



Food and Agriculture
Organization of the
United Nations



5 DECEMBER



#Soils4Nutrition

Global Status of Black Soils



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What are Black Soils?

Black soils are mineral soils which have a black surface horizon, enriched with organic carbon that is at least 25 cm deep (FAO/ITPS, 2019).



Black soils have the following five properties

The presence of black or very dark surface horizons; typically with a chroma of ≤ 3 for moist soils, and ≤ 5 for dry soils (Munsell colours);

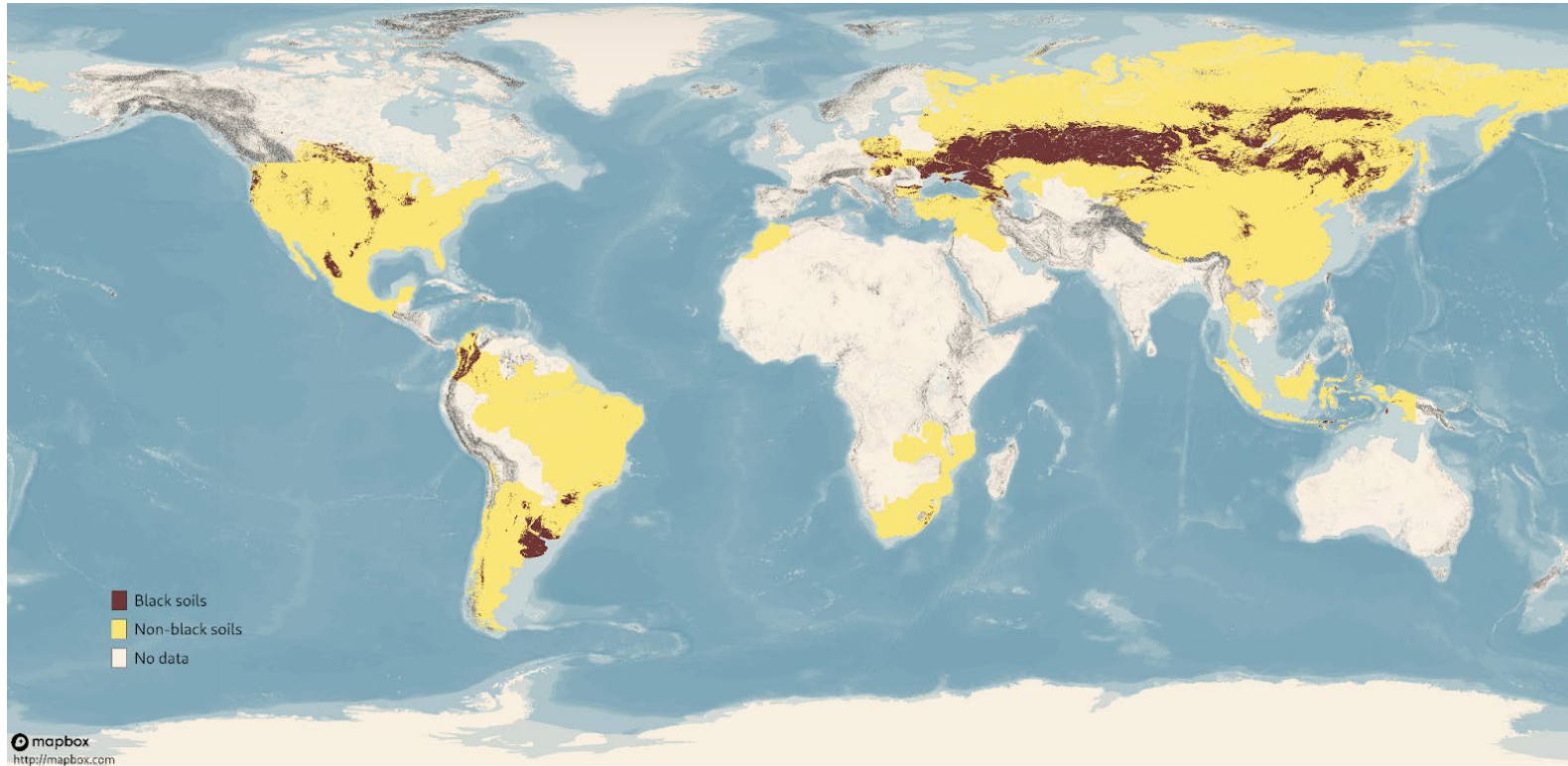
The total thickness of black surface horizons ≥ 25 cm;

Organic carbon content in the upper 25-cm of the black horizons of $\geq 1.2\%$ (or $\geq 0.6\%$ for tropical regions) and $\leq 20\%$;

CEC in the black surface horizons ≥ 25 cmol/kg;

A base saturation in the black surface horizons $\geq 50\%$

Where are Black Soils?



725 million hectares

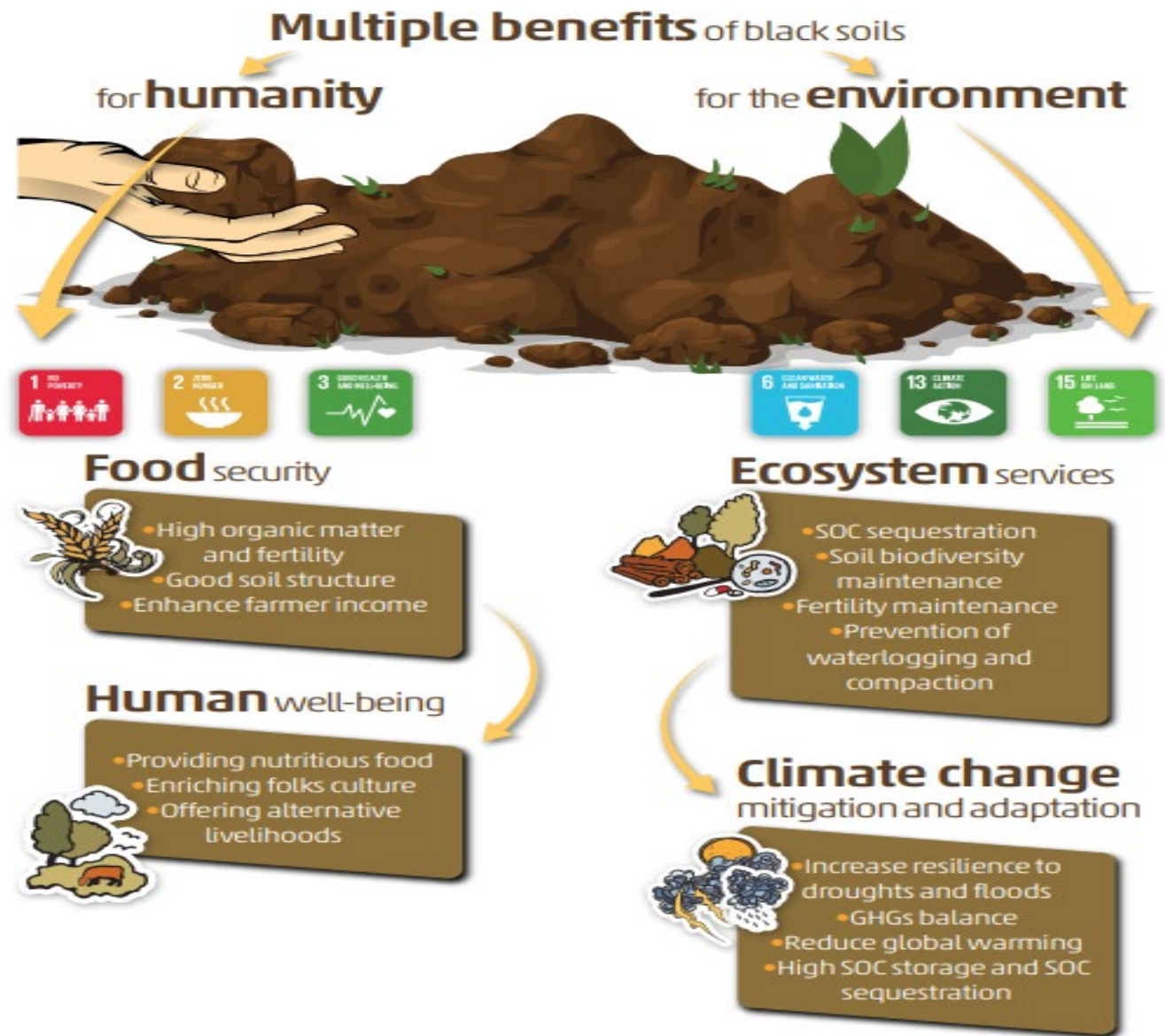
5.58% of Global Land Area

Global Black Soil Distribution Map (GBSmap), launched in 10th GSP Plenary Assemble on 23th May 2022

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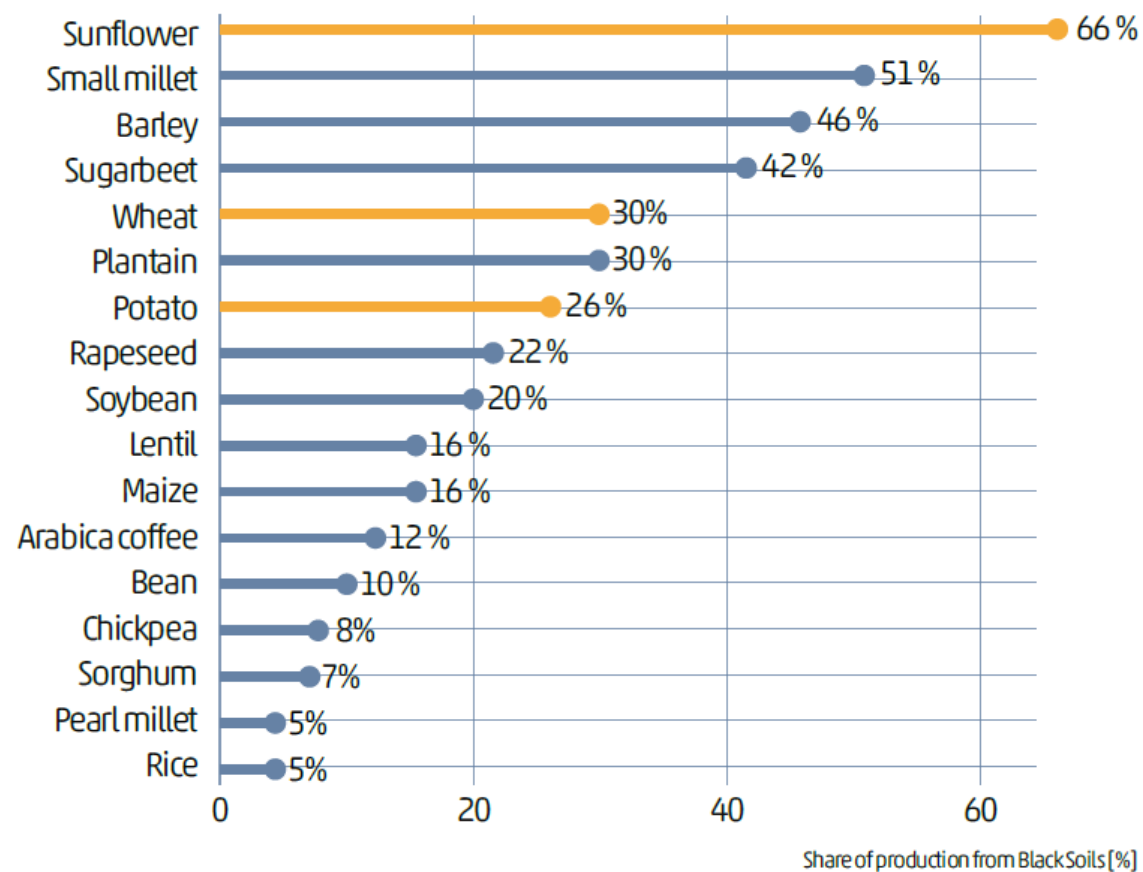
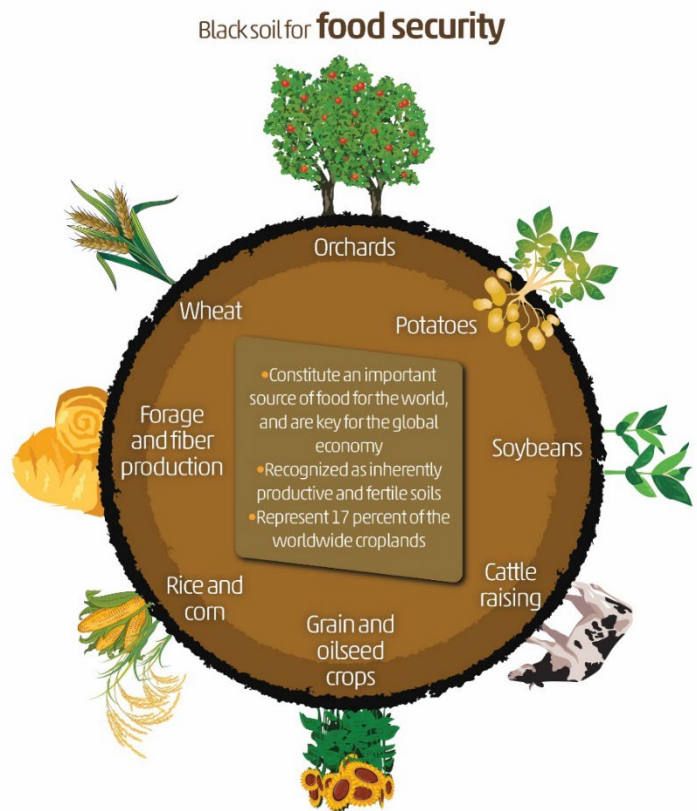
Why do Black Soils matter ?



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Why do Black Soils matter ?



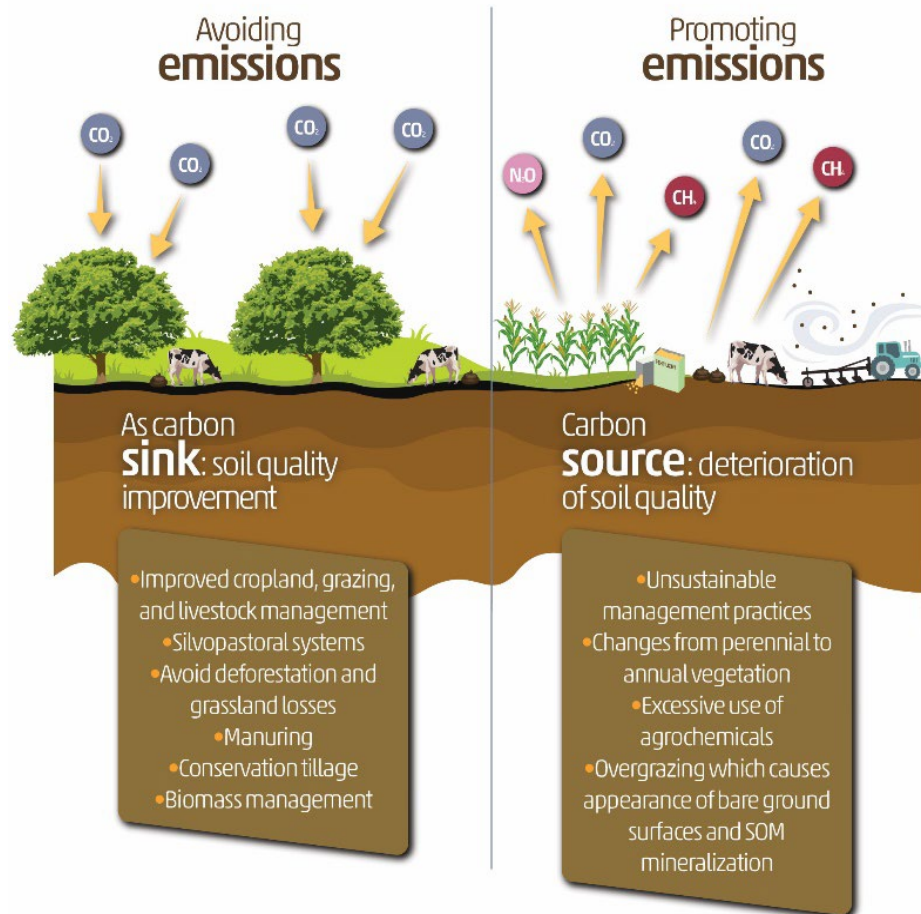
227 million hectares

17% of the Global Cropland Area



Why do Black Soils matter ?

Black soils, a **sink** or a **source** of carbon?



56 PgC

8.2% of the global SOC stock

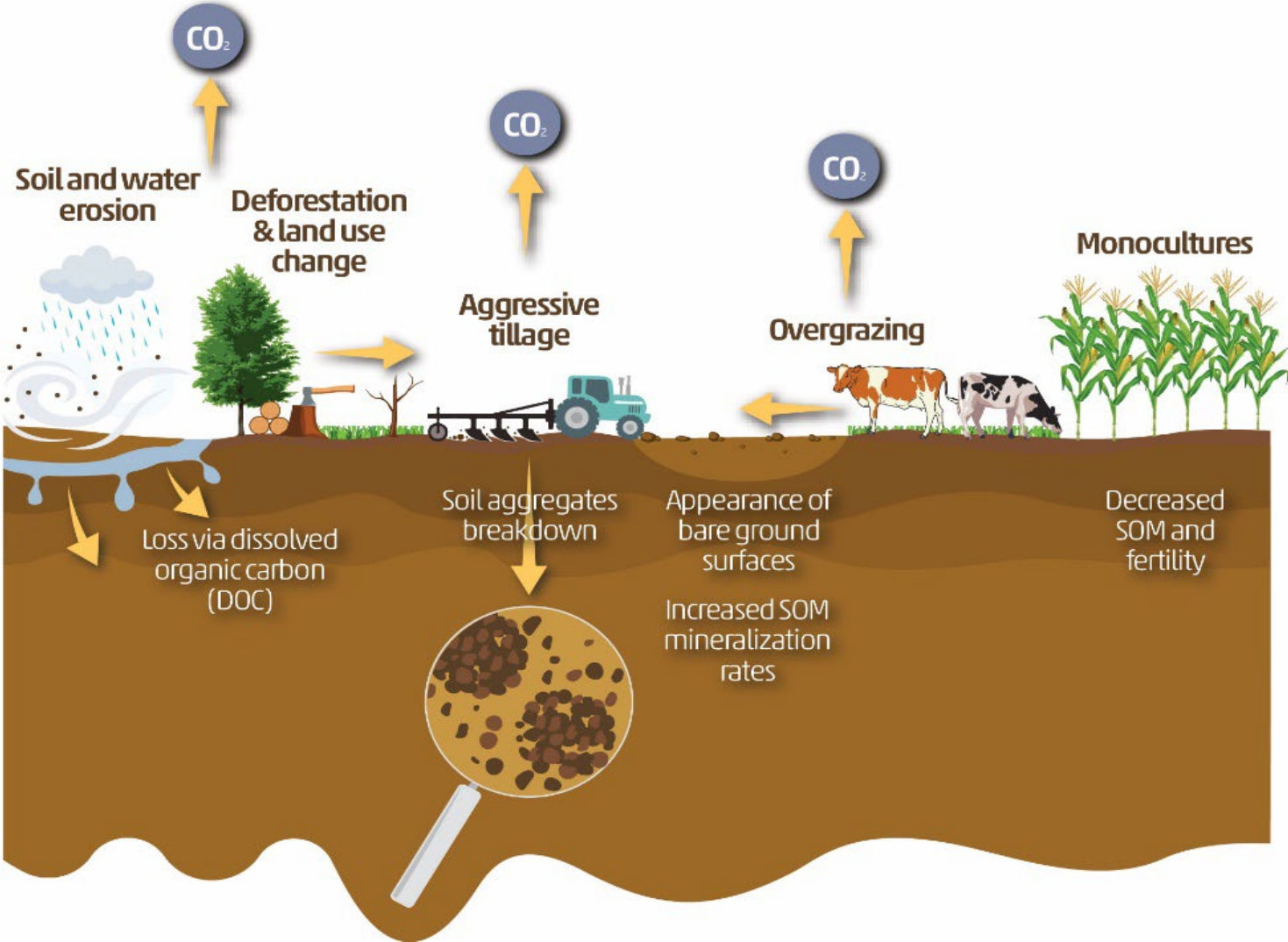
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Black Soils are under threat



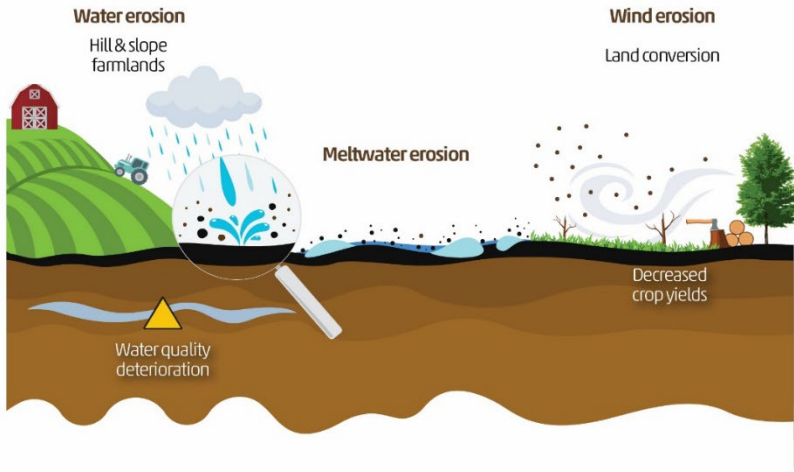
Main reasons for SOC loss



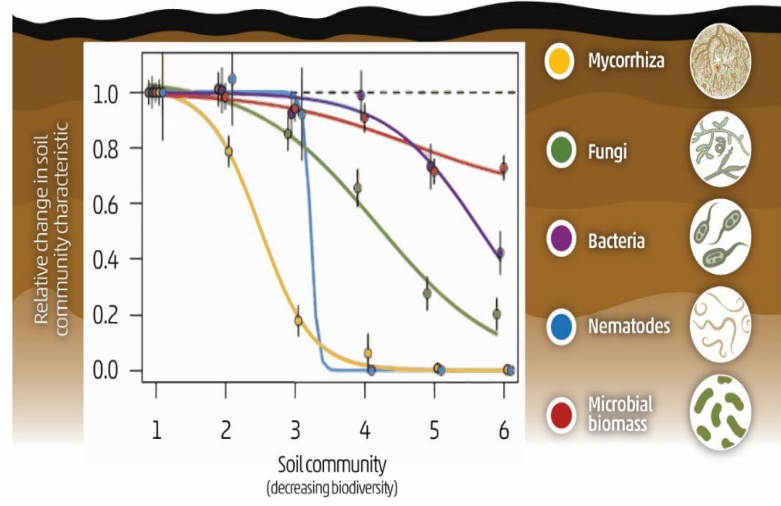
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Black Soils are under threat



Soil erosion



Biodiversity loss



Climate Change

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Best available practices

Minimum tillage



Photo: Indian Head of Canada, William May

ISFM



Photo: Jinlin province, China, Guozhong Feng

Organic cover



Photo: Salto, Argentina, Guillermo Pe

Soil cover and minimum disturbance



Photo: Lishu county, China, Ye Sha

Addition of organic matter



Photo: Zhaoguan county, China, Xingzhu Ma

Crop rotation



Photo: Russia, T.A_Zubkova

Integrated systems



Photo: Brazil, Ricardo Bergamo

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Recommendations



Famers

- Maintain or even increase SOC stocks and reduce GHG emissions through **proven SSM practices**.
- Maintain health of black soils through Sustainable Soil Management.



Academia

- Support the **development of good practices** for the sustainable management of black soils;
- Contribute to the **refinement of the black soil definition**;



Government

- Foster the **adoption of proven SSM practices**;
- Promote **the RECSOIL (Recarbonization of Global Soils)** initiative in black soil countries;
- Establish **national programmes** for SSM of black soils.



INBS

- Strengthen **awareness raising** campaigns on the importance of black soils;
- Refine the current **definition of "black soils"** ;
- Establish a international **monitoring system**;
- Advocate for the establishment of a **global agreement** on the sustainable management and conservation of global black soils.
- Strengthen **technical cooperation** among countries with black soils.

Acknowledgments

188 soil scientists from **31 countries** contributed to the report with their knowledge on status, challenges, management, conservation, and monitoring of black soils.

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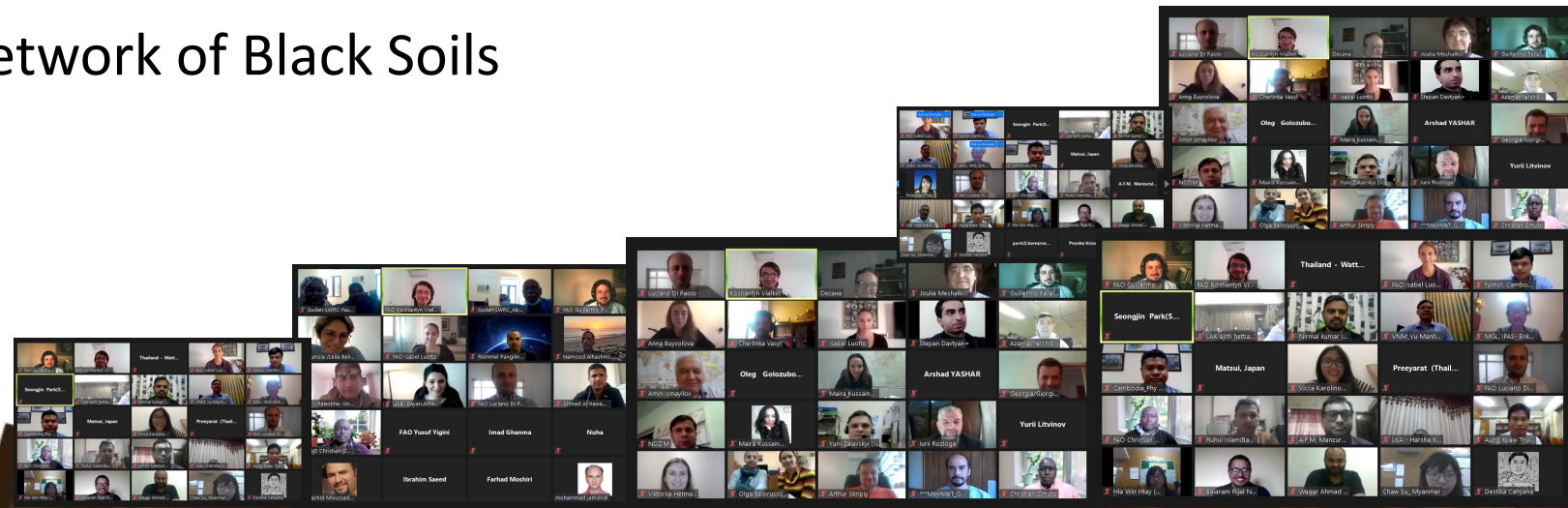
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