



Food and Agriculture
Organization of the
United Nations

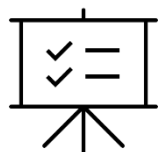
Why do we need an International Network on Fertilizers Analysis (INFA)? Recap and commitments

Ronald Vargas
Secretary of the Global Soil Partnership

2nd meeting of the International Network on Fertilizer Analysis (INFA)
Virtual meeting | 29-30 June 2021 - 02:00 PM CEST



The Global Soil Partnership: objectives and areas of work



The **Global Soil Partnership (GSP)** is a globally recognized mechanism established in 2012.

Mission: to position soils in the Global Agenda through collective action.

Key objectives:

- ✓ to **promote Sustainable Soil Management (SSM)**
- ✓ improve soil governance to guarantee healthy and productive soils
- ✓ support the provision of **essential ecosystem services** towards **food security and improved nutrition, climate change adaptation and mitigation**, and **sustainable development**.

The GSP is an open, interactive, responsive and voluntary partnership which includes FAO Member countries and GSP partners - Governmental Organizations, Universities, Civil institutions, Research centers, Soil Science Societies, UN agencies, NGOs, Private companies, Farmer associations, Donors.

Areas of work



Awareness
Raising

Soil
Biodiversity

Capacity
Building

Soil
Information

Soil
Erosion

Soil
Fertility

Soil
Governance

Soil
Pollution

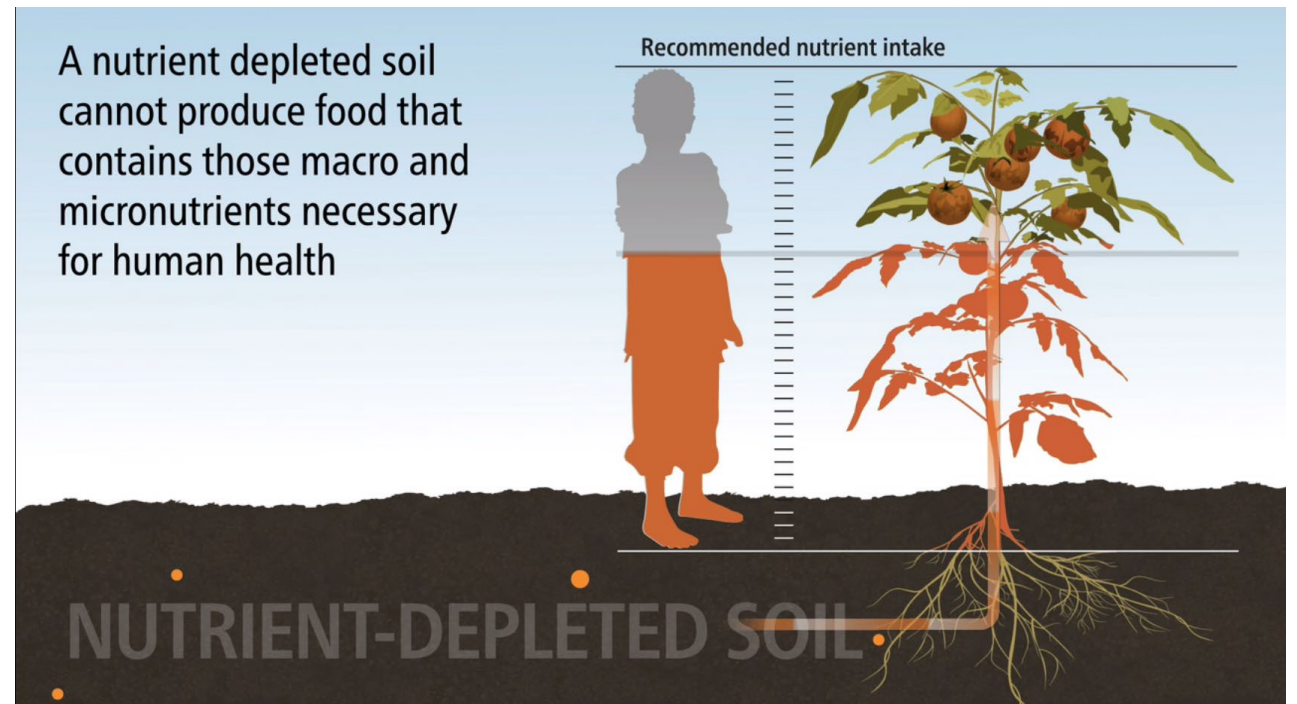
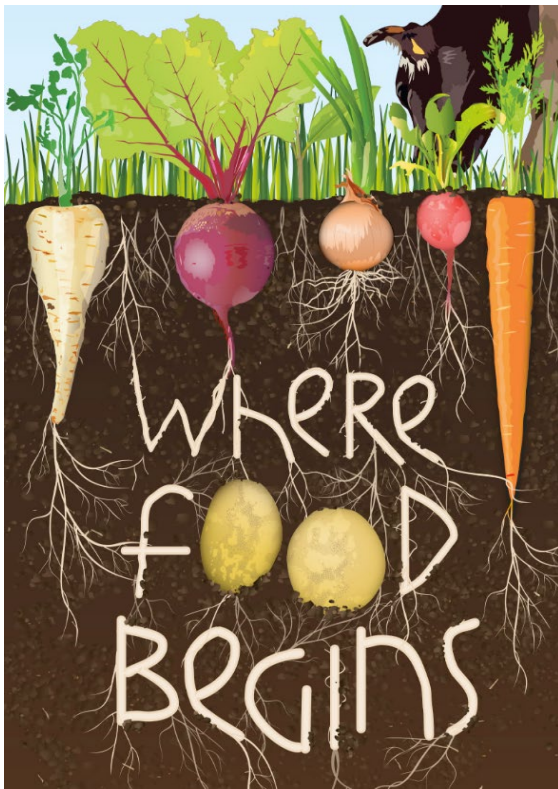
Soil
Salinity

Soil Organic
Carbon

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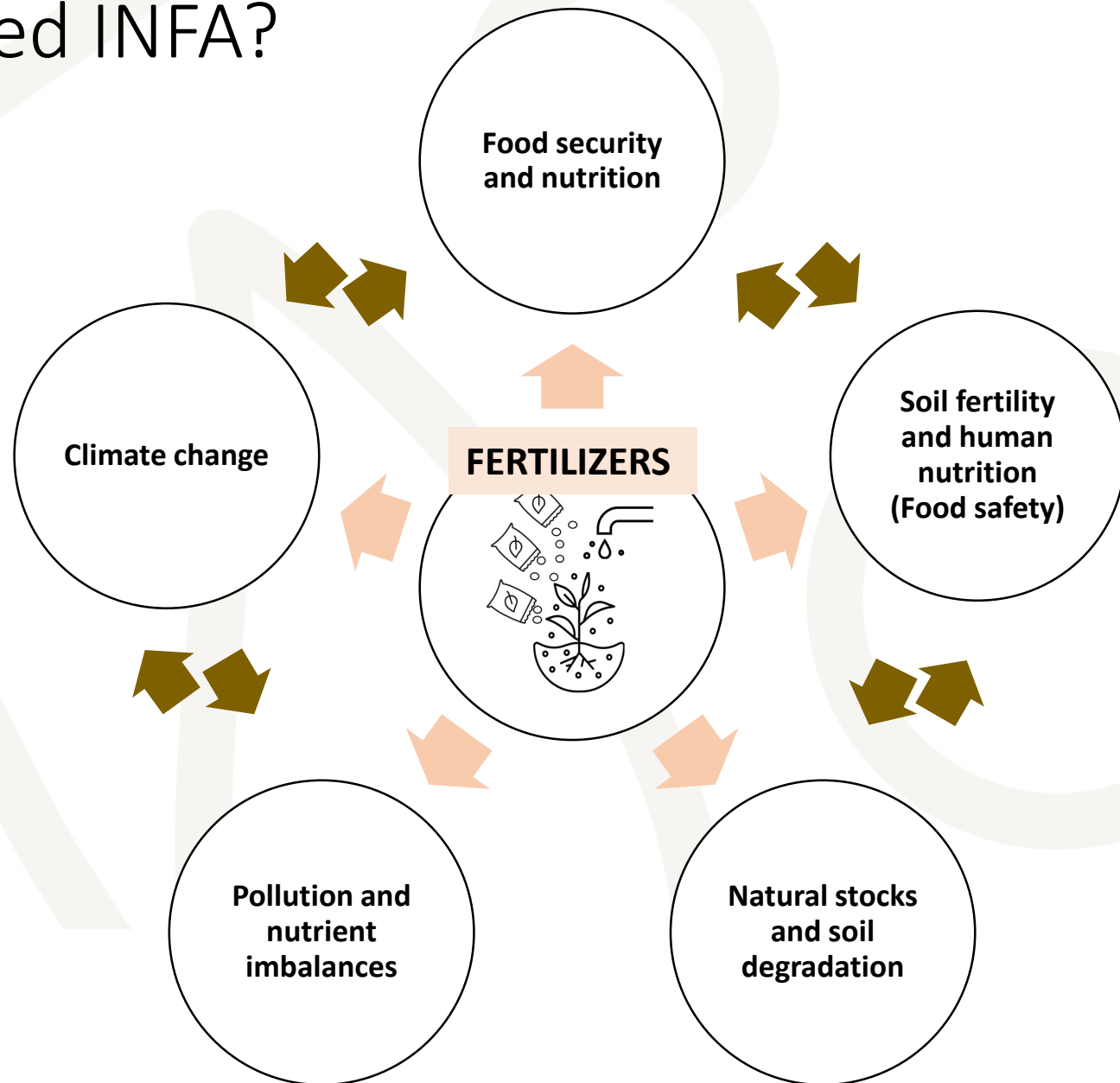


- Enhancing soil productivity for **more, safer and more nutritious crops (food security and nutrition)**.
- Reducing **soil degradation**
- Reducing agro-inputs (fertilizers, pesticides)
- Reducing GHG (**climate change mitigation**)
- Reducing **soil pollution**
- Increasing **SOC stocks**
- Enhancing **ecosystem services** (more water, **soil biodiversity**, cycling, etc.).
- Reducing **biodiversity loss**
- Enhancing **resilience (climate change adaptation)**
- Reducing poverty
- Contributing to achieve SDGs

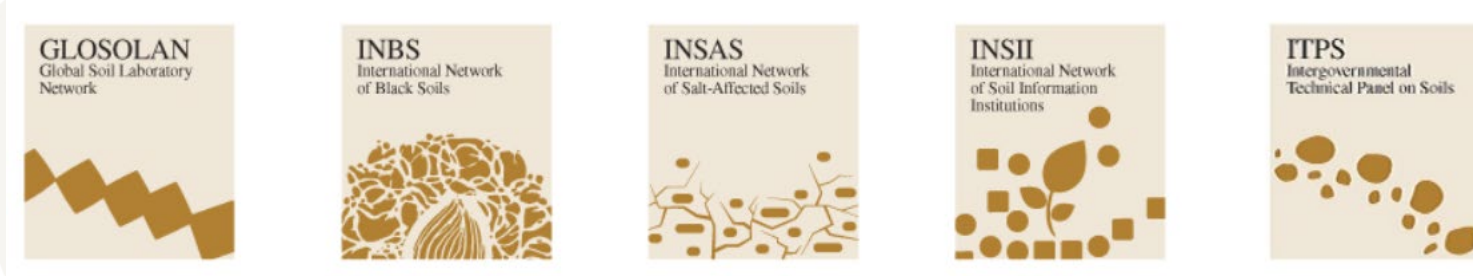


Source: Stephane Roux

Why do we need INFA?



Technical networks



International Network on Fertilizer Analysis (INFA)

The International Network on Fertilizer Analysis (INFA) was established in December 2020 **to build and strengthen the capacity of laboratories in fertilizer analysis and harmonize fertilizer quality standards.**

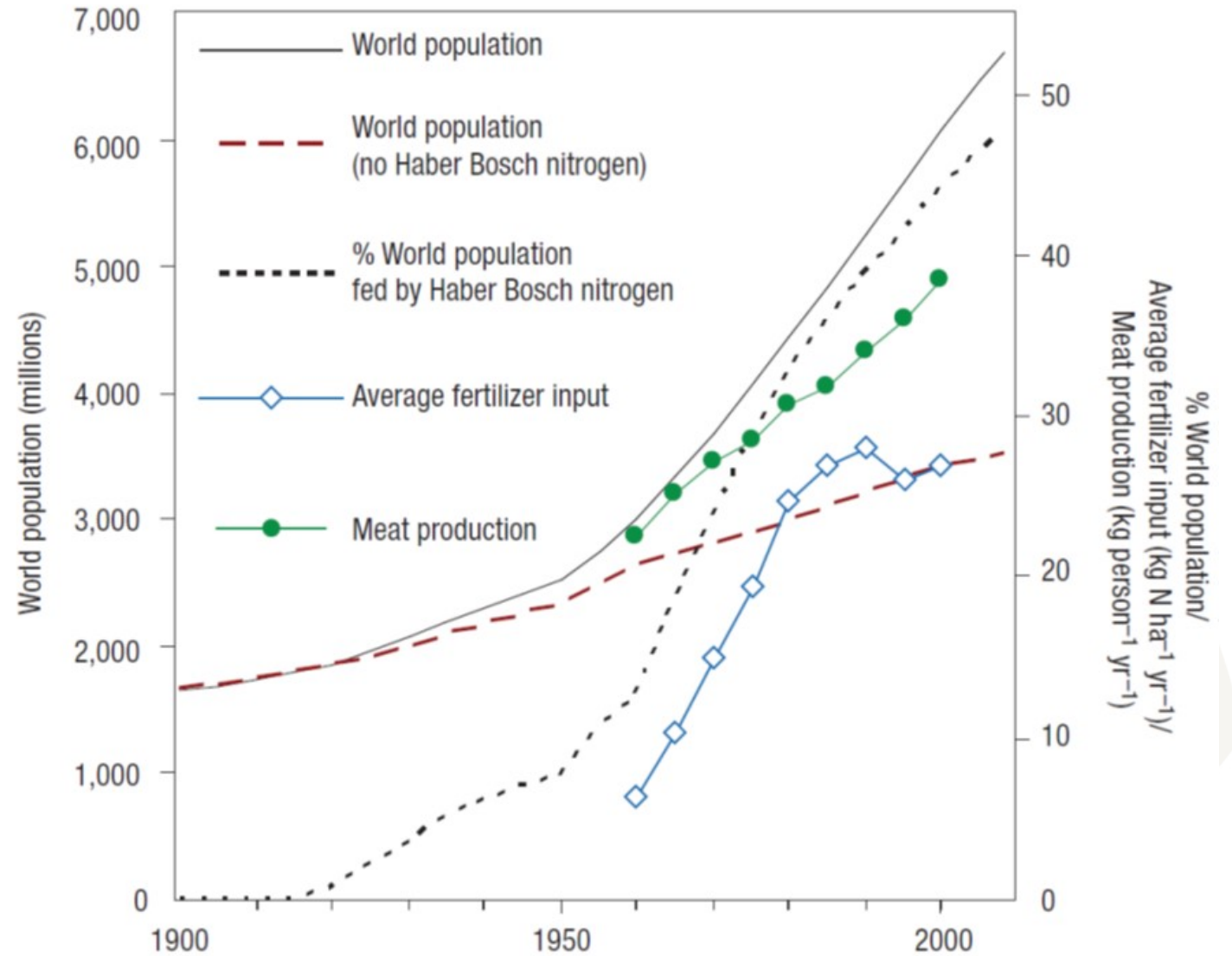
INFA operates under the Global Soil Laboratory Network (GLOSOLAN). It was established in response to requests from GLOSOLAN members and partners for the harmonization of fertilizer analysis methods, and in relation to the implementation of the [International Code of Conduct for the Sustainable Use and Management of Fertilizers](#).

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The link with food security



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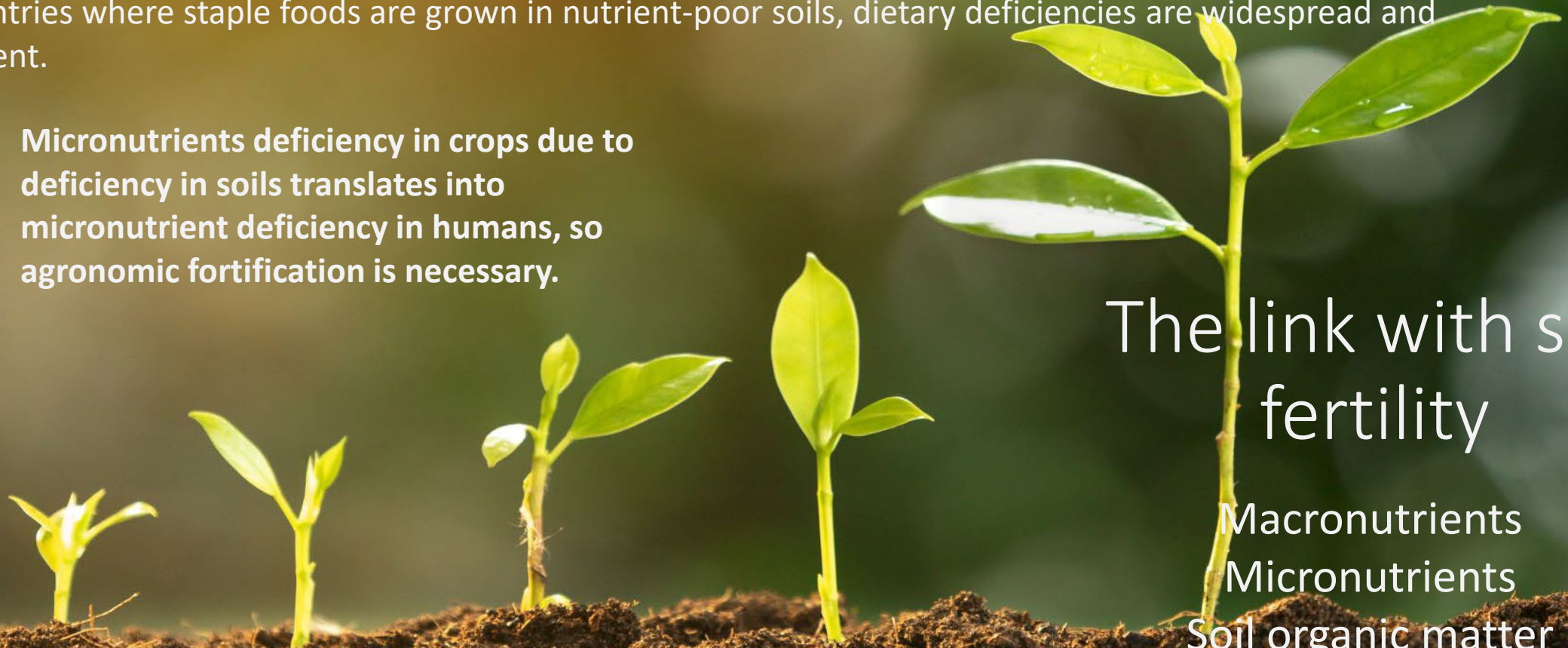


Erismann et al., 2008

- Micronutrients play a fundamental role in human life, in many cases intervening in our physical and mental development and in our response to disease.
- Many enzymes, proteins, and other biological compounds cannot carry out their functions without the presence of micronutrients
- In countries where staple foods are grown in nutrient-poor soils, dietary deficiencies are widespread and prevalent.



Micronutrients deficiency in crops due to deficiency in soils translates into micronutrient deficiency in humans, so agronomic fortification is necessary.



The link with soil
fertility

Macronutrients
Micronutrients
Soil organic matter
Food safety

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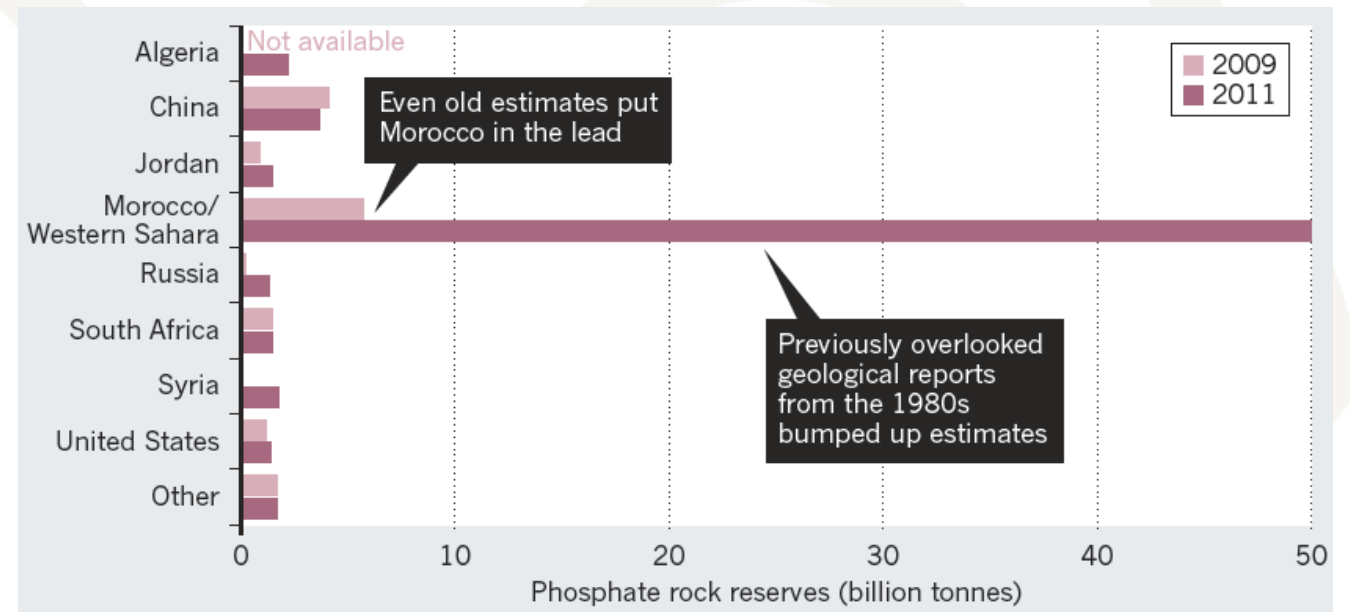
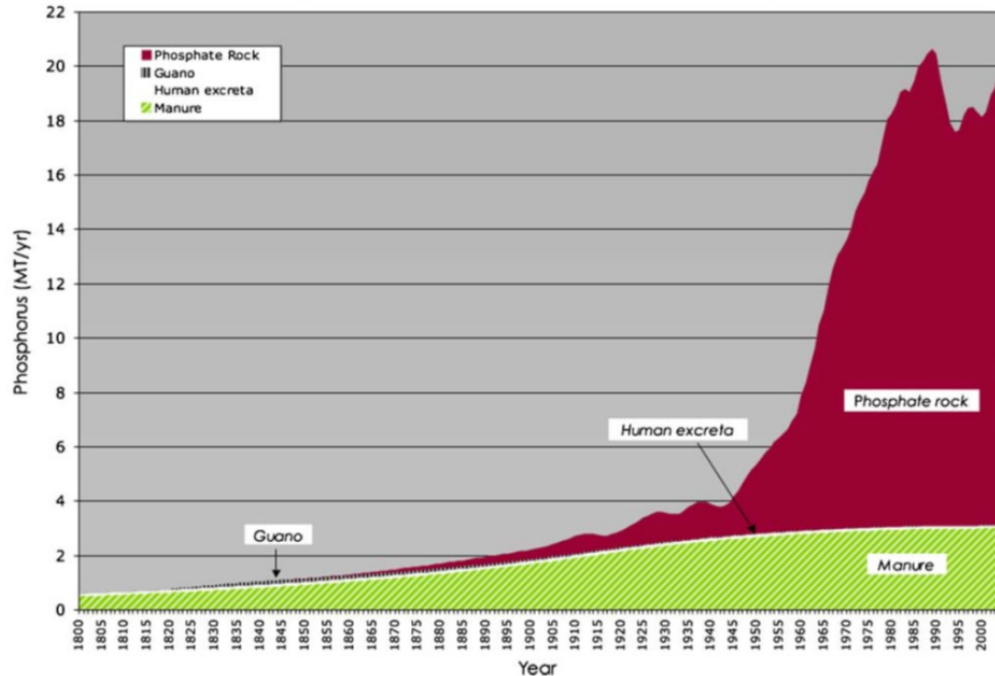
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The link with global element balance

- Availability of P for human consumption is limited.
- Human consumption of P is increasing 3% annually and will not decrease.
- 90% of reserves are concentrated in five countries.

Historical global sources of phosphorus fertilizers (1800-2000)



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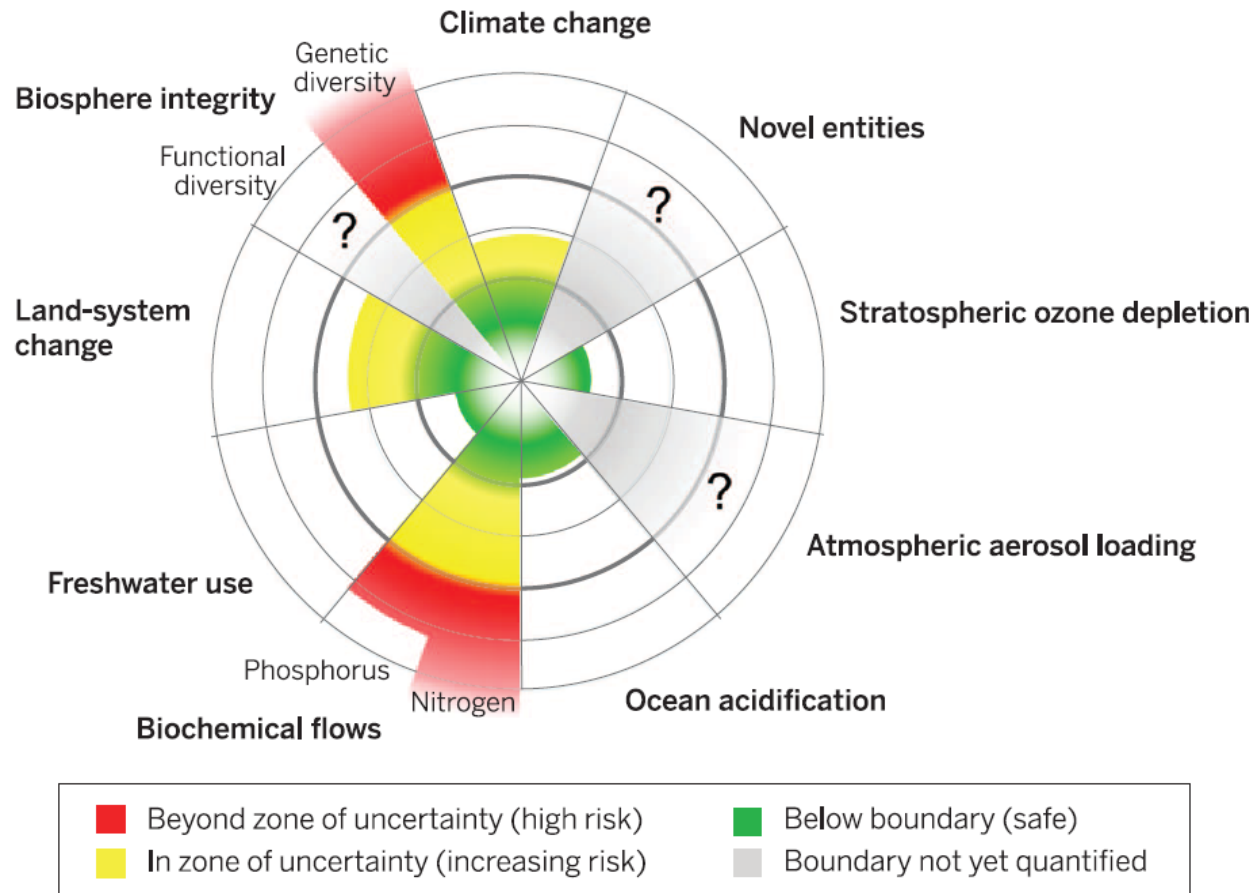
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GLOBAL SOIL PARTNERSHIP

Elser and Bennett, 2011.

The link with global elements balance



- Global biogeochemical cycles of P and N have been modified beyond safe operative boundaries.
- Most part of the modification is fertilizer use-driven.
- **Resources are scarce, it is necessary to use them wisely and efficiently.**

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Steffen et al., 2015 SOIL PARTNERSHIP



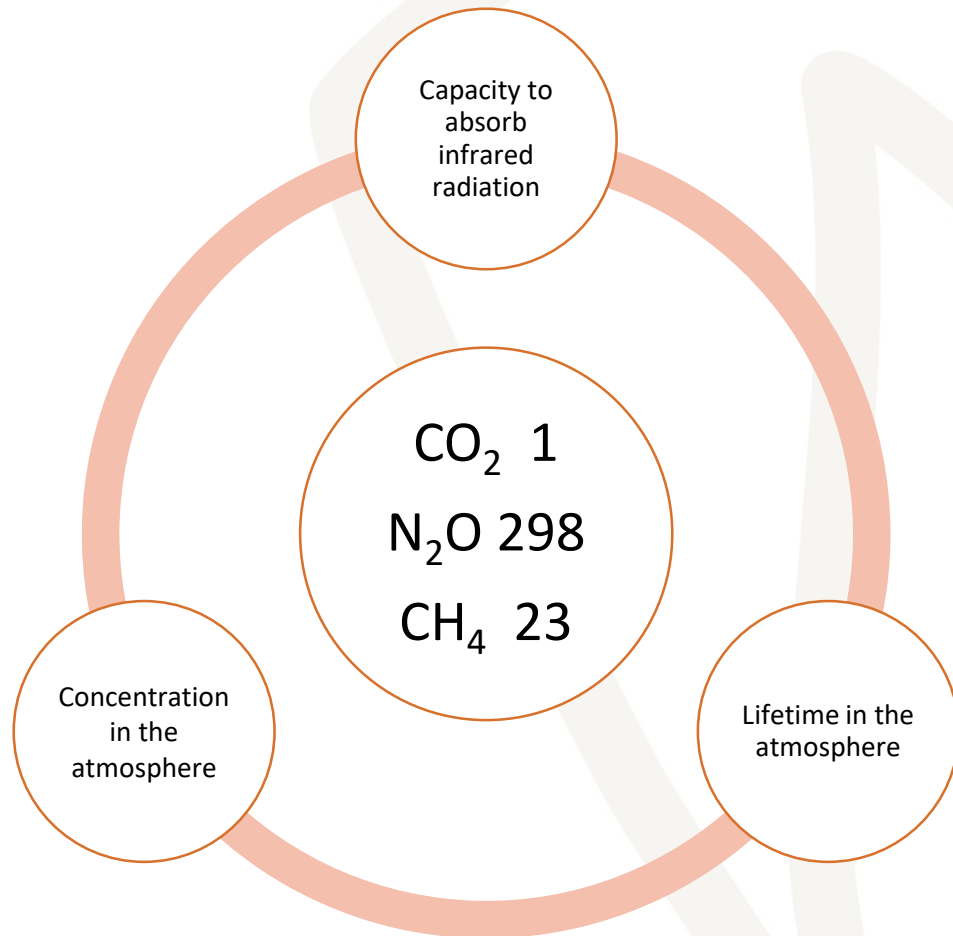
The link with soil/water pollution, nutrient and biological imbalances.

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The link with climate change

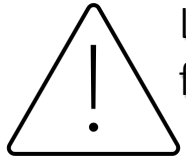


Agriculture accounts for 50% of anthropogenic sources of this gas.

Due to their high GWP, even small changes in N₂O emissions could offset increases in SOC and atmospheric CO₂ mitigation.

Once it has been lost from soils N₂O can remain in the atmosphere more than 100 years and it is 298 times more powerful compared with CO₂ when it comes about warming potential.

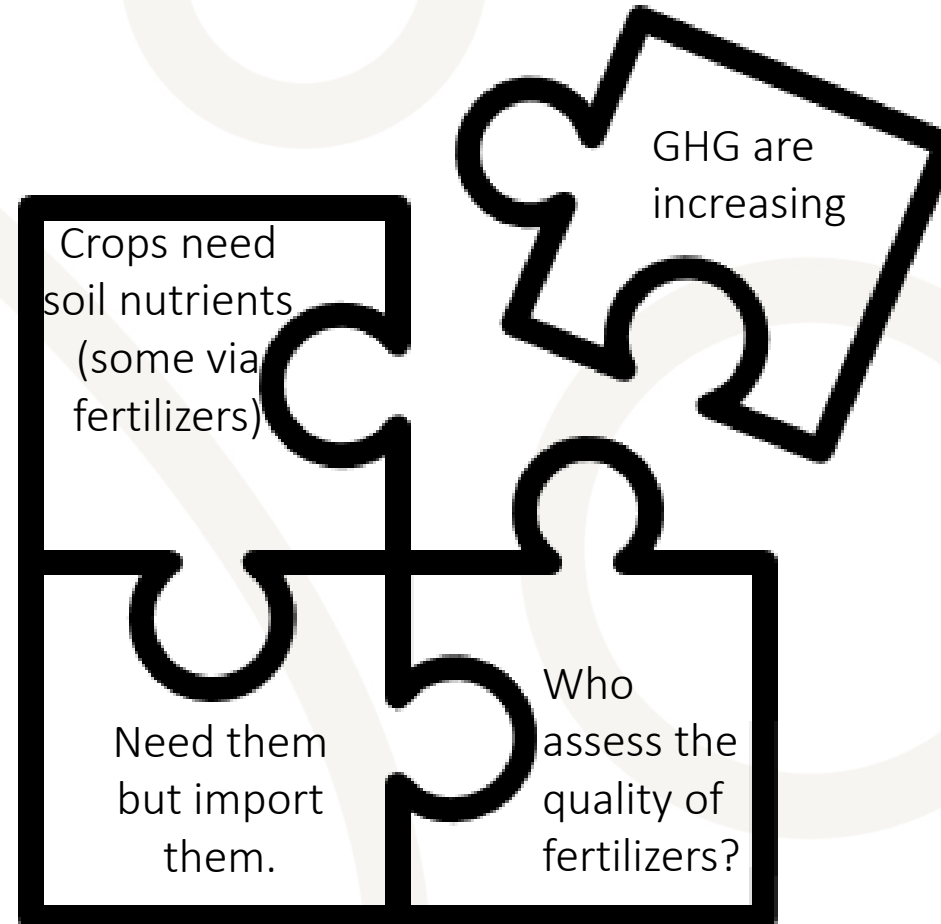
Relevance of INFA in a “perfect storm” scenario



Low use efficiency in the use of fertilizers.

Excessive additions of fertilizers is causing low incomes, underground water and atmospheric pollution, biodiversity loss and global warming.

Most countries don't produce the fertilizer they need.



Agriculture sector activities are the second cause of global GHG emissions after energy.

We need to ensure that fertilizers are having the nutrients we need, in the right amount and free of contaminants.

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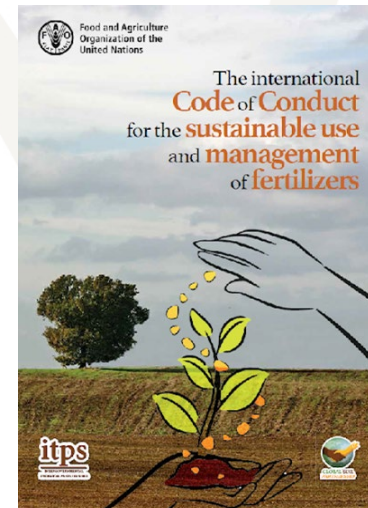
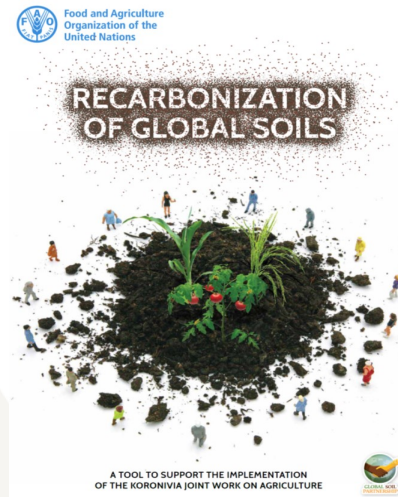
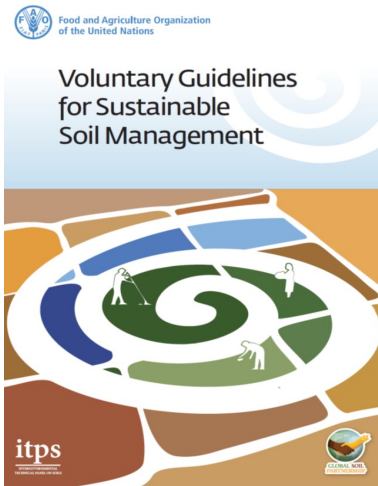


In times of crisis let's welcome innovation!

- There are less economic and natural resources available.
- Time for using the available resources more efficiently!

Through

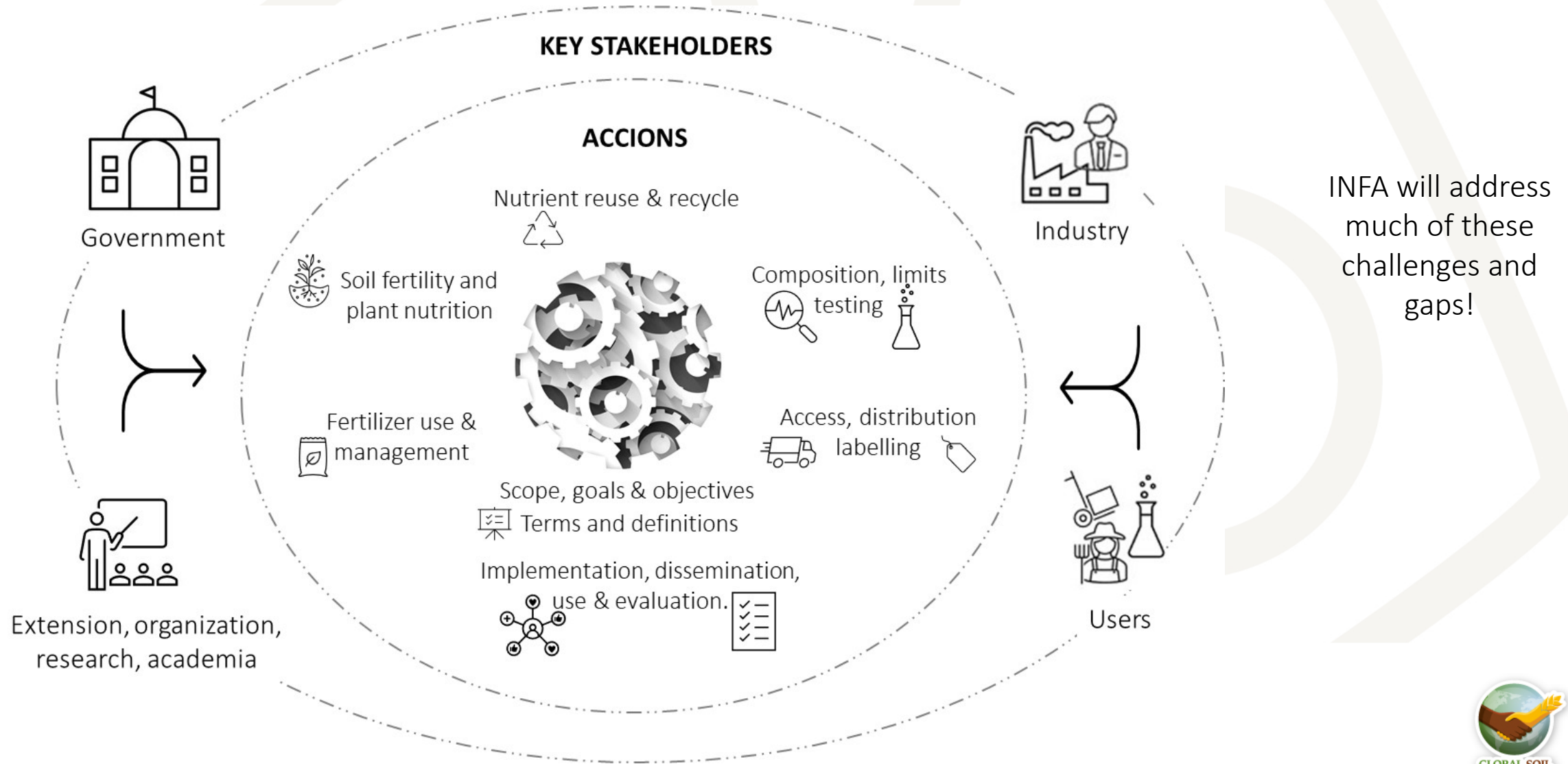
- ✓ Sustainable soil management strategies- The international Code of Conduct for the sustainable use and management of fertilizers.
- ✓ Nature-based solutions. Harnessing soil biodiversity.
- ✓ Technology based solutions: Precision farming, sensors, models.



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The Fertilizer Code: A crosscutting approach for a complex problem



Commitments of the network



INFA

International Network
on Fertilizers Analysis

To **standardize methods** and protocols for the analysis of fertilizers.

To **strengthen the performance** of fertilizer laboratories.

To **harmonize fertilizer quality standards**.

Recap and highlights



Launched in December 2020.

Includes 105 laboratories worldwide that are doing or interested to do fertilizer analysis.



Report of the First Meeting of the International Network on Fertilizer Analysis (INFA) available on INFA website:

<http://www.fao.org/3/cb3246en/cb3246en.pdf>



- Election of the INFA Chair and vice-Chair.
- Endorsement of INFA objectives and indicators of performance.
- Preparation of the INFA work plan for the period June 2021-June 2022 (link to the development of a business plan and financial resource mobilization).
- Engage a wide variety of stakeholders.

Additional information at <http://www.fao.org/global-soil-partnership/glosolan/fertilizers-analysis-international-network-on-fertilizer-analysis/en/>



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Thank you for your attention!
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