Federal Ministry
of Food
and Agriculture

THÜNEN

MACS-G20 Argentina 2018 – Sustainable Soil Management

San Salvador de Jujuy,
May 29th, 2018

Outline

- Introduction to the session: starting position, objectives, course (*Stefan Lange*)
- Climate-smart resource-efficiency in sustainable food systems (*Krijn Poppe*)
- Already existing international soil initiatives (GSP, ITPS etc.) – state of affairs, estimation on success factors and barriers (*Pavel Krasilnikov*)
- moderated discussion in sub-groups by means of guiding questions
- Wrap up: short reports by the three rapporteurs, first conclusion (*Stefan Lange*)

Starting point

Core questions:

1. Do we know pivotal soil-related problems and challenges?

Which of these problems and challenges

- ⟹ **are really open research questions?**
- ⟹ **are rather caused by insufficient knowledge transfer and implementation (e.g. educational or advisory deficits)?**
- ⟹ **are mainly caused by missing or inadequate policy design (regulations, incentives etc.)?**

Starting point

Core questions:

1. Do we know pivotal soil-related problems and challenges?

Which of these problems and challenges

- ⟹ **are really open research questions?**
- ⟹ **are rather caused by insufficient knowledge transfer and implementation (e.g. educational or advisory deficits)?**
- ⟹ **are mainly caused by missing or inadequate policy design (regulations, incentives etc.)?**

2. Is there too little attention of scientists and research funders on soil issues?

Starting point

Core questions:

1. Do we know pivotal soil-related problems and challenges?

Which of these problems and challenges

- ⟹ **are really open research questions?**
- ⟹ **are rather caused by insufficient knowledge transfer and implementation (e.g. educational or advisory deficits)?**
- ⟹ **are mainly caused by missing or inadequate policy design (regulations, incentives etc.)?**

2. Is there too little attention of scientists and research funders on soil issues?

3. Is there too little international awareness on soils, a lack of global approaches and initiatives dealing with soil-related information, harmonized data collection, monitoring, implementation support etc.?

First question:
Do we know pivotal soil-related problems and challenges?

Summary of Status and Trends of Soil Threats by region

Region	Soil erosion	Organic carbon change	Nutrient imbalance	Salinization	Soil sealing	Loss of biodiversity	Soil pollution	Acidification	Compaction	Water-logging
Sub-Saharan Africa	Poor ↘	Poor ↘	Poor ↘	Fair →	Good =	Fair ↘	Good ↘	Poor →	Good =	Good =
Asia	Poor ↘	Poor →	Poor ↘	Poor →	Poor ↘	Fair →	Poor ↘	Poor ↘	Poor ↘	Fair ↘
Europe and Eurasia	Fair ↗	Poor →	Poor →	Poor ↘	Poor ↘	Fair ↘	Poor ↗	Poor →	Fair →	Fair →
Latin America and the Caribbean	Poor ↘	Poor ↘	Poor ↘	Poor ↘	Fair →	Poor ↘	Fair →	Fair →	Poor ↘	Fair =
Near East and North Africa	Very Poor ↘	Poor ↘	Good →	Fair ↘	Very Poor ↘	Poor ↘	Very Poor ↘	Good →	Poor ↘	Good →
North America	Fair ↗	Fair ↗	Poor ↘	Good ↗	Fair ↘	Good →	Good ↗	Poor ↘	Fair →	Good →
Southwest Pacific	Fair ↗	Fair →	Fair ↘	Good →	Good ↘	Good →	Good ↗	Fair ↘	Fair →	Good →

and Agriculture

THÜNEN

First question:
Do we know pivotal soil-related problems and challenges?

Example Germany:

Research agenda & priorities

1. Soil monitoring, soil inventories
- National monitoring systems in the G20 states and beyond,
- remote sensing, geodata infrastructures

2. Soil protection
- water erosion, aeolian erosion
- compaction danger on soil texture
- Contamination with agrochemicals and pollutions

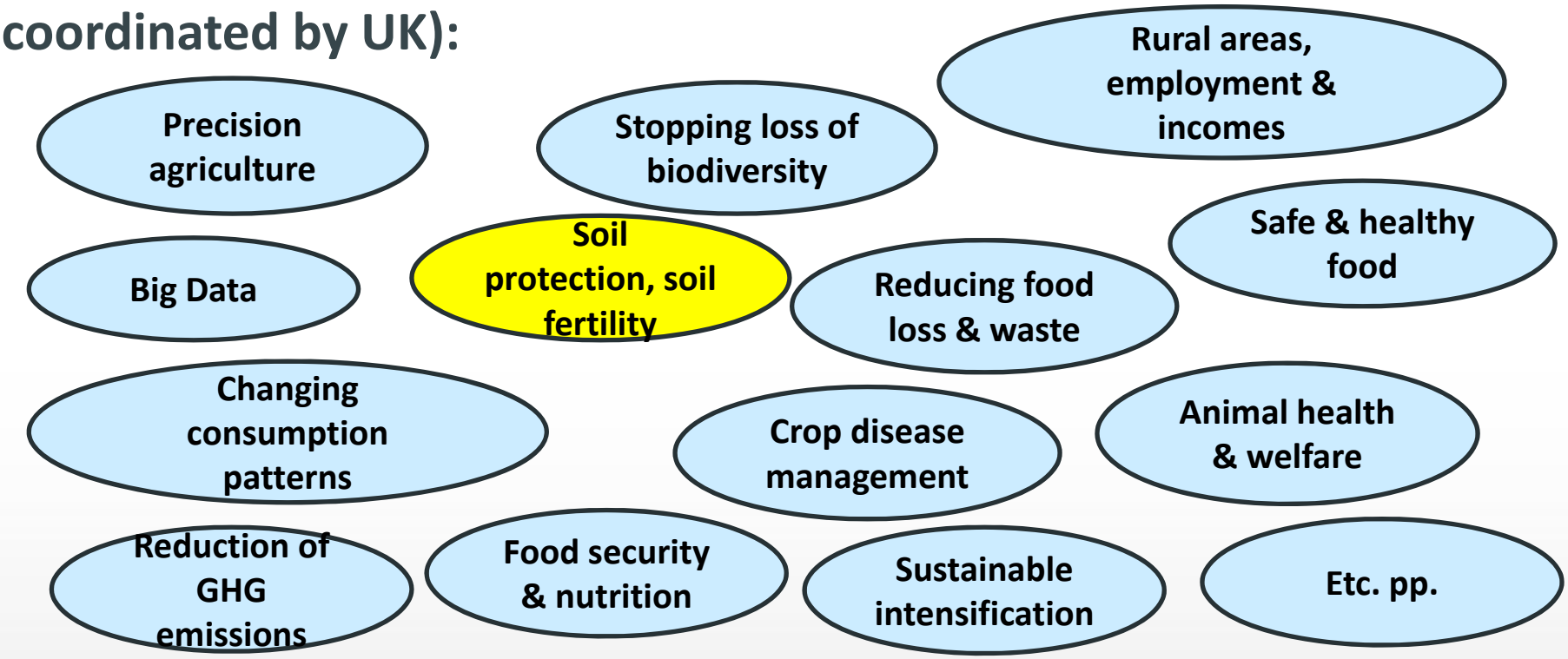
3. Soil fertility
- management of nutrients and organic matter
- interactions plant – soil – soil biota
- water management

4. Sink & source function of soils
- carbon enrichment in mineral soils
- Preservation of organic soils
- Soil seepage of N and P compounds

5. Land use changes, property rights
- goal conflicts (agriculture vs. nature protection vs. settlement, transport/traffic structures
- Land markets, strucures of land property
- water balance in ag landscapes

Second question:
Too little attention of scientists and funders on soil issues?

Review to MACS priority mapping exercise (coordinated by UK):



All G20 states address globally relevant challenges in national priority setting, among them the topic „sustainable soil management“.

Federal Ministry of Food and Agriculture

THÜNEN

Third question:
Is there a lack of global approaches and initiatives …?

Global Soil Partnership (GSP)

Intergovernmental Technical Panel on Soils (ITPS)

Global Soil Information System (GLOSIS)

International Network on Soil Information Institutions (INSII)

Global Soil Organic Carbon Map (GSOCmap)

Considering above mentioned core questions …

Core questions:

1. **Do we know pivotal soil-related problems and challenges?**
2. **Is there too little attention of scientists and research funders on soil issues?**
3. **Is there too little international awareness on soils, a lack of global approaches and initiatives dealing with soil-related information, harmonized data collection, monitoring, implementation support etc.?**

Considering above mentioned core questions …

Core questions:

1. **Do we know pivotal soil-related problems and challenges?**
2. **Is there too little attention of scientists and research funders on soil issues?**
3. **Is there too little international awareness on soils, a lack of global approaches and initiatives dealing with soil-related information, harmonized data collection, monitoring, implementation support etc.?**

But at the same time central issues in terms of sustainable soil management – soil degradation, erosion, compaction, acidification etc. – remain.

➡ ***How to achieve real impact?***

➡ ***How could & should MACS contribute to best possible support?***

Already existing recommendations addressing the G20 States

„Food security and nutrition: Challenges for agriculture and the hidden potential of soil“ - Report of FAO and OECD to the G20 Agriculture Deputies

In relation to international initiatives, G20 members:

1. Continue to support the Global Soil Partnership and the Intergovernmental Technical Panel on Soils, and undertake actions to promote the Principles and Guidelines of the revised World Soil Charter and the Voluntary Guidelines for Sustainable Soil Management

2. Support the efforts to establish global information systems, such as the Global Soil Information System, the International Network of Soil Information Institutions, and the Global Soil Organic Carbon map

3. Support the implementation of the Koronivia joint work on agriculture, decided at the 23rd Conference of the Parties (COP 23) to the UN Framework Convention on Climate Change (UNFCCC), and ist special focus on soil organic carbon, soil health and soil fertility.

Objective of our session:
How could MACS contribute to best possible support?

„Food security and nutrition: Challenges for agriculture and the hidden potential of soil“ - Report of FAO and OECD to the G20 Agriculture Deputies

In relation to international initiatives, G20 members:

1. Continue to support the Global Soil Partnership and the Intergovernmental Technical Panel on Soils, a **How to shape this support?** ples and Guidelines of the revised World Soil Charter and the Voluntary Guidelines for Sustainable Soil Management

2. Support the efforts to establish global information systems, such as the Global Soil Information Syst **How to shape this support?** nation Institutions, and the Global Soil Organic Carbon map

3. Support the implementation of the Koronivia joint work on agriculture, decided at the 23rd Conference of th **How to shape this support?** vention on Climate Change (UNFCCC), and ist special focus on soil organic carbon, soil health and soil fertility.

Federal Ministry of Food and Agriculture

THÜNEN

Outline

- Introduction to the session: starting position, objectives, course (*Stefan Lange*)
- Climate-smart resource-efficiency in sustainable food systems (*Krijn Poppe*)
- Already existing international soil initiatives (GSP, ITPS etc.) – state of affairs, estimation on success factors and barriers (*Pavel Krasilnikov*)
- moderated discussion in sub-groups by means of guiding questions
- Wrap up: short reports by the three rapporteurs, first conclusion (*Stefan Lange*)