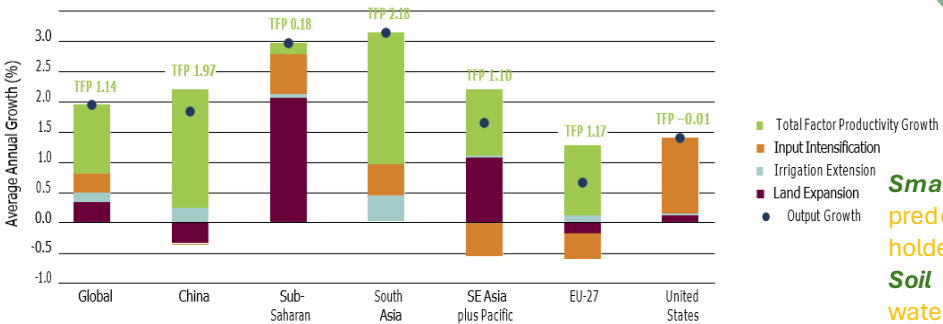


Unlocking the potential of Soil Health to increase Agricultural Productivity in Sub-Saharan Africa

Status of Agricultural Productivity in Sub-Saharan Africa

To sustainably increase agricultural productivity, it is important to increase the efficiency of farming systems rather than increasing resources. The measure of this efficiency is termed as the Total Factor Productivity (TFP). TFP growth rate for SSA during 2011–2021 was 0.18%, against the global target of 1.73% required for sustainable agricultural outputs.

Sources of Agricultural Output Growth By Region, 2011–2021

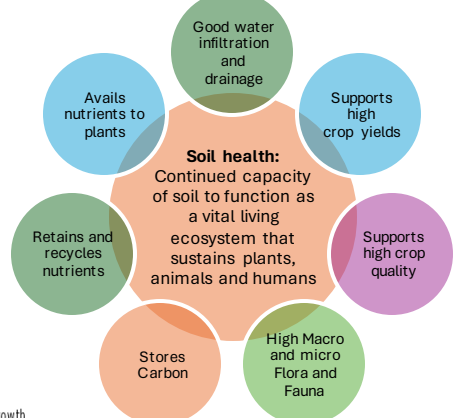


The GAP Report identifies soil health management as one of the tools for sustainable TFP growth. This brief highlights the potential of soil health in increasing the TFP for SSA and provides a call to action.



'We can improve soil health faster than we used to think, it's just a matter of following the principles of nature.'
Gabe Brown

What is soil Health?



Why soil health?

Small Holder Farmers: Agriculture in SSA is predominantly conducted by rural small holder farmers.

Soil Health Importance: Soil fertility and water are crucial for their agricultural productivity.

Soil Degradation: 65% of soils in SSA are degraded.

Economic Impact: The annual loss of soil nutrients is estimated to be over USD 4 billion. This degradation is attributed to intensive farming without proper nutrient replenishment, inefficient soil input use, limited access to quality inputs, adverse climate conditions, and insufficient extension and advisory services.

The solution: Integrated Soil Fertility Management (ISFM)

Crop rotation

Efficient fertilizer use (4 Rs: Right Product, Right Rate, Right Time, Right Placement)

Soil testing

Cover crops

Minimum and zero tillage

Agroforestry

Evidence that it works: These practices safeguard and enhance soil quality, fertility, and resilience.

Regenerative agriculture improves farm efficiency

Mulching results in higher soil-water retention and less use of herbicides

Minimum tillage improves soil fertility and texture, reduces soil erosion and acidity

Efficient use of soil health inputs helps replenish nutrients and boost yields

Fertilizer-use efficiency increases agricultural productivity

Why are its full potential not realized? Systemic weaknesses and gaps

Limited awareness

Limited integration of soil health into land-use planning

Subsidies that promote unsustainable agricultural practices

Limited access to resources and extension and advisory services

Limited tailored approaches and targeted interventions to address unsustainable land use

Lack of public incentives for sustainable land management

Social and cultural factors

CALL TO ACTION: Increasing the SSA TFP, calls for more than just increasing fertilizer use, but rather prioritizing sustainable soil health management practices. :

Policies

- Develop policies and programs that offer financial incentives to encourage farmers to prioritize sustainable soil management
- Increase public funding of extension, research, and development to support soil health management and increase access to soil testing laboratories

Institutionalization of Soil Health Management

- Set targets and standards for soil health indicators and enforce
- Establish National Monitoring and Evaluation systems to ease tracking progress towards soil health goals.
- Support Public-Private-Partnerships for coordinated efforts and sharing of best practices
- Support and promote certification programs that incentivize and recognize farmers who prioritize soil health
- Launch targeted awareness campaigns and educational programs on soil health
- Participatory decision-making

APECS 2024 SCIENCE COMMUNICATION SERIES-GROUP 4: ALWORAH GETRUDE, OBARE IVAN AND GICHEHA SIMON