

18th Working Session of the Intergovernmental Technical Panel on Soils (ITPS)

Progress on soil fertility related activities

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itps

INTERGOVERNMENTAL TECHNICAL PANEL ON SOILS

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The Global Symposium on Soils for Nutrition (GSOIL4N)



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INTERGOVERNMENTAL TECHNICAL PANEL ON SOILS



21-23 N

Soils 4 nutrition enhanced

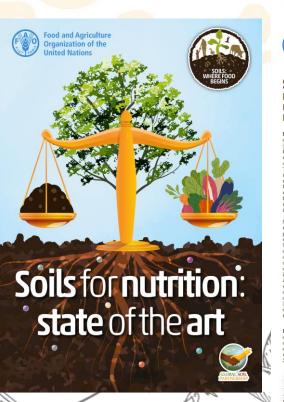
The vision of soils as a source of nutrients we all need to survive was enhanced and supported by

Booklet

ITPS Letter

Outcome Document

Technical Guidelines





(FAO et al., 2022). In addition, the COVID-19 pandemic ha led to an additional 150 million people suffering from hunge making healthy diets even less accessible for some segments of the world's population (Poch et al., 2020; FAO et al., 2022) The State of Food Security and Nutrition in the World 2022 report concludes by urgently calling on governments to rethink how to redistribute resources in ways that make healthy and sustainably produced foods available to all. In a orld where resources are increasingly threatened, healthy fertile soils underpin the continuing supply of wholesom responsibly-produced foods with minimal environm spacts and a neutral carbon footprint.

most ecosystem services vital for humans, including food production, which is fundamental for food security and sovereignty. Soils are the basis for producing more than 95 percent of our food, according to the analysis of data available in FAOSTAT (FAO, 2022). Basic grains, oilseeds, sugar, vegetables, nuts and fruits directly rely on soils, and livestock meat and products, such as eggs and fairy products, are supported by animal feeds that also grow in soils. When produced by healthy and fertile soils, these foods are wholesome and nutritious. However, one-third of the world's soils are degraded to some extent due to erosion, loss of organic carbon and biodiversity, salinization, acidification, compaction, and nutrient imbalance, among other causes (FAO and ITPS, 2015). There is a close link between soil degrading processes and fertility loss, and the loss of topsoil and he exposure of subsoil can greatly reduce nutrient availability

Healthy food production is hampered or limited if soils are degraded. Together with poor diets, nutrient-deficient soils contribute to micronutrient deficiencies in crops which in turn endanger human health; a condition called "hidden hunger

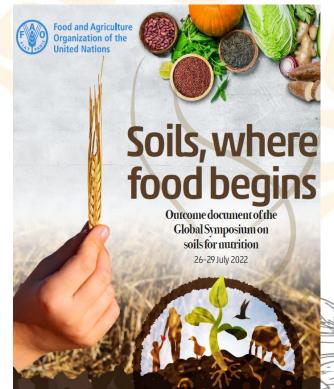


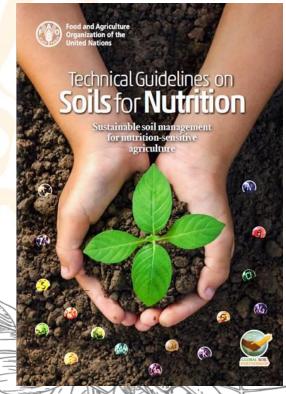


in the soil help to regulate nutrient availability, thanks to their electrochemical activities, as well as assisting other important

Soils are nature's recycling system (Weil and Brady, 2017). Through the mineralization processes of the soil organic matter (SOM), nutrients are released and become readily available for plant uptake. SOM has multiple direct and indirect effects Soil health and fertility depend on a vital enabling the availability of nutrients, gas exchange, triad of physical, chemical and biological soil properties. Physical properties such as the flourishing of soil organisms. Soil organisms are texture and structure help to regulate pore spaces, aeration and consequently, drainage

among the most diverse terrestrial communities on
Earth and maintain soil fertility through numerous





Six general recommendations after the GSOIL4N



Map and monitor soil nutrients and soil fertility. Deepen the knowledge on soil nutrient budget

Monitoring



Develop innovative
approaches and alternative
products to optimize soil nutrient
content, enhance fertilizer use
efficiency, and reduce externalities
associated with soil fertility
management

Innovations



Assess the quality and safety of all nutrient sources applied to soils to avoid or reduce environmental contamination and health problems..

Qualit

Six general recommendations after the GSOIL4N



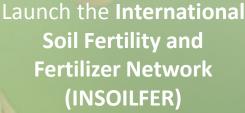
Advocate for the adoption of SSM practices since it still represents the most cost-effective solution to increase soil nutrient content

S S M



Advocate for the inclusion of soil fertility and soil health in the legal framework of countries in relation to the One health approach linking human nutrition, environmental and soil health.

Soil governance

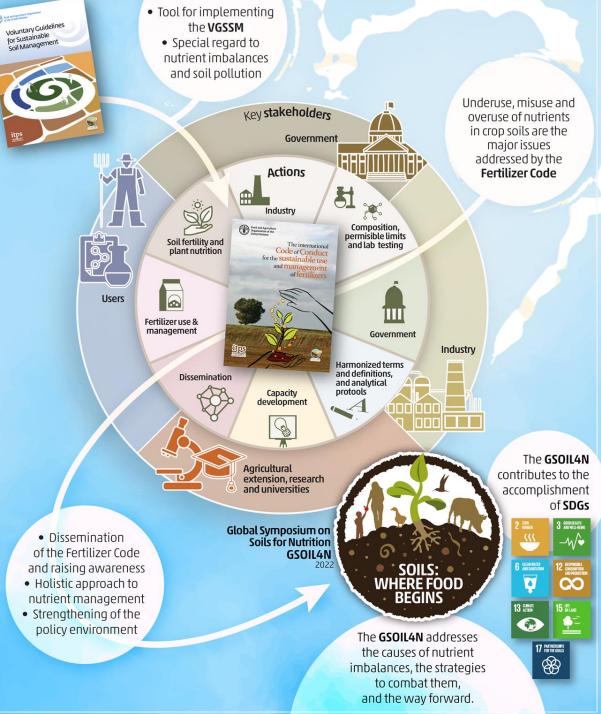


to address
nutrient imbalances and promote the
adoption of soils for nutrition concept
for making soils
healthy and fertile by 2030 as a
contribution to the transformation of
agrifood systems.



Consider driving forces such as water availability, climate change, poverty and the fertilizer crisis and promote a soils for nutrition agenda.

Multifactorial



Goal

INSOILFER aims to:

- ✓ The adoption and implementation of sustainable and balanced soil fertility management
- Avoiding the underuse, misuse and overuse of fertilizers
- ✓ Reducing the environmental and health impacts of fertilizer use

INSOILFER will bring stakeholders working on the technical aspects of soil fertility and fertilizers together to implement the recommendations of the GSOIL4N and to support the implementation of the Fertilizer Code



INSOILFER Working groups

Establishment of a soil nutrient monitoring system



- ✓ Support decision-making system on soil nutrient management at national and local scales.
- ✓ Useful for investment planning and evidence-based recommendations for sustainable fertilizer use, innovations development, and circular economy that promote a carbon neutral footprint.



Fertilizer safety and quality assessment

- Assessment and monitoring of the quality and safety of traditional (organic and inorganic) and innovative nutrient sources (biofertilizers, biostimulants, and recycled sources).
- ✓ INFA becomes the WG4, focused on harmonizing methodologies and protocols for the quality and safety assessment of fertilizers, building and strengthening national capacities of laboratories.

Promotion and dissemination of the sustainal management of soil nutrients and fertilization practices

- ✓ Promote that SSM and sustainable fertilization practices are widely known and disseminated at the farm scale.
- ✓ With particular emphasis on innovations that optimize nutrient use efficiency.
 - ✓ Linked to human nutrition and soil health.





Capacity development for reducing the impacts of soil nutrient management on the environment and climate change

- ✓ Strengthening capacities for measuring the impacts of misuse and overuse of fertilizer on the environment and GHG emissions.
- ✓ Capacity building for reducing nitrate and phosphate pollution of groundwater, green water, and blue water (derived from fertilizer application).
- ✓ Reduction of nitrous oxide, carbon dioxide and methane emissions



Fertilizer use recommendations based on an integral approach

