Evaluation of the Integrated Waste Management Plan in the Administrative Unit of Larissa. Investigation of the impact on soil degradation in the studied area

E. Koulotsiou1 and E. E. Golia2

1Department of Planning and Regional Development, School of Engineering, University of Thessaly, Department of Planning and Regional Development, Pedion Areos, Volos, 383 34, Greece.

email:koulotsiou@hotmail.com

[2]Soil Science Laboratory, School of Agriculture, Aristotle University of Thessaloniki, University campus, 541 24 Thessaloniki, Greece,

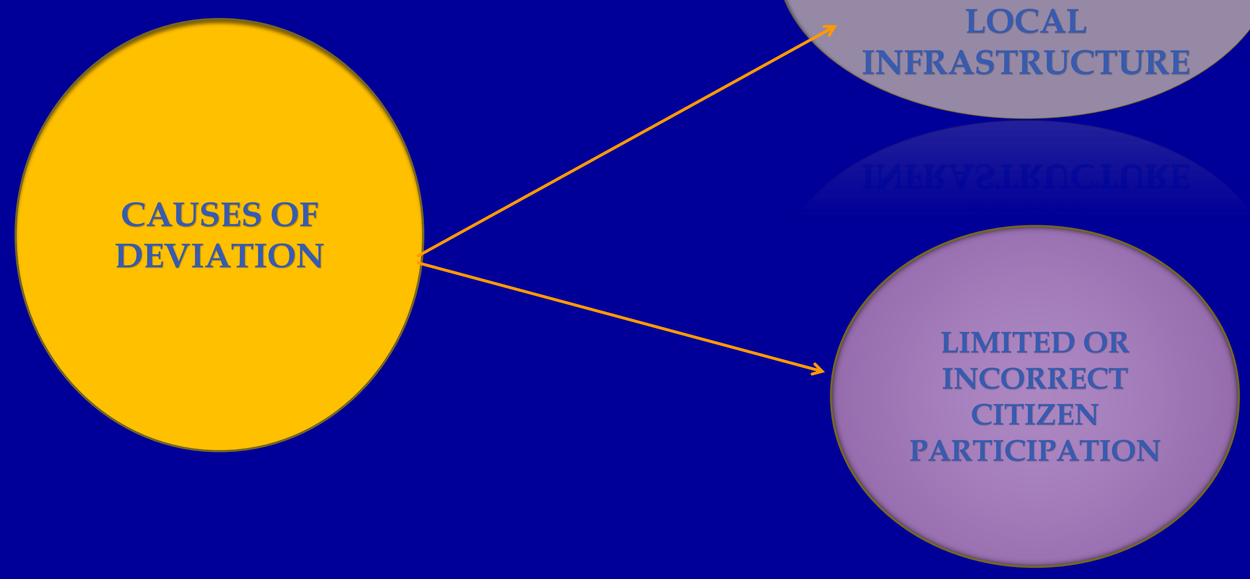
tel: +302310 998809, email: egolia@auth.gr

	MSW production (tonnes)	Final Disposal (tonnes)	%Final Disposal in total production	2015 MSW target (by 2020)
2018	67.756	58.264	86,0%	22.813
2019	69.821	59.599	85,4%	20.073
2020	69.390	59.225	85,4%	17.444

Table : Quantities of MSW of the Municipality of Larissa sent for landfilling at the landfill - Target TSSD

The Local Waste Management Plan of the Municipality of Larissa a set series of quantitative and qualitative targets that the Municipality was called upon to achieve. the Municipality of Larissa managed to implement several of them, even though the current situation falls short of the targets.

- Most of the MSW (~85%) continues to be sent to landfills
- The rates of MSW, recovery and utilization of secondary products (~15%) and especially of bio-waste, remain low,•
- The total waste generation in 2020 showed an increasing trend (~2%) despite the relative stabilization between 2015-2020, which is due to an underestimation of the population of Larissa, which is estimated at around 200,000 inhabitants.
- The construction of facilities foreseen in the TAP (e.g. green spot, recycling corners) and the acquisition of new equipment is delayed due to underfunding.



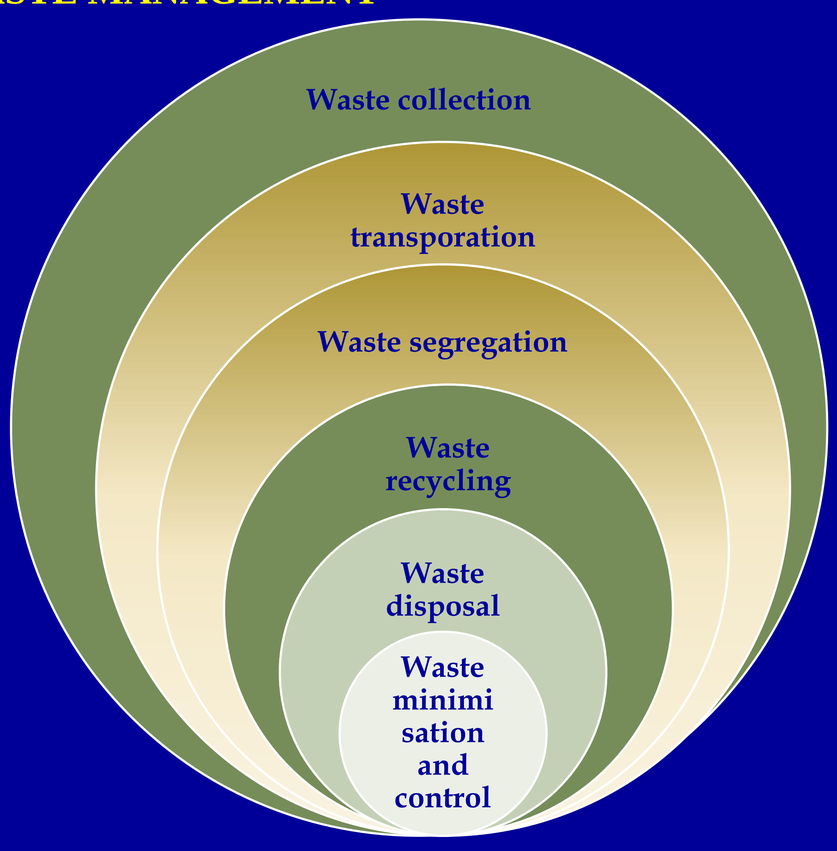
variation of incoming waste from Larissa waste producers at the Larissa landfill

Impact of MSW management methods on soil quality

Soil quality involves many parameters that need to be taken into account in order to make a proper assessment of its levels (Golia et al2021). Various indicators are used to assess soil quality. Soil quality indicators are physical, chemical and biological properties or processes and characteristics, which can be used to monitor changes in the soil. The FODSA PE Larissa, based on the current relevant Decision of Approval of Environmental Conditions (AEPO), carries out quality control of solid waste, water, strangles both in the facilities of the landfill of PE Larissa and the SMA PE Larissa.

PROPOSED ACTIONS FOR THE PREVENTION - MANAGEMENT OF WASTE MANAGEMENT

Waste Management refers to the activities connected with the collection and disposal of wastes. Waste Management comprises the following activities



The SOLID –Waste Management Association of Region Unit of Larissa (FODSA LARISSAS) is the institutionalized body of Local Government, which has the 7 Kallikratis Municipalities of Larissa as its members. It is responsible for :

- The preparation of waste prevention - reduction programmes
- Promoting actions and implementing projects that contribute to the circular economy
- The achievement of quantitative targets preparing for reuse and recycling, in accordance with the PESDA
- The construction and operation of solid waste treatment facilities

Conclusions

- The unsustainable management of waste endangers public health and contributes significantly to the pollution and destruction of the natural environment, in particular soil quality.
- Factors that make it difficult to achieve the sustainable management of MSW in the region of Larissa region are the absence of infrastructure, the scarce financial resources and the increased technological requirements for the implementation of alternative treatment methods.
- With regard to soil quality, the data from the 5-year study do not indicate any visual, physical, chemical or microbiological changes that could pose a risk to the environment, the soil, and the deeper layers.