



Food and Agriculture  
Organization of the  
United Nations

# 16<sup>th</sup> Working Session of the Intergovernmental Technical Panel on Soils (ITPS)

## Item 4b Soil Fertility Working Group

Carolina Olivera

Yuxin Tong

Vinisa Saynes

28, 29 and 30 March 2022 | Virtual meeting



INTERGOVERNMENTAL  
TECHNICAL PANEL ON SOILS






# The Global Symposium on Soils for Nutrition (GSOIL4N)


26-29 July, 2022.  
Virtual format

## Aims to:



review the state of the art on the role of soil fertility in delivering sufficient, high quality, safe, and more nutritious food for better nourished plants, animals, and people.

## It is expected to:



review the state of the art on the role of soil fertility in delivering sufficient, high quality, safe, and more nutritious food for better nourished plants, animals, and people.



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# The four themes of the GSOIL4N

## 1 Status and trends of global soil nutrient budget; Soil nutrients for production



- Assessing, mapping and monitoring soil nutrients
- Applications of soil fertility data/information for decision making
- State of the art on the availability of soil nutrients/fertilizers

## 2 Sustainable soil management for food security and better nutrition

The nutrients we need are in soils!  
Soil nutrients for one health



- Nutrition sensitive agriculture
- Innovations on sustainable soil management and soil fertility
- Soil micronutrients and human health

## 3 Impacts of soil nutrient management on the Environment and climate change

Why misuse and overuse of nutrients pollute and worsen climate change?  
Soil nutrients and the environment



- Status of soil, water, and air pollution derived from the overuse or misuse of fertilizers
- The role of fertilizers on climate change
- Fertilizers quality and its role in food safety and pollution

## 4 Governance of soil fertility/soil nutrients Why should soil properties be in our policies and laws? Soil nutrients for people



- Policies to improving soil fertility by SSM.
- Implementation of normative tools- Code Fertilizers
- Gender sensitive tools and methods in fertilization programmes

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# Call for abstracts

The Global Soil Partnership

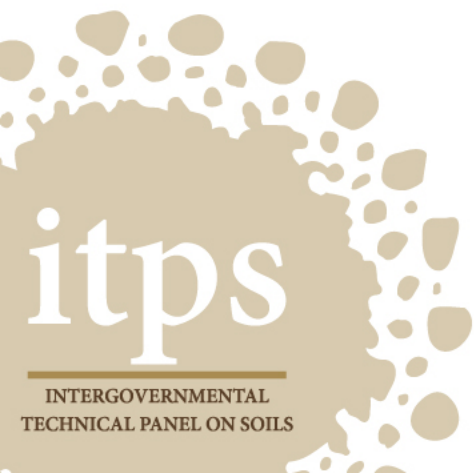
Newsletter No. 35 | March 2022

## SOILS FOR NUTRITION SYMPOSIUM: CALL FOR ABSTRACTS

26-29 July 2022 | 12:00-15:00 CEST | Virtual

What is the **state** of soil fertility? What kind of **data is available for practitioners**? What is the **relation between soil fertility and human nutrition**? The **Global Symposium on Soils for Nutrition** will answer this and other questions! Submit your abstracts to compete for oral and poster presentations by **30 April 2022**. Website and registration link available soon!

Call for extended abstracts



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GLOBAL SYMPOSIUM ON SOILS FOR NUTRITION (GSOIL4N)

26-29 July 2022 | VIRTUAL MEETING

## ABSTRACT SUBMISSION PORTAL

Food starts with soils, and with less than ten years to go until 2030 Agenda - the deadline to achieve the United Nations Sustainable Development Goals (SDGs), there is a call for urgent attention to the factors and forces driving the performance of agrifood systems. The main element food systems depend on is sustainable soil fertility management. The understanding of where and how the soil nutrients are in the world, of how we could promote and achieve the sustainable management of soil nutrients that we all need, of why and how it is that misuse and overuse of soil nutrients pollute and worsen climate change, and of why soil fertility management, our policies and laws, is fundamental to face global challenges including malnutrition, and environmental degradation. To address these important issues, the GSOIL4N will offer policy options that will offer policy options to the fertilizer industry, practitioners and other relevant stakeholders the GSOIL4N Abstract Submission Portal.



### Title of the abstract

Please do not use capital letters for the entire title.

### Main Author

Please use lowercase letters for the first name and capital letters for the family name(s).

Name

Surname

Institution

Country

Email Address

### Other Authors

Please use the following format: initial letter of Name, SURNAME in (capital letters), Institution (e.g. J. SMITH, University of London).

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GLOBAL SOIL  
PARTNERSHIP

# GSOIL4N general structure

The Symposium will be held virtually over four days on July 26 - 29, 2022, with an expected participation of representatives from countries around the world.



**Opening session**  
**High-level speakers**



**Keynote speakers**



**Discussion panels**



**Parallel sessions and posters**

Speakers from co-organizing institutions

Leading experts for setting the scene

Multisectorial to address the four themes and complement the scientific insight

Participants to address the four themes

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Data base with candidates

# KEYNOTE SPEAKERS



**Elliott Dossou Yovo**

- Africa
- CGIAR- Africa Rice Center (Africarice)
- Climate change and agriculture specialist
- Highlight: 2021 recipient of the Norman E. Borlaug Award for Field Research and Application, Endowed by The Rockefeller Foundation.
- Themes: 2 nutrition and 3 environment



**Johan Rockström**

- Sweden
- Stockholm Resilience Centre.
- Profesor Global sustainable development
- Highlight: Author Planet boundaries paper, documentary Before the Flood and Netflix.
- Theme 3 environment



For action: nominate more candidates

Online database

Key points to consider: Regional, gender, expertise and age balance.



**Fusuo Zhang**

- China
- China Agricultural University
- Dean of the School of Agriculture Green Development
- Highlight: President of the National Academy of Agriculture Green Development
- Themes 1 production and 2 nutrition



**Ismail Cakmak**

- Turkey.
- Sabanci University
- Professor micronutrient expert.
- Highlight: 2016: International Plant Nutrition Institute- Science Prize.: World Academy of Sciences.
- Theme 2 nutrition

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Soil fertility from different perspectives

## DISCUSSION PANELS



### Multisectorial

Participation of different stakeholders: government, industry, and farmers.



### Complement the scientific insight

to articulate the priorities and needs of the governments, and productive and industry sectors with the academia. in the corresponding topic for each day,

### Address the 4 themes

Discussion panels each day after the keynote speaker presentations and before the parallel sessions

## PARALLEL SESSIONS AND POSTERS



### Presentations and poster exhibition

Participants from different countries presenting their contributions. Simultaneous sessions addressing the 4 symposium themes.

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# Scientific Committee activities

## Abstracts and other activities



Selection of keynote speakers



Reception, review, and selection of abstracts



Planning of discussion panels, parallel sessions, poster and oral participations



Support side activities review: photo contest nutrient deficiencies in plants and animals, pollution

## Documents review and Publications



Review of the GSOIL4N Booklet



Development and review of the Outcome Document

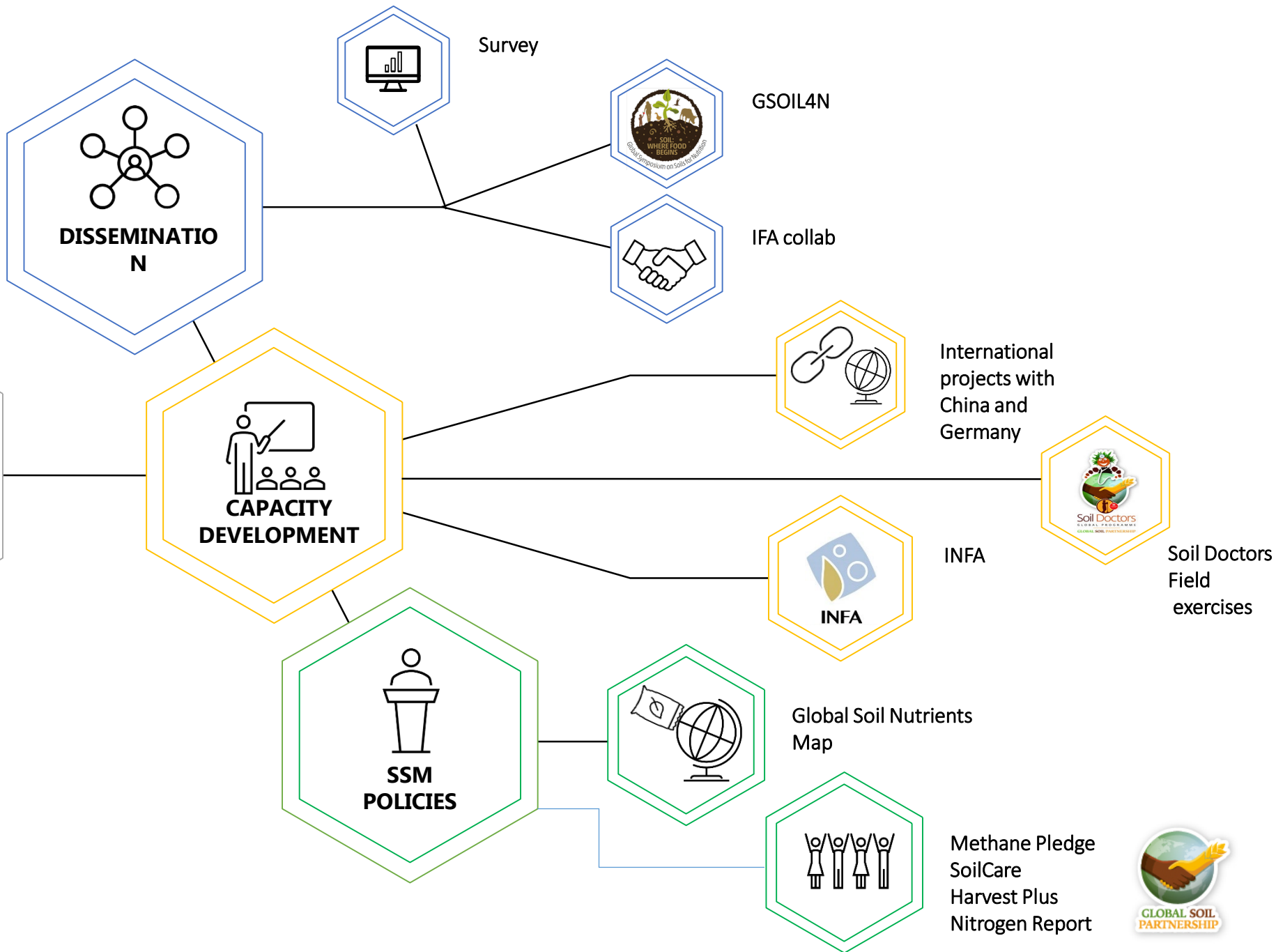
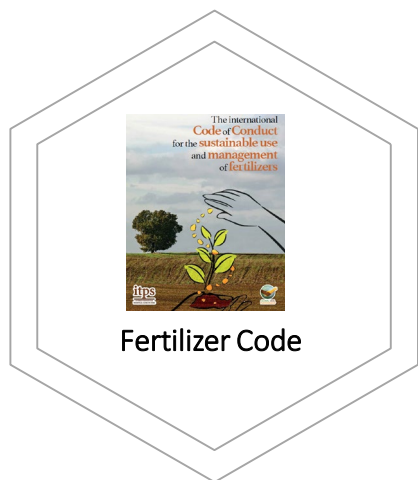


Development and review of the Symposium Proceedings

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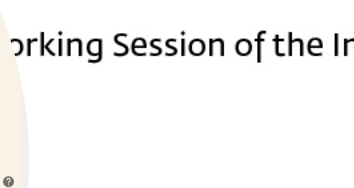
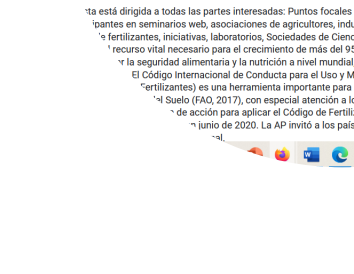
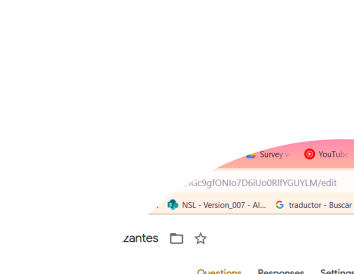


# Fertilizer Code



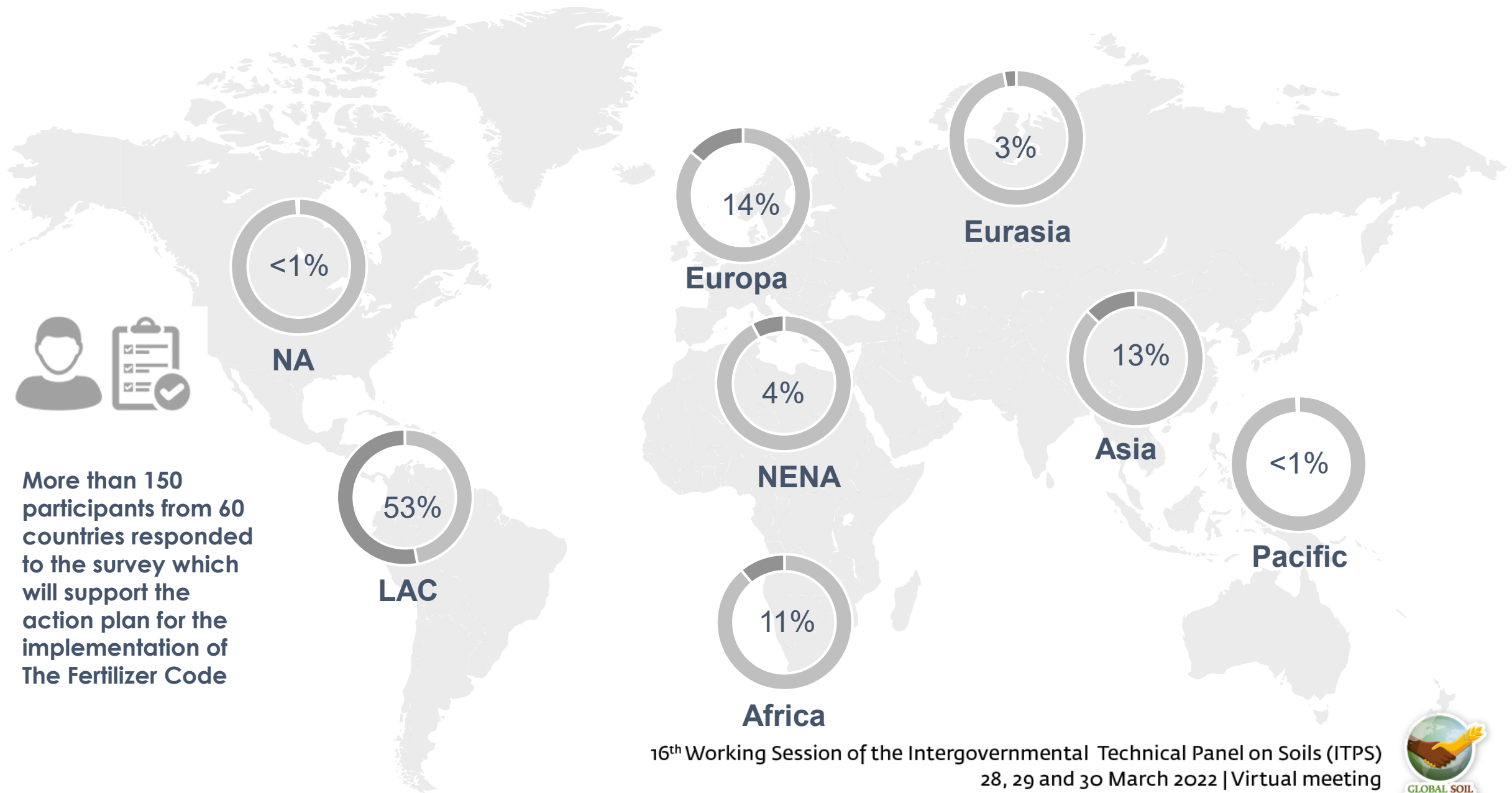
# National Survey on the Use and Management of Fertilizers: developed and translated into the six FAO languages

Launched in December 2021 in six languages with the goal to define priority areas for The Fertilizer Code implementation, gaps and main obstacles to sustainable fertilizer management in the participant countries.





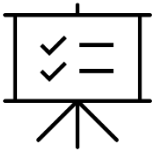
More than 150 participants from 60 countries responded to the survey which will support the action plan for the implementation of The Fertilizer Code



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# Video Fertilizer Code



## Content:

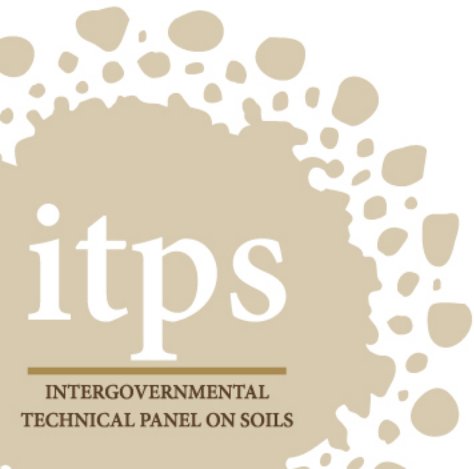
Present the three main issues related to fertilizer use and management across world:

- ✓ Underuse
- ✓ Overuse
- ✓ Misuse
- ✓ The consequences
- ✓ The solutions



- ✓ English 519
- ✓ Spanish 719
- ✓ French 189
- ✓ Arabic 89
- ✓ Russian 84
- ✓ Chinese 82
  
- ✓ 1682 views

<https://www.youtube.com/watch?v=MILrme8hYQQ>



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# Project progress of Capacity Building on Sustainable Soil Management For Africa

## South South Cooperation Assistance Fund

1.1 Provided equipment for efficient laboratory soil testing and for efficient fertilizer testing  
(delivered 7 items)

1.2 Supported staff in performing soil sampling, collection, and analysis, as well as on fertilizer use and recommendations on site.  
(collected 1000 soil samples)

1.3 Conducted fertilizer quality assessment.  
(collected 200 fertilizer samples i)

1.4 Conducted field experiments and demonstrations of fertilizer use to evaluate the effects of fertilization on crop yields.  
(conducted 7 field experiments)

1.5 Established a fertilizer service.  
(finished survey and literature review)

2.1 Develop courses (EduSOILS platform)  
(developed soil mapping course)

2.2 Establish EduSOILS (EduSOILS)  
(established EduSoils platform)

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18.08.2021

## Sustainable soil management for nutrition-sensitive agriculture in sub-Saharan Africa and Southeast Asia:

- Field trials results
- Literature review
- Technical guidelines



**BANGLADESH**  
Rice, mung bean  
cauliflower, cabbage

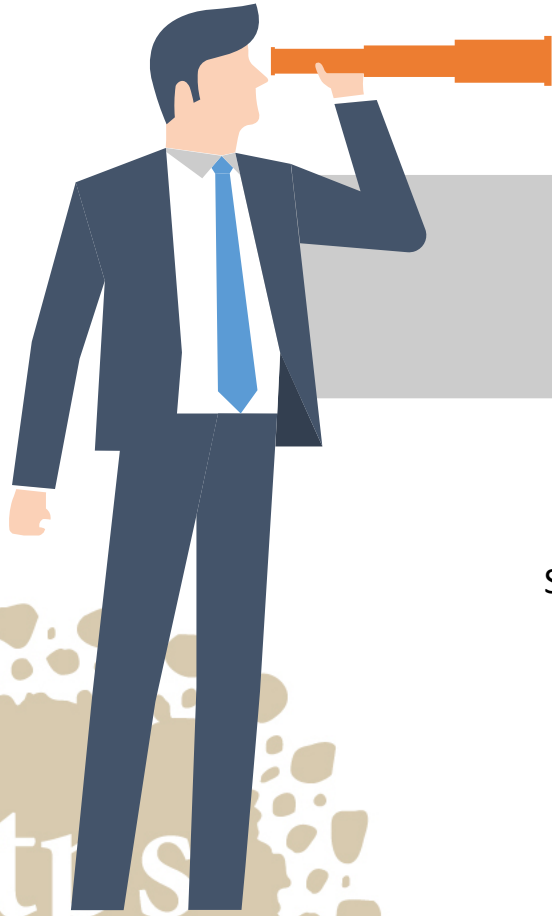


**BURKINA FASO**  
Sorghum, cowpea

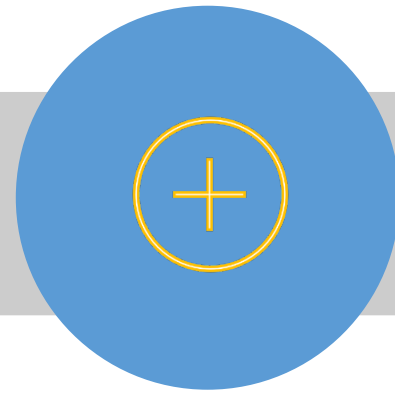


**MALAWI**  
Maize, soybean,  
amaranth

# Global soil nutrient budget

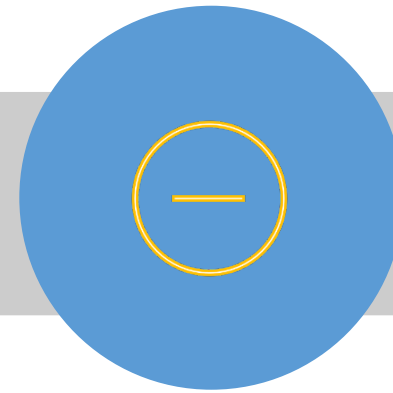


Participatory process:  
Country-driven  
Working group: ITPS + GSP + Experts



## Nutrients inputs

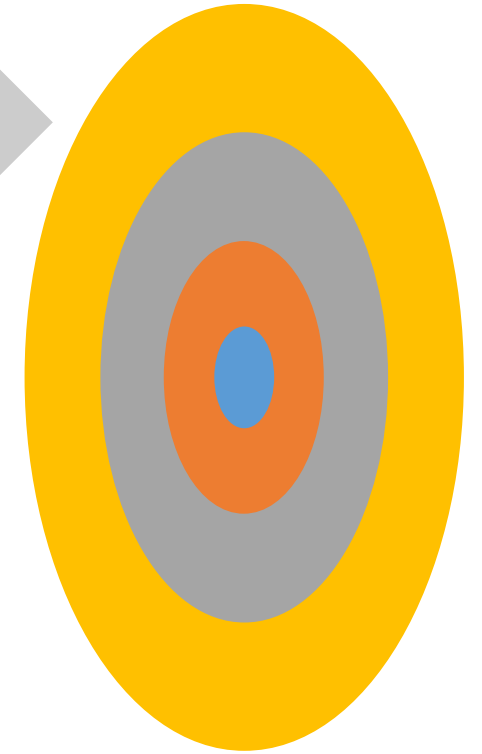
Synthetic and mineral fertilizers  
Organic inputs  
Atmospheric inputs  
Other



## Nutrient outputs

Crop harvest  
Erosion  
Fluxes  
Leaching

NPK  
Micronutrients



## Soil nutrient budget



# International Network on Fertilizer Analysis (INFA)

“Investing in harmonized fertilizer quality assessments for sustainable soil management”

Second Meeting: June, 2021:

- The objectives and indicators of performance for the network were endorsed
- Governance:
  - Chair: Dr. Wesley Feldmann (Malawi)
  - Vice-Chair: Dr. Gerardo Ojeda (Colombia)

Third Meeting: October 2022.



**INFA**  
International Network  
on Fertilizers Analysis



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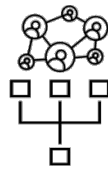




# INFA articulation with GLOSOLAN

Support for the implementation of INFA Working Groups activities

1



## Harmonization of protocols and methodologies for fertilizers analysis

All initial work to be carried out on mineral/synthetic fertilizers, as this is what most of the network needs to be able to test for initially. The WG-1 will be sub-divided into three groups:

**WG-1a:** Nitrogen

**WG-1b:** Potassium

**WG-1c:** Phosphorus



Database template for SOP's harmonization

2



## Capacity Building/Strengthening

The initial focus should be on laboratory support to ensure that laboratories operate in the correct way to obtain the best results for Working Group 1. Priorities for documents and associated videos: (can potentially have one sub-group for each topic, so 3 sub-groups similarly to WG 1)

**WG-2a:** Sample Preparation (for laboratory analysis)

**WG-2b:** Quality Assurance

**WG-2c:** Fertilizer testing instrumentation



Guidance on video training development

3



## Governance, Policy and Regulation

This WG will perform an information-gathering exercise initially, and it is suggested to be closely monitored by a member of INFA per country to ensure the information is accurate.

**WG-3:** Gather information for each of the INFA member countries' regulations relating to fertilizer quality.



Support to develop a survey for gathering fertilizer regulations



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