

## CONTENT OF SOIL ORGANIC CARBON

On the territory of the Republic of Serbia, measured average content of organic carbon amounts to 2.08%, and belongs to the category of low content.

Results of fertility control in agricultural soil in 2015 show that the highest number of samples (53.14%) has low content of organic carbon, whereas in 5.24% of samples very low content of organic carbon was recorded (Figure 4).

In the Autonomous Province of Vojvodina based on the analysis of 19,808 samples of agricultural land, the measured average content of soil organic carbon amounts to 1.79% and belongs to the category of low content (1.1-2.0%).

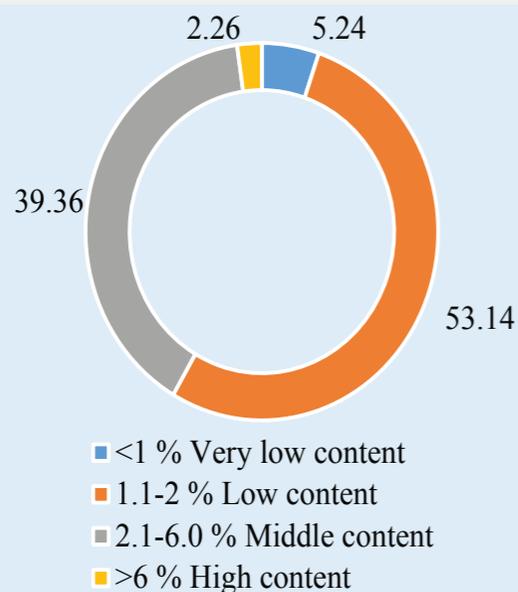


Figure 4. Content of soil organic carbon (SOC) in the territory of the Republic of Serbia

**In the frame of the fruitful bilateral cooperation between Italy and Serbia on environmental protection and sustainable development, the project aims at helping Serbia to set up a national soil pollution monitoring system in compliance with the major international environmental agreements (i.e. the UN Convention to Combat Desertification) and with the EU environmental standards.**

**The project is financed by the Italian Ministry of Environment, Land and Sea which granted a contribution to the GEF funded project “Enhanced Cross-sectoral Land Management through Land Use Pressure Reduction and Planning”, implemented by the UN Environment - Vienna Office.**

**The Italian Ministry of Environment, Land and Sea is providing its technical assistance to the Serbian counterparts, both the Ministry of Agriculture and Environmental Protection and the Serbian Environment Protection Agency – SEPA, and training courses are being organized in order to strengthen the national technical capacities for soil quality monitoring and identifying pollution at industrial sites. The project will also support accreditation of SEPA national laboratory for soil sampling and analysis.**

**For more information, please contact [info@unep.rs](mailto:info@unep.rs)**



**“Assistance to the Republic of Serbia in the Implementation of MEAs and EU Obligations through Improvement of Pollution Monitoring of Soil Quality at Industrial Sites”**

### DEGREE OF LAND VULNERABILITY IN URBAN AREAS

In 2015, monitoring of chemical pollution of soil was carried out at 170 sites on the territory of the following cities: Nis, Novi Pazar, Krusevac, Uzice, Pozarevac, Smederevo, Subotica and Trstenik municipality. The majority of total 240 samples were taken near frequently used roads (87) and from the courtyards of pedagogical institutions (34).

The highest percentage exceedances of the limit values were recorded for Cd, Cu, Zn, Ni and Co on the sites near frequently used roads, within pedagogical institutions, around the business and commercial zones, as well as on agricultural land. Exceedance in remediation value of Cu, Zn, Ni and Hg was recorded in smaller number of samples (Figure 1).

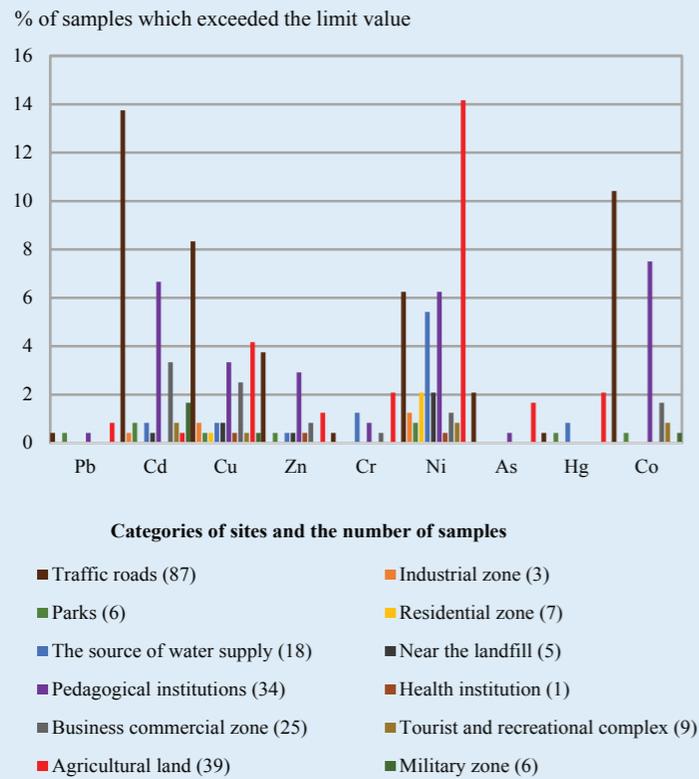


Figure 1. Exceedance of limit values of heavy metals in urban zones and agricultural land in the city zones in 2015 (%)

### DEGREE OF LAND VULNERABILITY TO EROSION

Investigations performed by the Soil Science Institute in Belgrade in South-East Serbia covering an area of 4,267 km<sup>2</sup>, or 4.83% of the total territory of the Republic of Serbia have been conducted to identify areas threatened by erosion and quantify current intensity of soil erosion on agricultural land.

The research has shown that 50.47% of the territory falls under "acceptable loss of soil by erosion", whereas very high soil erosion is present at 1.73% of the territory, 51.10% of the territory is not affected (Figure 2).

In the studied area, 3.46 t of soil is lost per year. However, based on the analysis of morphological and physical soil properties, 5.66 t/ha/year is the average allowed and acceptable loss of soil in this area.

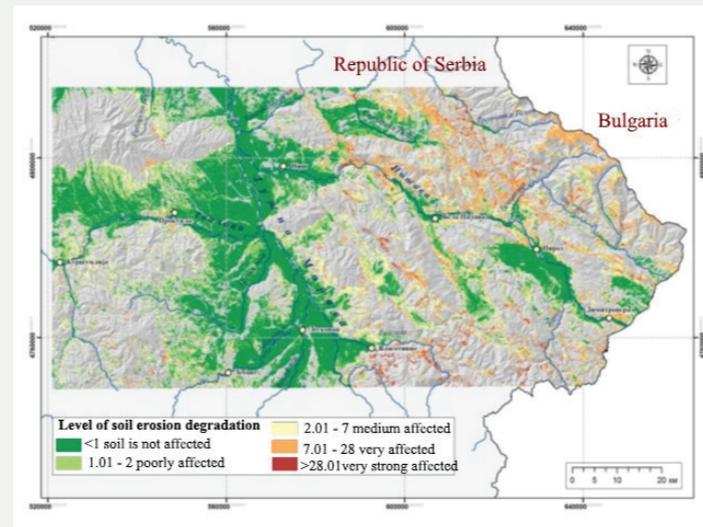


Figure 2. Degree of soil vulnerability to erosion

### MANAGEMENT OF CONTAMINATED SITES

On the territory of the Republic of Serbia 423 potentially contaminated and contaminated sites were identified and in 2015 the greatest share of 42.78% was attributed to public municipal landfills. In the period 2013-2015, soil quality was analyzed near landfills in 15 municipalities of the Autonomous Province of Vojvodina.

Analytic results of 78 samples taken up to 1 m depth show exceedances in limit values for Pb, Cd, Cu, Ni, Zn, Hg and for Cr, As, and PAHs in smaller number of samples (Figure 3).

In the context of biological recultivation, PU "Electric Power Industry of Serbia" has changed 37 ha of degraded land into arable land and 14.57 ha were forested with seedlings of acacia.

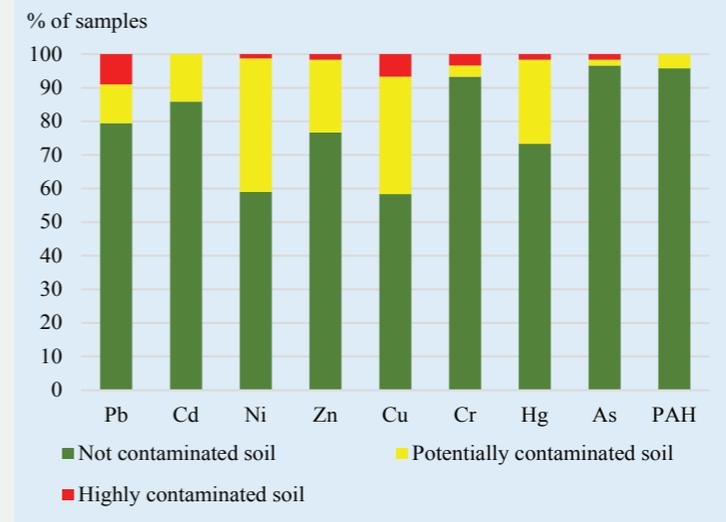


Figure 3. The state of soil near the landfill in the period 2013-2015