



*Slovensko  
partnerstvo  
za tla*

# *Slovenian Soil Partnership*

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Planning

# *Slovenian Soil Partnership & Official Logo*

## “Slovenian soil partnership”

Is a voluntary association of organizations and individuals of Slovenia. Anyone can participate and contribute or obtain information on sustainable soil management and soil protection.

### Background:

- to promote soils as a vital part of environment
- to present links between soils and human well-being
- to infer to some soil ecosystem services
- etc.



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## *Where does the idea come from?*

- **EU Expert Group on Soil Protection (established in 2015)**
- **Alpine Convention – Soil Protection Protocol**
- **Global Soil Partnership (GSP), European Soil Partnership (ESP)**
- **similar partnerships in neighbouring countries (Austria)**
- **the need to increase awareness of soil and the importance of soil in Slovenia**

## *Key areas of work*

- to raise awareness of the importance of soil, their protection and sustainable management among the general public from different perspectives
- to integrate civil society in joint soil activities
- to contribute to the preparation of effective, rational and harmonized soil legislation
- to exchange knowledge and information in the field of soil protection from the international level to the national level
- to bring together soil experts in Slovenia and strengthen their cooperation
- to promote cross-sectoral cooperation for the sustainable management and protection of soil and land in Slovenia
- to address the biggest problems related to sustainable land use and soil protection in Slovenia and respond to them in a coordinated manner
- to promote and support the integration of soil into primary and secondary schools

## *What we have done so far*

**The initial meeting was organised on 5<sup>th</sup> December 2017 (66 participants)**

The main conclusions:

- soil is a fundamental and non-renewable natural resource that needs to be protected
- soil ecosystem services are extremely important
- forest soils play an important role in reducing the effects of climate change and reducing or limiting greenhouse gas emissions
- soil is vulnerable, threatened by numerous degradation processes, among which urbanization / soil sealing and partly soil pollution are particularly acute in Slovenia
- remediation of contaminated land, especially land with sensitive land use such as playgrounds, must be ensured. Soil quality standards should be set according to different types of land use, guidelines should be drawn up for the management of fertile soil
- awareness should be raised so it is necessary to prepare brochures, folders or activities that would inform the youngest as directly as possible
- Slovenian Soil Partnership must have an influence on politics, point out irregularities and propose better solutions
- the project “Traditional Slovenian Breakfast” should also include soil and emphasize that local food is produced on local soil

# Healthy Soil – Quality Food Poster

## Safe and high-quality food from healthy Slovenian soil (2018)

### Background:

- to promote soils as the beginning of our food-chain
- to link soil health to food quality
- to promote soil as essential natural resource that enables our living
- etc.



## What we have done so far

**The second meeting was organised on 5<sup>th</sup> December 2018 (72 participants)**

The main focus of the meeting was soil pollution:

- the results of the project "Geochemical background and threshold for 47 chemical elements in Slovenian topsoil „ (GOSAR et al 2019, Geological Survey of Slovenia)  
<https://doi.org/10.5474/geologija.2019.001>
- the results of the project "Soil guideline values regarding to the transfer of the potentially toxic substances to the food chain“ (GRČMAN et al 2018, University of Ljubljana, Biotechnical Faculty)
- the results of the project „Lead and cadmium in foods/drinking water from Slovenian market/taps: Estimation of overall chronic dietary exposure and health risks“ (KIRINČIČ et al 2019, National Institute of Public Health, Centre for Environmental Health)

<https://www.tandfonline.com/eprint/WB8HQZCKEEYHMXQNKIUW/full?target=10.1080/19440049.2019.1628355>

- activities of the Environmental Agency of the Republic of Slovenia related to the soil pollution
- presentation of the poster "Soil Pollution - Hidden Danger“ (VRŠČAJ 2018, Agricultural institute of Slovenia)





# Soil Pollution Poster

## Back-cover text about:

- Soil pollution
- Soil contaminants
- Soil contamination
- Paths of soil contaminants from soils to humans
- How to decrease soil contamination threats

## ONESNAŽENOST TAL – SKRITA NEVARNOST

**Onesnaženost tal je pomemben problem, ki v preteklosti ni bil dovolj poznan in deležen ustreznih pozornosti. Zaradi posledic onesnaženosti tal na zdravje človeka in ekosistemov so OZN – FAO<sup>1</sup> letošnji Svetovni dan tal<sup>2</sup>, ki ga praznujemo 5. decembra, posvetili ukrepom za čista tla s pozivom 'Be the solution for soil pollution'<sup>3</sup>. In Slovenija se temu pridružuje.**

### Onesnaženost tal

Je stanje tal, ko obstaja tveganje za zdravje ljudi in okolja, ker vsebnost neke snovi v tleh presega njeno naravno vsejeto ali pa je ta snov smrtonosna. Onesnaženost tal vpliva na rastline, živali in človeka. Čeprav so vsi organizmi bolj ali manj občutljivi na onesnaževala, se izpostavljenost onesnaženim tlem lahko različno odraža glede na starost, preobčutljivost, način življenja ter mnoge druge dejavnike in vplive okolja. Onesnaženost tal lahko poznaši bližje in manj opazne zdravstvene težave. Na primer jo lahko izpostavljenosti močno onesnaženim tlem povzročijo bolj resne ali usodna obolenja. Človek onesnažuje tla zaradi nevednosti, malomarnosti, po nesili in redko namerno.

### Onesnaževala v tleh

so preter nabor zelo različnih mineralnih in organskih snovi, ki so naravnega izvora ali proizvod človeka, ter tudi organizmov. Ta onesnažujejo **težke kovine** (npr. kadmij, cink, svinec, arzen, živo srebro, nikelj, kobalt), ki so v majhnih količinah lahko tudi mikrohranila, v večjih pa močna in predvsem trajna onesnaževala, ki jih iz tal zelo težko odstranimo. **Organika onesnaževala** tal so **dolgožive kemijeke snovi** (PCB, PAH, mineralna olja) in **obstojni pesticidi** (DDT, atrazin), ali **hitreje razgradljive a pogosto nič manj nevarne spojine**. Ta onesnažujejo tudi patogeni organizmi (npr. spore antraksa).

### Onesnaževanje tal

je v manjšem obsegu prisotno skozi človekovo civilizacijo in se je v industrijski dobi močno povečalo. **Industrija** izloča kovine, obsejne organske snovi, mineralna olja, **promet** (svinec, razlivanje in črpanje nafte (kovine, mineralna olja), **termoelektrarne in toplotne** (pepek, žrnce), **komarjstvo** (pesticidi, presečki hranil, nitrati), **poseljene** (kmetijski odpadki kot so npr. plastika, kovine, blata kmetijskih živali), **vojaki aktivnosti** (kovine, bojni strupi, radioaktivne vrvice), so bistvene dejavnosti, ki so in še pripejajo onesnaževala v tla.

### Peti onesnaževal iz tal v človeka

so predvsem **zaudije tal** (otrski), **vdihavanje onesnaženih pralnih delcev** (industrijska in rudarska obročja ter mesta), **stres z onesnaženo hrano** (pridelava hrane na onesnaženih tleh, posebej zelenjave in **onesnažena pitna voda** (spiranje onesnaževal iz tal v podzemno vodo) ter **kožni kontakt** z onesnaženimi tlemi. **V okolje prehajajo onesnaževala iz onesnaženih tal s spiranje v površinske in podzemne vode, vetro in vodno erozijo, s poplavi, preko prehranske verige živali, s premešanjem onesnaženih tal na neonesnažena območja, itd.**

## ZMANJŠEVANJA TVEGANJ ZARADI ONESNAŽENOSTI TAL

so predvsem **čiščenje onesnaženih tal in sanacije onesnaženih zemljišč**, ki pa so, žal, pogosto časovno, tehnološko ali strokovno težko izvedljiva ali celo nesmiselna. **Z ustreznimi vedenji v onesnaženih in onesnaževalih v tleh ter njihovih poteh v človeka in razlivanje v okolje, lahko tveganja zaradi onesnaženosti tal pomembno zmanjšamo.** Pogosti ukrepi so preprečevanje pršenja, zmanjševanje vodne/vetrne erozije in spiranje v podzemne vode, pridelava hrane in kreme na neonesnaženih tleh, umivanje rok, vrtnin, sprememba rabe tal, ukrepi za imobilizacijo in razgradnjo onesnaževal v tleh ter preprečevanje poplav. Primeren ukrep se lahko po posamičnih primerih razlikujejo glede na vrsto, obseg in intenzivnost onesnaženja.

<sup>1</sup> [www.fao.org](http://www.fao.org) / <sup>2</sup> [www.fao.org/world-soil-day/about-us/](http://www.fao.org/world-soil-day/about-us/) / <sup>3</sup> [www.fao.org/world-soil-day/](http://www.fao.org/world-soil-day/)



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## *What are our next steps*

**The third meeting** is already under preparation and will be organised **on 5<sup>th</sup> December 2019**, focussing on soil erosion on agricultural land

The draft agenda:

- Soil erosion of agricultural land - state of awareness and state of action through agronomic practices in Slovenia
- Conservation agriculture
- Modelling of soil erosion in international organizations, their estimates and applicability to Slovenia
- Erosion and irrigation
- Wind erosion issues - LIFE ViVaCCAdapt project
- An example of good practice in a part of Slovenia



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Thank you