



FARA

Forum for Agricultural Research in Africa

African Responses to the Challenges of Soil Fertility and Sustainability

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response to Challenges of Soil fertility and
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State of African Soil: Seeing the Picture

Inherent Issues



- World oldest soil
- No Volcanic rejuvenation
- Highly weathered
- Subject to erosion & leaching
- Low activity clay minerals
- Low CES
- Low Organic matter content

Management Issues



- Inappropriate tillage
- Soil mining practices
- Low use of external input
- Insufficient biomass
- Soil moisture management

Soil fertility Mgt Issues



- Availability of fertilizer
- Cost of fertilizer
- Economics of fertilizer use/ efficiency
- Inappropriate fertilizer blend
- Fertilizer application knowledge
- Social movement conflicts.
- Dependence on external sources

Soil Degradation

- Poor farm productivity
- Yield gaps
- Unsustainable agrarian livelihood
- Natural resource degradation
- Dysfunctional ecological services
- Increasing poverty
- Increasing social tension
- National underdevelopment
- Food and nutritional insecurity
- Heightened contributions to climate change

Background Thoughts

Popular Data



- (1). The pace of soil degradation is high, and it is threatening the sustainability of agricultural production; 46% of the land area in Africa is currently affected. 485 million people (65%) people affected which translates to US\$9.3 Billion in revenue lost every year.
- (2). **75-80% of the continent's cultivated area is reportedly degraded, with a loss of 30 to 60 kg of nutrients per hectare per year. Projections suggested that more than half of the current arable land may become unusable by 2050.**
- (3). Soil degradation occurs when there is a decline in soil condition caused by its improper use or poor management of the components which contribute to, and support soil fertility are not maintained.
- (4). **Soil degradation is multidimensional, and it requires a holistic approach; the cost of restoration of degraded soils is very high. On average, USD 65 billion will be needed to resolve soil degradation per year.**
- (6). Research and policy attention to soil health, land degradation control, and sustainable land use is sub-optimal in Africa.

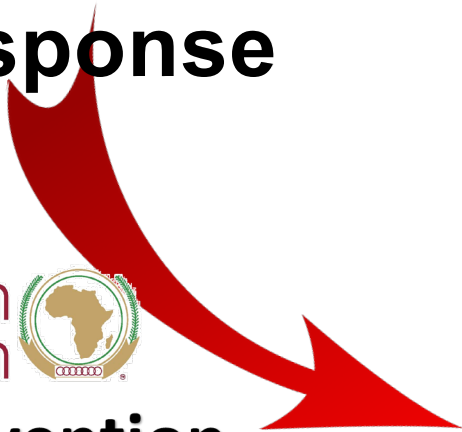
Continental Response



Intervention

Request

On Soil Issues in Africa



Soil Initiative for Africa

..a continental framework for managing African soil



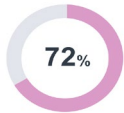
**Soil
Health
Action Plan**

**Africa
Fertilizer &
Soil Health
Summit**

Developing Africa's 10-Year Action Plan



The Soil Management System



- A dashboard to track progress with metrics drawn from existing related efforts, wherever possible.
- An African Soil Information System, leveraging and facilitating the scaling of various efforts now underway.
- An African community of practice network on soils.
- Various efforts at education and training from the local to regional to international level, including ways to share experience and research, scale successful approaches.
- Defining how fertilizers will fit within the soil management system in Africa.
- Addressing how to engage and involve the local and international private sector.



Africa Fertilizer and Soil Health Action Plan

Outcome	Outputs
Outcome 1: Improved policies, investment, finance, and markets for fertilizer and for soil health management	Output 1.1: Improved policy environment for efficient fertilizer production and use and for sustainable soil management
	Output 1.2: Improved financing and investment
Outcome 2: Improved access to and affordability of organic and inorganic fertilizers	Output 2.1: Increased domestic production and distribution and enhanced research for organic and inorganic fertilizers
	Output 2.2: Enhanced intra-regional fertilizer trade.
Outcome 3: Greater efficiency, resilience, and sustainable use of inorganic and organic fertilizer inputs and soil health and sustainable soil management interventions	Output 3.1: Recommendations developed targeted to specific crops, soils, and climatic conditions
	Output 3.2: Agronomic fertilizer use efficiency increased to optimal levels.
	Output 3.3: A digital soil information database established and accessible.
Outcome 4: The enhanced institutional and human capacity for sustainable fertilizer and soil health management	Output 4.1: Locally relevant fertilizer and soil health technologies developed and promoted.
	Output 4.2: Soil analytical services available and affordable to a broad base of smallholder farmers
	Output 4.3: Regional networks for knowledge exchange established
	Output 4.4: Enhance last-mile delivery systems of soil health solutions