



Food and Agriculture
Organization of the
United Nations

22nd Working Session of the Intergovernmental Technical Panel on Soils (ITPS)

International Network on Soil Pollution (INSOP) progress report

4-6 March, 2025

FAO HQ
Mexico Room
(D211)

Ravi Naidu

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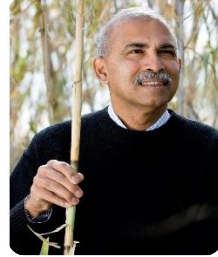
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Governance



GLOBAL SOIL
PARTNERSHIP



Ravi Naidu

INSOP Chair



Sergejus Ustinov

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Assessment WG

Helen Karasali



Monitoring WG

Claudia E Lima de Silva



Remediation WG

Scott D. Warner



Fang Wang



Food Safety WG

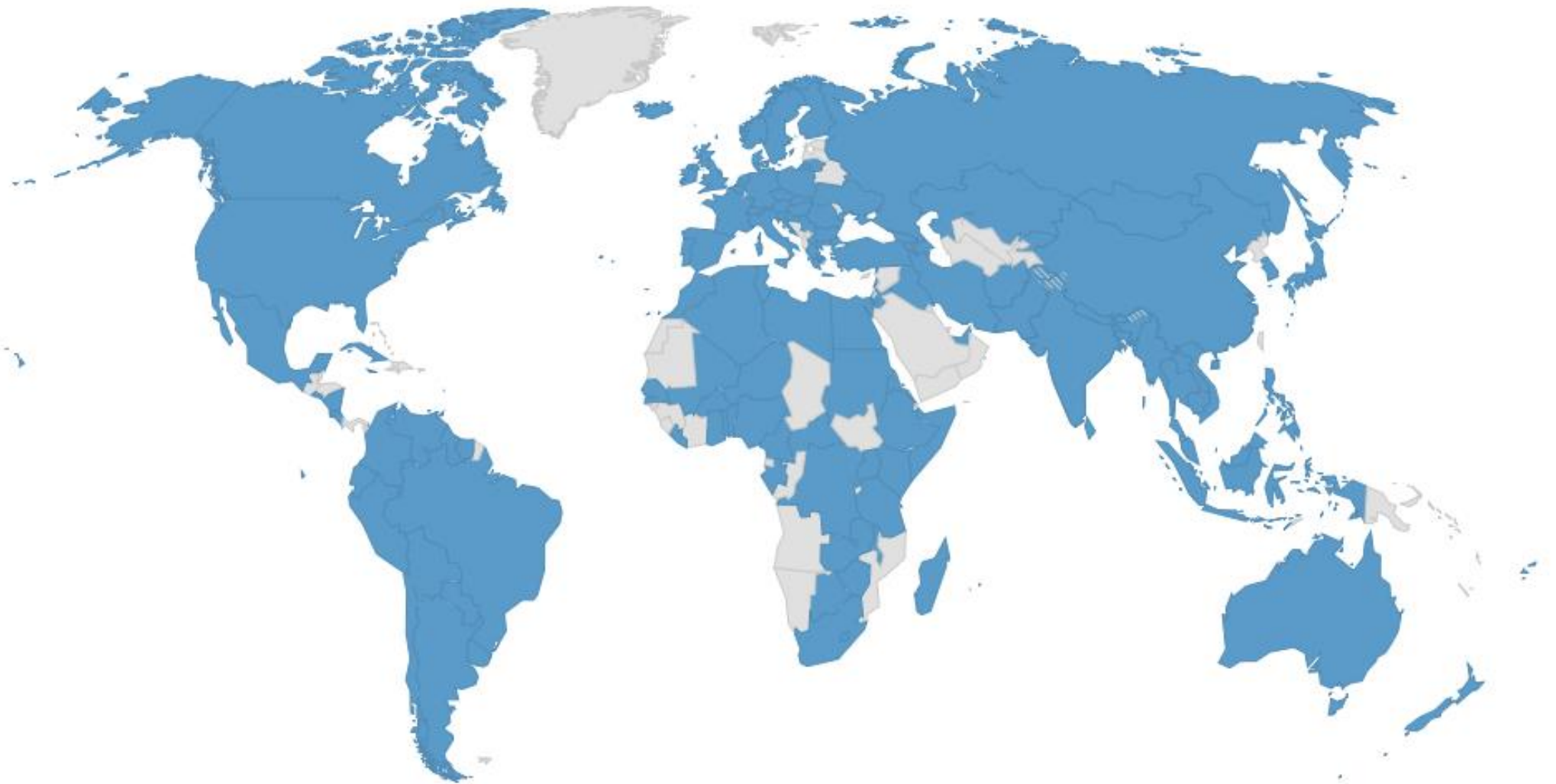
David O'Connor



Promoting sustainable soil management for



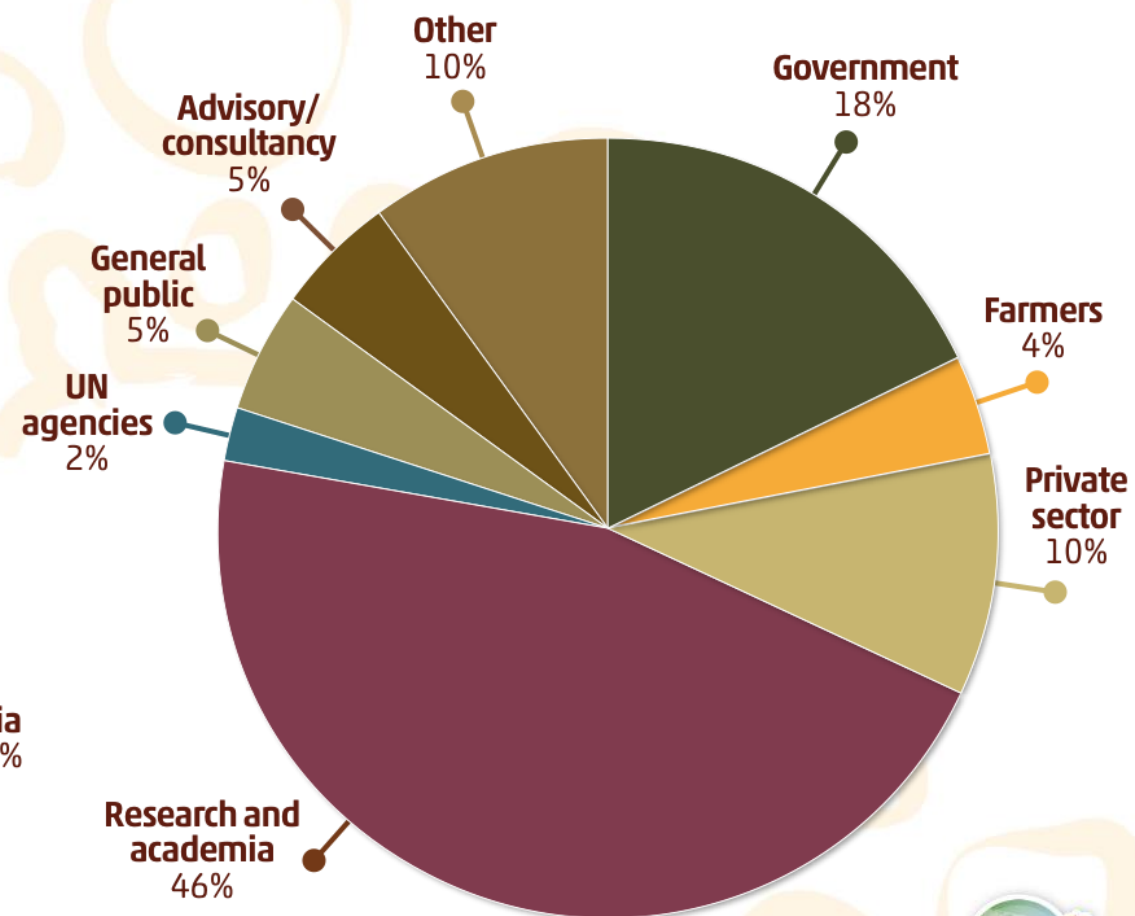
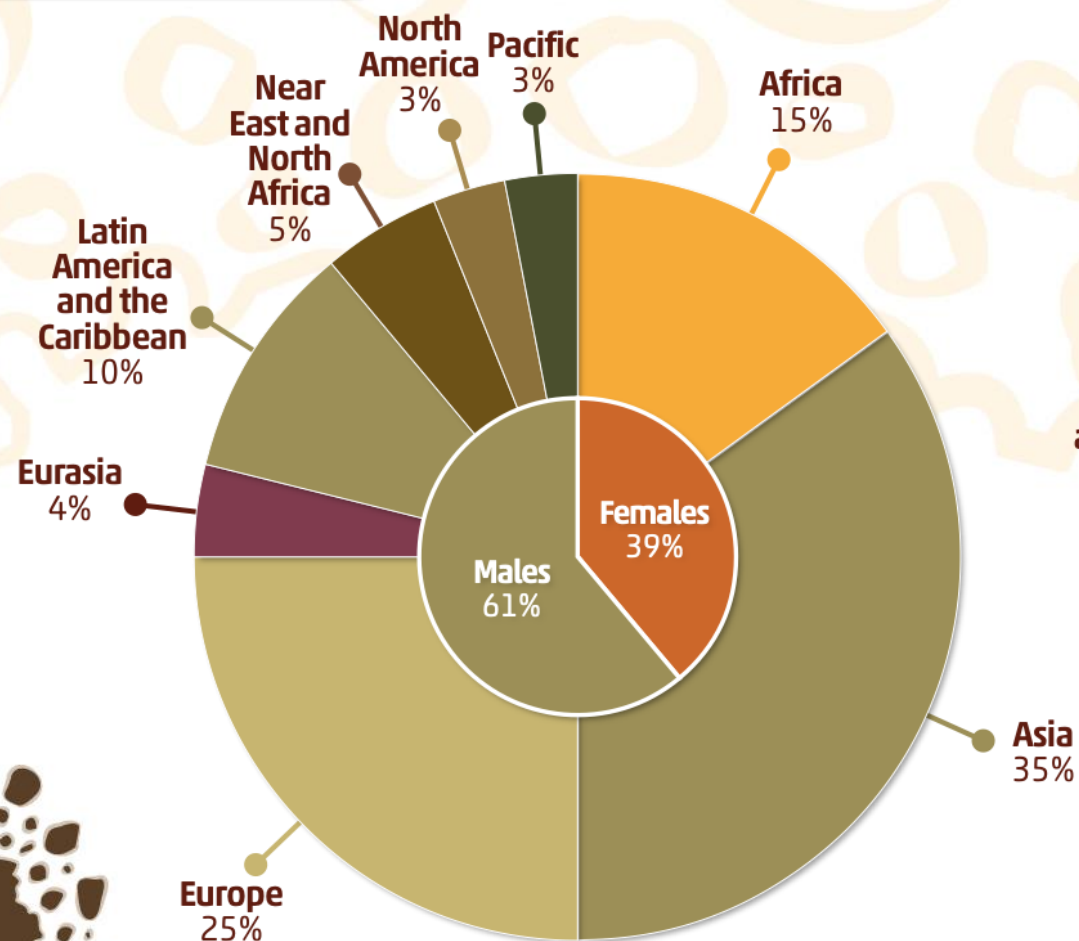
INSOP in 2025: 1,300 members from 130 countries



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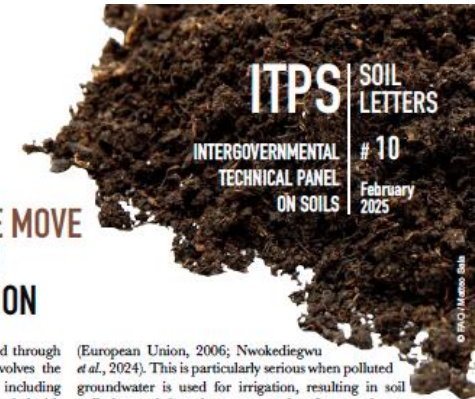


INSOP 2024 deliverables

- ITPS letter

- Soil pollution on the move: How leaching causes groundwater pollution

<https://openknowledge.fao.org/items/91c2a996-cac1-4f01-bdda-a5194dfe143a>



SOIL POLLUTION ON THE MOVE HOW LEACHING CAUSES GROUNDWATER POLLUTION

Soil and groundwater pollution are closely linked through the leaching of soil contaminants. Leaching involves the downward movement of soluble substances, including contaminants, which can also be adsorbed and carried with colloids from the soil's upper layers (vadose zone) into deeper layers, eventually reaching groundwater (saturated zone). This can result in widespread water pollution, posing risks to human health, negatively impacting the environment and also threatening water quality and groundwater biodiversity

(European Union, 2006; Nwokediegwu *et al.*, 2024). This is particularly serious when polluted groundwater is used for irrigation, resulting in soil pollution and the subsequent uptake of contaminants by crops, or for potable purposes. To manage these risks effectively, some countries have established stringent guidelines for monitoring and assessing groundwater quality affected by the potential leaching of contaminants from the soil.



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INSOP 2024 deliverables



- Assessment WG

- Standard Operating Procedure (SOP) for measuring heavy metals in phosphate fertilizers

In collaboration with INSOILFER

Standard operating procedure for heavy metal determination in phosphate fertilizer materials

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INSOP 2024 deliverables

- Remediation WG

- Checklist for soil remediation

To guide stakeholders in implementing soil remediation, outlining action areas that must be addressed



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INSOP 2024 deliverables

- Capacity building

- In-person training on the implementation of soil remediation checklist, Trinidad and Tobago



INSOP 2024 deliverables

- Capacity building

➤ 18 modules on soil and groundwater pollution focusing on landmines and explosive remnants of war (ERW)

<https://www.fao.org/global-soil-partnership/insop/trainingonsoilpollution>

TRAININGS

- + Module 1 – Basic principles of soil and groundwater related to pollution
- + Module 2 – Contaminated soil sampling techniques
- + Module 3 – Modelling of distribution of pollutants in plants
- + Module 4 – Modelling pollutant transport in soil and groundwater
- + Module 5 – Data interpretation with respect to plant uptake
- + Module 6 – Analyses of polycyclic aromatic hydrocarbons (PAH) in soil samples
- + Module 7 – Dealing with energetic materials
- + Module 8 – Techniques for remediation of contaminated soil and groundwater
- + Module 9 – Soil major nutrient analyses
- + Module 10 – Soil micronutrient analysis
- + Module 11 – Dealing with radioactivity in soil and groundwater
- + Module 12 – Determination of pH
- + Module 13 – Groundwater sampling techniques and methods
- + Module 14 – Determination of electrical conductivity (EC)
- + Module 15 – Determination of soil organic carbon (SOC)
- + Module 16 – Strontium 90 and caesium 137
- + Module 17 – Determination of elements in soil using inductively coupled plasma optical emission spectroscopy (ICP OES)
- + Module 18 – Energetic materials

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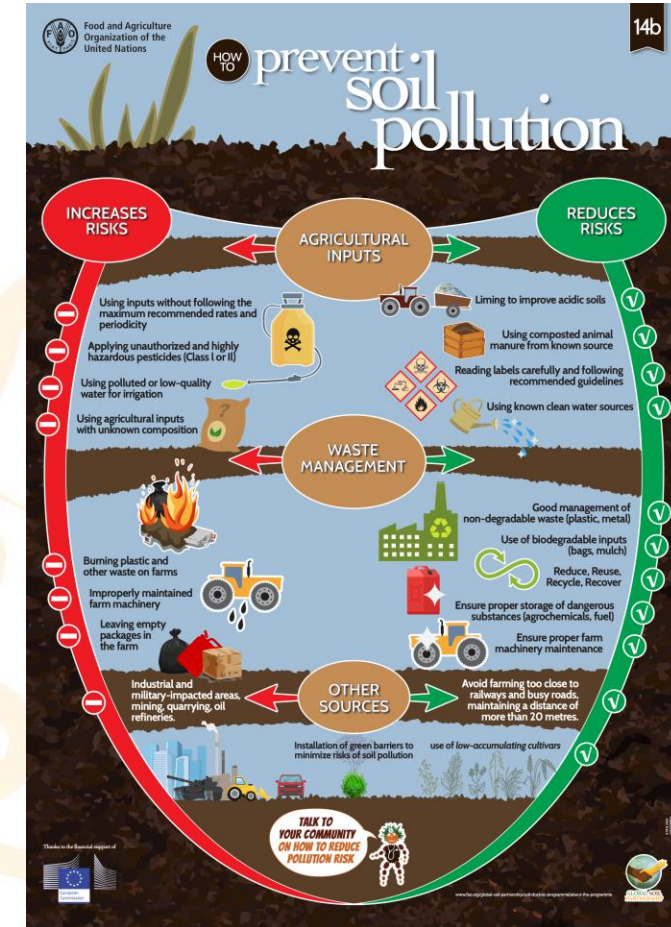
INSOP 2024 deliverables

• Food Safety WG

➤ Development of 2 soil pollution posters for Soil Doctors Programme



<https://openknowledge.fao.org/server/api/core/bitstreams/055d4c0a-4708-4886-935d-f81fc66372a8/content>



<https://openknowledge.fao.org/server/api/core/bitstreams/f3c1d00e-6deb-4a05-a828-d1af55ec0c4f/content>

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INSOP 2024 deliverables

- Capacity building
 - Soil pollution prevention and mitigation training for farmers in Trinidad and Tobago



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Technical Manual on soil pollution Assessment, Mapping, Monitoring and Risk Communication

No.	Chapter	2024	2025
1.	Introduction	Peer-review	Peer-review
2.	Building a Conceptual Model	Peer-review	Completed
3.	Sampling	Peer-review	Completed
4.	Environmental risk assessment	Ongoing	Peer-review
5.	Human Health risk assessment		Ongoing
6.	Mapping	Peer-review	Completed
7.	Mixed pollution on site	Peer-review	Completed
8.	Monitoring soil pollution	Peer-review	Completed
9.	Communication and reporting soil pollution	Peer-review	Completed

INSOP communication

- Quarterly INSOP updates
- WG sessions
- Conference participation
 1. Bio and phytoremediation conference, Kazakhstan
 2. Common Forum 2024, Switzerland
 3. Soil Health and Food Security, China
 4. Centennial IUSS, Italy
 5. CleanUP 2024, Australia




22nd Work



International Network on Soil Pollution

The International Network on Soil Pollution (INSOP) has the overall aim of stopping soil pollution and achieving the global goal of zero pollution. To this end, INSOP works to improve knowledge on the full cycle of soil pollution, from assessment to remediation, as well as on the effect on environmental and human health and the provision of soil ecosystem functions and services. INSOP also aims to strengthen technical capacities and legislative frameworks for the prevention of soil pollution and promotes the exchange of experiences and technologies for the sustainable management and remediation of polluted soils. For more information contact: Sergejus.Ustinov@fao.org and the: GSP-Secretariat.



Dear INSOP members,

This is your quarterly update from the International Network on Soil Pollution

UPDATES

📌 **Open call for INSOP members to develop SOP for determining residue of pesticides in soil using the QuEChERS Method**

As part of the Assessment WG, INSOP is developing a Standard Operating Procedure (SOP) for determining the residue of pesticides using a QuEChERS method. As of today, 49 soil laboratories shared their QuEChERS method analyses from 14 countries. If you have experience determining pesticide residues in soil using the QuEChERS method and would like to be the author of FAO SOP protocol, do not hesitate to express your interest to the INSOP secretariat.

📌 **Soil pollution national threshold values database**

As part of the Assessment WG, INSOP has collected the national threshold values for heavy metals and pesticides from 28 countries. INSOP, in partnership with the Common Forum, will organize a workshop to showcase countries with national threshold values and what should be done to bring more on board. The date is yet to be confirmed.

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Thank you

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