.] Csaba GYENGE

ANALYSIS OF THE RESULTS OF REGIONAL DEVELOPMENT PROJECTS IN THE FIELD OF INTEGRATED WASTE MANAGEMENT SYSTEMS IN SALAJ COUNTY (RO)

[1-3.] Technical University Cluj Napoca, Faculty of Mechanical Engineering, CLUJ-Napoca, ROMANIA

Abstract: It is well known that worldwide there are serious problems in the management of waste. Before the change of regime in Romania is quite primitive waste treatment plants were operating. After 1990's changes through local and European financial support relatively acceptable results were obtained in order to improve the situation. Of course, there is still much to be done in this area. In this paper, the authors describe the Salaj County (Romania) waste actual situation, and the result of latest regional and European projects in this direction
Keywords: waste management, integrated systems, European projects

1. INTRODUCTION

In Salaj County there were 140 not in conformity waste yards that had to be closed and ecologised, out of which 136 were in rural areas and were already closed in July 2009. The other 4 are not in conformity urban waste yards. According to the collected data, the 4 waste yards lie on a surface of 9.51 ha and it is estimated that they house a quantity of waste of about 386.000 t.

General objective: reaching the agreements of European Union Accession Treaty for Romania regarding life and environment standards improvement. Currently the project „Integrated waste management system in Salaj county" is in progress, having ERDF – SOP Environment 2007 – 2013, Priority Axis 2, Major domain of intervention 1.

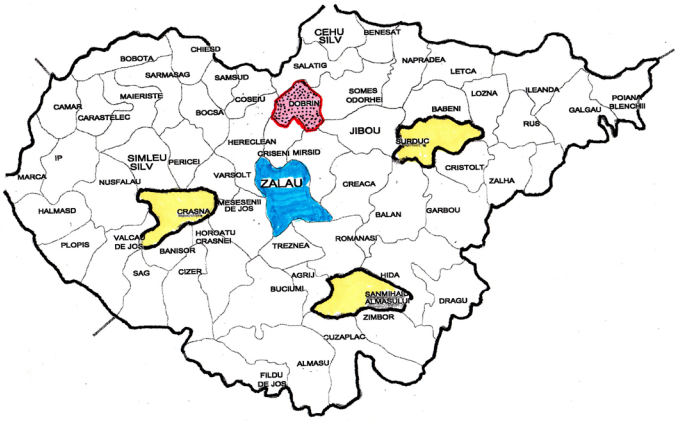

Figure 1. the largest waste storage units from Salaj County (Romania)

2. THE USE OF FUNDS BASED ON STRUCTURAL INSTRUMENTS

The project wants to solve the significant environment and operational problems associated to the generation and management of waste and to develop an integrated management system of waste in the county, fact which will improve the life standard of its citizens and will support Romania to achieve the goals of waste management imposed by the Treaty of Accession. The system in this form will be in complete conformity with the environment principles and with the European and national legislation and will address to all the elements of waste management, from prevention of waste generation and their collection to the waste storage.

The proposed system is adapted to the county needs and was identified a the most efficient and accessible from the costs point of view for the county citizens. The project intends to perform major investments to assure the infrastructure needed for the waste integrated management in Salaj County, as follows:

- Building in Dobrin The Centre of waste integrated management that will include the ecologic waste storage, the sorting unit and the unit for mechanic-biological treatment;
- Execution of 3 transfer stations at Crasna, Sînmihaiu Almaşului and Surduc;
- Closure of 4 urban waste storage units which are not in conformity from Crişeni, Cehu-Silvaniei, Jibou and Şimleu Silvaniei;
- Purchase of mobile equipment: lorries, chargers, compactors, waste containers, press-containers and garbage cans.

In figure 2 are mentioned the largest waste storage units from Salaj county.

In yellow and blue are the present large waste storage units and in red is the waste storage unit that is going to be built in Dobrin as part of this project.

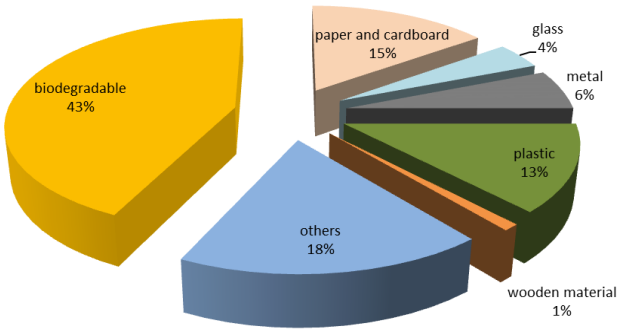

Figure 2. Current composition of waste

3. CURRENT STAGE OF INTEGRATED WASTE MANAGEMENT SYSMENS IN SĂLAJ COUNTY

Currently, in SĂLAJ county is generated an annual quantity of waste estimated to 60.000 t, which comply with a quantity of 244 kg/ inhabitant/ year. The waste structure presents normal differences between the urban (62%) and rural (38%) areas, especially in terms of biodegradable and recyclable fraction.

At the beginning of November the beneficiary will start another important activity of the project: The first public awareness campaign regarding the youth education in schools and the population awareness regarding the importance of the environment protection and the efficient waste management.

The campaign that took place in November 2014 in the whole county contained the following activities: press conference, youth education in schools regarding the environment protection, awareness and involvement of citizens in selective collection and efficient waste management, distribution of project promoting materials.

The initial infrastructure stage is emphasized in the regions – cities where the investments proposed in the project will be implemented:

- poor condition of roads infrastructure
- unincorporated area to be set as deposits
- poor condition of current waste storage units

Figure 3 presents the current poor condition of the roads infrastructure, while Figure 4 reveals the deplorable condition of the waste storage units.

Figure 3. Poor condition of road infrastructure

Figure 4. Deplorable condition of the waste storage units

Figure 5. Unincorporated area set up thorugh the project

As part of the project, the first works for the unincorporated area setup have been conducted (Figure 5, 6).

Main objectives to be achieved through this project:

- Center of integrated waste management (CIWM) Dobrin, with a total surface of 195.577 s.m. and a capacity of aprox. 1.100.000 cm, having the following facilities: ecological deposit, sorting station, mechanical-biological treatment station, epuration station;
- 3 transfer stations:
- Crasna with o surface of 6.966 s.m. and a capacity of 13.900 t/year;
- Sînmihaiu Almaşului with o surface of 6.024 s.m. and capacity of 3.400 t/year;
- Surduc with o surface of 5.990 s.m. and capacity of 2.600 t/year;
- 4 urban waste storage units which were uncomforbly have been closed (Cehu Silvaniei, Jibou, Şimleu Silvaniei and Zalău – Crişeni);
- 6,1 km of access roads have been modernised / improved (Dobrin - 2,1 km; Crasna - 1,2 km; Sînmihaiu Almaşului - 1,8 km and Surduc - 1,0 km);

Figure 6. Intermediary phase of central storage unit preparation

Figure 7. Equipment installation for transfer stations

4. DEFICIENCIES AND PROBLEMS THAT MIGHT OCCUR IN THE PROJECT COURSE

An essential part of the waste management system which is proposed is represented by the increase of the awareness level of population for two reasons:

- Active participation of citizens to reduce the wastes and collection of the garbage separately are crucial for the system success;
- The proposed system will increase the waste management taxes. The citizens will be informed about how this increase will correspond to the improvement of life standard and the value of waste management scheme that is going to be implemented will overtake that additional amount that the citizens will need to pay.

5. CONCLUSIONS

Developing sustainable waste management systems will be achieved by improving the waste management and reducing the number of historically contaminated areas.

The negative impact on the environment will be decreased and climate changes caused by urban heating system in the most polluted cities will be mitigated.

Biodiversity and national heritage will be protected and improved of by supporting the protected areas management, including implementation of Natura 2000 network.

The risk of natural disasters affecting the population will be decreased by implementing preventive measures in most vulnerable areas.

The most important projects' objectives are:

1. Expansion and modernization of water and wastewater infrastructure;
2. Development of integrated waste management systems and rehabilitation of historically contaminated sites;
3. Rehabilitation of municipal heating centers as a prerequisite of pollution decrease;
4. Implementation of adequate management systems for nature protection;
5. Development of infrastructure to prevent natural hazards in most risk exposed areas;
6. Technical assistance.

- Increased number of citizens benefiting from municipal waste collection and appropriate quality management services with affordable tariffs;
- Reducing the amount of waste deposited;
- Increase the amount of waste recycled and recovered;
- Implementation of effective structures for waste management;
- Reducing the number of historically contaminated sites.

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