

## SOIL MONITORING OF VANATORI – GALATI RECREATIONAL AREA

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**Abstract:** *Soil is subjected to various human interventions such as: industrialization and urbanization. The level or the degree of soil's pollution can be determined either by reducing the quality and quantity of crop production, either by refurbishment expenses necessary to increase soil's productivity and its fertilisation. Soil pollution is closely linked to the air and water pollution, therefore this have a straight impact on the flora and fauna.*

**Keywords:** *soil, heavy metals, pollution, vegetation*

### 1. General Introduction

The soil is subject to various human interventions such as industrialization, urbanization, intensification and expansion of agricultural production, abusive and excessive grazing, and irrational forests exploitation. These interventions lead to negative impacts such as erosion, landslides, acidification, alkaline degradation, chemical and biological pollution and sometimes destruction by excavation for surface mines, quarries, etc.

The level and the degree of soil pollution can be determined either by reducing the quality and quantity of crop production, either by investing in restoring the soils fertility. The soil pollution is closely related to air and water pollution, thus vegetation and fauna. Through its role as a source of water and minerals, soil pollution affects plants, plants affects animals, animals affects human, so the entire biosphere is easily compromise.

Therefore, soil pollution includes an entire range of phenomena and degradation processes of the soil. This is the result of human activity, started with the agriculture and has intensified further by industrialization and urbanization.

The main soil pollutants are:

- a) Solid residues:
  - Sterile mine or quarry;

- Unprocessed ores;
- Residues from processing minerals, coals;
- Slag and sludge from metallurgy;
- Ash resulting from the mining industry;
- Lead deposited, coming from the exhaust gases of motor vehicles;
- Municipal garbage (electronic appliances, newspapers, clothes, buildings demolished, animal carcasses, abandoned cars, etc.);
- Chemical fertilizers;
- Pesticides.
- b) Liquid residues:
  - Water from the oil fields and refineries;
  - Wastewater from the coal plants;
  - Wastewater from metallurgical processes;
- Precipitation that dissolved natural acids.
- c) Gaseous residue:
  - Natural gas (methane, ethane, propane, butane, etc.), drained of buried pipelines;
  - Gaseous petroleum products;
  - Mining gases: CO<sub>2</sub>, SO<sub>2</sub>, H<sub>2</sub>S.
- d) Dust and gaseous residues:
  - Compounds in the form of oxides, sulphates, silicates of metals: Pb, Cu, Zn, Hg, Cd.

By its position and characteristics, the soil constitutes the meeting point of all pollutants, mainly coming from the atmosphere. The toxic substances from the atmosphere fall on the ground and gets into it, either directly or via