



Concept Note  
International Network on Soil Pollution (INSOP)  
Webinar on pesticide pollution  
June 26, 2025 (online)

**Background:**

Soil pollution, recognized as a critical global threat by the FAO's [Intergovernmental Technical Panel on Soils \(ITPS\)](#), poses serious risks to human health and the environment. Although invisible, soil contaminants infiltrate the food we eat, the water we drink and the air we breathe, spreading through ecosystems and the global economy via production and food chains. This issue is particularly severe in agricultural areas, where soil pollution can directly compromise food safety and human health.

The significance of soil pollution was highlighted in the [Status of the World's Soil Resources Report](#) (2015) by the FAO's Global Soil Partnership (GSP) and ITPS. In response to the growing concern, the GSP established the [International Network on Soil Pollution](#) (INSOP) in 2022. This network, comprising 1,300 members from 130 countries, focuses on four key areas: pollution assessment, monitoring and regulations, mitigation and remediation, and the impacts of soil pollution on food safety and One Health.

Among various contaminants, pesticides represent a significant challenge due to their widespread use, persistence, and potential risks to human and environmental health. Soils, acting as primary repositories for these chemicals, serve as sources from which pesticide residues migrate to other environmental compartments, threatening food security and ecosystem services. Despite the existence of over 600 approved active pesticides globally, their residues in soils remain insufficiently monitored, particularly in low- and middle-income countries.

Analyzing pesticide residues in soils presents considerable technical difficulties owing to the complex and variable nature of soil matrices. Soil components such as organic matter and minerals interact with pesticides, affecting their extractability, persistence, and bioavailability. Robust, harmonized methodologies are therefore needed for generating reliable and comparable data that can inform regulations, risk assessments, and remediation strategies.

While the **FAO Pesticide Registration Toolkit** and **Environmental Management Tool Kit (EMTK) for pesticides** developed by Plant Production and Protection Division (NSP) provides countries with a structured system to assess environmental and health risks from pesticide stocks and to develop national management plans, it does not currently include the soil assessment components that are increasingly needed. Designed for use with local resources and supported by dedicated training packages, these tools strengthen national decision-making and risk assessment capacities, however, their scope does not yet address the growing challenge of **pesticide residues in agricultural soils**. Linking new tools, such as the principles of **pesticide residue analysis standard operating procedure (SOP)** and **INSOP's environmental risk assessment guidelines**, into the existing NSP tools would enable countries to comprehensively manage pesticide pollution, thereby improving environmental monitoring, risk management, and food safety systems.



### Webinar objectives:

The objective of this webinar is to raise awareness about the issue of pesticide pollution in soils, showcase the extent of the problem in Africa, and present a newly developed harmonized SOP for laboratory analyses of pesticide residues in soils, produced by INSOP and its partners.

The specific objectives of the webinar are as follows:

- **Raise awareness** of the issue of pesticide pollution in soils and its implications for food safety, human health, and the environment, highlighting experiences from the EU [SPRINT project](#).
- **Present the EMTK** for obsolete pesticides and the Pesticide Registration Toolkit and discuss how their functionalities could be expanded to link soil pollution components.
- **Demonstrate the importance of harmonized laboratory methodologies and launch** the developed harmonized SOP for pesticide residue analysis in soils.
- **Identify training needs and future actions** to build national laboratory capacities and integrate standardized protocols within national monitoring frameworks.

### Expected outcome:

- **Participants are aware of the new harmonized SOP** and understand its application and advantages.
- **Stakeholders gained an understanding** of the scale and implications of pesticide pollution in soils.
- **Countries identify capacity-building needs** and prioritize the organization of training sessions for laboratory personnel and regulators on pesticide pollution.
- **New collaborations and knowledge-sharing opportunities initiated**, promoting greater coordination in addressing soil pesticide pollution at the regional and global levels.