AFRICAN UNION

الاتحاد الأفريقي

UMOJA WA AFRIKA

UNION AFRICAINE

UNIÃO AFRICANA

UNIÓN AFRICANA

Addis Ababa, Ethiopia P. O. Box 3243 Telephone: +251 115 517 700 Fax: +251 115 517 844

Website: www.au.int

AFRICA FERTILIZER AND SOIL HEALTH SUMMIT

7-9TH MAY 2024

NAIROBI, KENYA

Original: English

SOIL INITIATIVE FOR AFRICA: FRAMEWORK DOCUMENT

Soil Initiative for Africa

FINAL

Soil Initiative for Africa: Framework Document

Soil Initiative for Africa Development Process and Scope

In September 2020, at the Alliance for a Green Revolution in Africa Forum (AGRF), the African Union Commission (AUC) issued a call to create a Soil Initiative for Africa (SIA) as an ambitious long-term effort to systematically improve the health and productivity of Africa's soils. Improved soil condition will be achieved by scaling proven and locally adapted technologies, including balanced and efficient (inorganic and organic) fertilizer application, to improve productivity for all farmers and, in many cases, sequester greenhouse gases by putting in place policies, programs, and institutional structures (i.e., an effective soil management system for Africa) needed to improve and maintain soil fertility across Africa into the future.

The AUC mandated the development of this document, which presents the long-term Soil Initiative for Africa Framework, which was prepared following a consultative process with a wide range of stakeholders. The AUC further mandated the development of technical briefs and policy briefs in preparation for the Africa Fertilizer and Soil Health (AFSH) Summit (an AU Heads of State level event tentatively planned for mid-2024), as well as an AFSH Action Plan. The Action Plan includes actions required to implement the first 10 years of the SIA and address the most pressing outcomes and recommendations from the technical and policy briefs.

Both the SIA Framework Document (with its long-term horizon) and the Action Plan (with its 10-year horizon) will be endorsed and launched at the AFSH Summit.

As a long-term Initiative, the SIA will be reviewed to identify lessons learnt during the first 10 years of implementation and identify the exigent issues at the time to further improve soil health in Africa. Subsequent 10-year Action Plans will be developed and implemented based on the lessons learnt and the future priorities to be addressed.

Table of Contents

Executive Summary

Africa's agricultural productivity has been severely constrained for decades by widespread land and soil degradation which continues to this day. The Continent's soils have suffered loss of soil organic matter, loss of soil fertility and negative nutrient balance, water and wind erosion, soil acidification, loss of soil biodiversity, soil salinity, soil pollution, and overgrazing. The decline in soil health and fertility across Africa has hindered not only agricultural productivity, but also food and nutrition security, rural livelihoods, and environmental sustainability. This decline significantly reduces the capacity of the soil to respond to the use of yield-increasing inputs like fertilizers and improved crop varieties, and greatly increases the vulnerability of smallholder farmers and communities to the impacts of climate shocks.

Soil health encompasses the soil's continued ability to function as a vital living ecosystem that sustains healthy plants, animals, and humans. As such, soil health is a critical component of the One Health approach which recognizes that the health of humans, domestic and wild animals, plants, and the ecosystems (including soils) are closely linked and inter-dependent. Improving soil health across Africa will therefore not only support improved agricultural productivity, but also water, food and nutrition security, rural livelihoods, and environmental sustainability. Numerous initiatives, plans, projects, programs, policies, institutional frameworks, and processes have been implemented to address and reverse the persistent soil degradation, often with important practical local achievements. Despite these local successes, they have not gone to scale. Fortunately, many of the building blocks for solutions remain in place, but by themselves they are insufficient and soil health has continued its general decline across the Continent, except in scattered localities. Coordinated attention and resources are required to reverse the widespread decline in soil health.

It is critical to improve and sustain soil health if the goals and aspirations of African agendas (Agenda 2063, Comprehensive African Agriculture Development Programme, Malabo Declaration, etc.) and priorities are to be achieved. The African Union Commission (AUC) mandated the development of a Soil Initiative for Africa (SIA) Framework as an ambitious effort to systematically improve the health and productivity of Africa's soils.

In short, the narrative behind the SIA can be summarised as follows:

- The science of soil – how to manage soil to increase productivity, sustainably and increase resilience – is generally known. Lack of fundamental science is not the problem. Instead, the challenge is to ensure that the most applicable science reaches farmers, who can combine it with local and indigenous knowledge to ensure that sustainable soil management practices are locally adapted. Continued investment in research remains essential to generate an even better understanding of soil as part of a climate-resilient agricultural ecosystem and the changes that will accompany this transition.
- There are many local examples of projects that have improved and maintained soil health, fertility, and productivity in relatively small geographic areas. Scaling these soil health interventions and their impacts through continuous local adaptation in new geographical areas has been elusive.
- Knowing what to scale – scientifically sound techniques that have been tested and proven through numerous local experiences and can be adapted to other local contexts – is not the main constraint.
- Knowing how to scale has been the constraint – building on the emerging science of scaling through processes and institutions (most existing, but perhaps new) at the local, national,

regional, and continental level – is essential and doable. This process would include improved approaches to connect science at scale with service provision at farm level and landscape interventions, the scaling of farmer and community learning, know-how, and capacity, and more.

- The SIA is intended to establish a system to improve soil health and fertility across the Continent. This system will improve agricultural productivity, economic growth, sustainable livelihoods, water availability, a sustainable natural resource base, and adaptation and mitigation of climate change.

The SIA aims to bring together all key actors to identify and launch the elements of a continental framework for Africa to use to:

1. Eliminate the duplication and lack of coordination that have hampered previous approaches to reverse the decline in soil health at scale.
2. Place empowerment of all land users at the heart of all agreed soil health goals; recognize that farmers and other land users are the key change agents to reverse soil degradation and improve soil health.
3. Improve farmers' and other land users' (e.g., herders, pastoralists, forest users, inland fisher folk) access to policy information and research results to incentivize and support on-farm and landscape-level improvements in soil management based on local context, knowledge, and innovation.
4. Establish programmatic, institutional, and human capital support to identify and address gaps that constrain effective soil management at every level.
5. Enhance the development, availability, and use of digital products, tools, and services to optimize planning, implementation,
6. Create momentum and provide clear guidelines and opportunity information via an investment dashboard that disseminates information on investable projects and programs in Africa's soil health sector.
7. Place the scaling of science-based soil health capacities, information, and practices at the center of the initiative to reach millions of land users across the African Continent with the best practices, research, information, and technologies for soil health and adaptive management decisions.

For these goals to be achieved, the SIA prioritises four investment areas:

- Priority Area 1. *Optimise integrated soil health and water management planning and implementation:* to address soil degradation in croplands, grazing lands and forest lands, enhance soil health, agricultural productivity, and livelihood benefits achieved at the farm, plot, or field level, and ensure protection of important soil resources from sealing, overexploitation, and pollution.
- Priority Area 2. *Build human, institutional, and social capital for research, development, education, extension, and support for sustainable soil management:* to optimize a chain of support that would enable land users to make adaptive management decisions that optimize soil health and productivity and minimize risks.
- Priority Area 3. *Optimise data and information for effective planning and monitoring:* to improve and track improvements in soil health, productivity, and sustainable livelihoods.

- Priority Area 4. *Ensure enabling policy, legal and regulatory frameworks:* to guide, support, and incentivise the sustainable use of soil resources.

Successful implementation of the SIA (at plot, farm, local, national, regional, and continental levels) would ensure an African future in which its soils are healthy and resilient. Healthy soils would be supported by a robust African-led soil management system with sound institutions, policies, programs, investments, partnerships, and services that support and empower land users to use practices that restore and sustain soil health, improve agricultural productivity and income, and reflect national priorities.

This document presents a long-term framework for the SIA to put a system in place to improve and maintain the health and productivity of Africa's soil across all agricultural sub-sectors (i.e., arable, [inland] fisheries, forestry, and livestock sub-sectors). A second document, the Africa Fertilizer and Soil Health (AFSH) Action Plan, provides a 10-year Action Plan (2024-2034) with actions to implement the first 10 years of the SIA with an emphasis on addressing the outcomes of the Africa Fertilizer and Soil Health Summit (May 2024, Nairobi, Kenya). The Action Plan thus includes specific actions that will be needed to launch and implement the SIA and support improved agricultural productivity through improved soil health and balanced and efficient (and in many settings, expanded) organic and inorganic fertilizer use. The SIA constitutes a priority initiative of the Comprehensive African Agriculture Development Program **(**CAADP) and the implementation framework of the 10-year AFSH Action Plan. The SIA will continue the implementation of subsequent 10-year Action Plans following a review of progress and lessons learnt during the first 10 years of implementation.

The formal launch of the SIA at the Africa Fertilizer and Soil Health Summit will initiate, under the CAADP, action at scale at every level – plot, farm, community, country, region, and Continent. The AUC will have ownership and leadership of the SIA. A mechanism may be considered to coordinate, facilitate, and support the institutional services, programs, policy initiatives, investments, projects, and activities that are needed at each level.

The Regional Economic Communities (RECs) will be encouraged and supported to contextualize the SIA recommendations and AFSH Action Plan to their respective situations – and to formulate an approach to solve soil issues within CAADP regional agricultural investment plans. Similarly, the AU member states will be encouraged to formulate solutions to national soil issues within their CAADP National Agricultural Investment Plans (NAIPs) The AU and development partners will signal readiness to mobilize technical, political, and financial resources to support the development and implementation of soil-related aspects of NAIPs, CAADP regional agricultural investment plans, and corresponding plans at the Continental level that are consistent with SIA recommendations.

Financing for the SIA to improve soil health at the local, national, regional, and continental levels will require the development of an innovative, effective and targeted financing mechanism or instrument that would enable investment from a variety of funding sources. In addition, this would require working with development partners to define concrete funding areas that suit their priorities and are consistent with SIA's priorities for progress at the national, regional, and continental levels.

All actors involved in activities under the SIA will be expected to coordinate their activities with other participating actors based on the approaches and recommendations of the SIA Framework. Development partners will be requested to scale up and coordinate their support for activities at every level that are consistent with recommendations of the SIA. Development partners will further be encouraged to engage with each other in a manner that facilitates coordination of effort. It is anticipated that this will be done through a variety of mechanisms and modalities including technical support, project support, joint financing, loans, grants, etc.

List of Abbreviations

AFSH	Africa Fertilizer and Soil Health
AGRF	African Green Revolution Forum
AUC	African Union Commission
AUDA	African Union Development Agency
CAADP	Comprehensive Africa Agriculture Development Programme
MEAL	Monitoring, Evaluation, Accountability and Learning
NAIP	National Agriculture Investment Plan
NEPAD	New Partnership for Africa's Development
REC	Regional Economic Community
ReSAKKS	Regional Strategic Analysis and Knowledge Support System
SIA	Soil Initiative for Africa
SLWM	Sustainable land and water management
SRO	Sub-regional organization

Chapter 1. Introduction

1.1 Background

Africa is striving to sustainably increase its agricultural production without increasing the area of land under cultivation. Since 2000, only about 25% of sub-Saharan Africa's agricultural production growth came from crop yield improvements, while about 75% resulted from the expansion of area under cropland into forests and grazing lands (Jayne & Sanchez, 2021).

The first 10-year implementation plan for Africa's Agenda 2063 (2013-2023) set targets to double agricultural total factor productivity and ensure that at least 30% of agricultural land is under sustainable land management practices by 2023 from the 2013 baseline of 4.8% (African Union Commission, 2015). Through 2021, the average yield growth rate for five national priority commodities has remained low, while the percentage of agricultural land under sustainable land management practices has only reached 8.2% (the target for 2021 was 25%) (African Union Commission and African Union Development Agency - NEPAD, 2022).

Africa's agricultural productivity has largely been constrained by widespread land and soil degradation which has lowered soil productivity and reduced the effectiveness of inputs, especially fertilizers (Jayne & Sanchez, 2021). The continent's soils have suffered long-term loss of soil organic matter, loss of soil fertility and negative nutrient balance, water and wind erosion, soil acidification, loss of soil biodiversity, soil salinity, soil pollution, and overgrazing, among other challenges.

Major causes of soil degradation in Africa are uncontrolled and excessive grazing, deforestation, and the use of inappropriate and extractive farming practices. In many cases, soil degradation is exacerbated by extreme weather events such as droughts and floods. Grazing lands and forests are critical not only for grazing and forest products; they also support ecosystem services such as water regulation and contribute towards soil stabilization and erosion control. Decades of deforestation, overgrazing, and soil nutrient mining have led to the continent's soils becoming the poorest in the world. It is estimated that the continent loses about 3% of its Gross Domestic Product due to soil nutrient depletion each year, thereby severely eroding its ability to feed itself. Yet to date, many farmers lack sufficient access to fertilisers and cannot afford other inputs needed to revitalise their soils and improve soil health. Even where access to relevant inputs exists, many farmers do not have (or receive) sufficient technical information and/or know how to make optimal use of the inputs.

Soil health encompasses the soil's continued ability to function as a vital living ecosystem that sustains healthy plants, animals, and humans. As such, soil health is a critical component of the One Health approach — an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals, and ecosystems (including soils). Improving soil health across Africa will not only support improved agricultural productivity, but also water, food and nutrition security, rural livelihoods, and environmental sustainability across the continent. Rural smallholder farmers, households, and communities directly depend on healthy soils, grazing, tree cover, and clean water for their agricultural livelihood activities (Mansourian & Berrahmouni, 2021). Improving soil health and achieving sustainable productivity growth on existing croplands and grazing areas will also reduce the conflict and competition for land under forests and grazing. Securing agriculture as a viable rural livelihood has the potential to improve food security, reduce migration, and reduce conflict related to agricultural land use. Boosting producer income through increased productivity would further stimulate general demand for goods and services in rural areas, which would result in the establishment of new enterprises and contribute to the broader process of structural economic

transformation and diversification. This is only possible where producers can take full advantage of existing (and accumulating) scientific information and knowledge about how to manage their soils.

In Africa, safeguarding agriculture-based livelihoods must therefore begin by improving soil health across arable, grazing, and forest lands by adopting and improving measures and technologies that conserve and sustainably use soil and water resources, especially in an era characterised by increasing droughts and water insecurity on the continent. Many proven technologies exist that enhance soil health and preserve other natural resources when applied effectively. These technologies include a range of agricultural inputs such as synthetic, natural, and mixed fertilizers, organic inputs, bio-stimulants, and many others. The success of these technologies can be further enhanced through landscape-level interventions such as improved range and forest management and integrated watershed management.

Numerous initiatives, plans, projects, programs, policies, institutional frameworks, and other processes exist to reduce soil degradation, often with important practical local achievements. But bringing these successes to scale has been elusive. Many of the building blocks for a solution are in place. Coordinated attention and targeted resources devoted to improving soil health are required to ensure the whole is more than the sum of the parts, and to fill the remaining gaps.

A key program to learn from and build on is the TerrAfrica Partnership, initiated by the African Union Development Agency (AUDA) New Partnership for Africa's Development (NEPAD). TerrAfrica was launched in 2005 as a regional platform to enable sub-Saharan Africa governments, the international development community, and other stakeholders to work together to scale up country-driven investment in sustainable land and water management (SLWM). The partnership was effective in developing a successful model for donor harmonization, Africa-driven multi-disciplinary development, and mutual accountability, as well as being instrumental in ensuring cross-sector coherence in national policies, planning, and investment programs through Country Strategic Investment Frameworks for SLWM. TerrAfrica further provided easy access to a wide range of SLWM knowledge products and the partnership's agenda, and implicit mission continues to be relevant. Despite its success stories, it fell short of achieving impact at a scale that could turn around Africa's continued decline in soil health. Lessons learnt from TerrAfrica include: 1) the need for a strong Secretariat with the in-house capacity in terms of human resources and adequate systems and structures to help the program achieve its objectives; 2) the need for an effective monitoring and evaluation system that would enable the assessment of products utilized and applied in national contexts, and assess concrete results at field level based on effective attribution to the program itself; and 3) the importance of leveraging investments that are relevant to the programme objectives (Okapi Environmental Consulting, 2018).

Another key program to learn and build on is the 10-year program of the Food and Agriculture Organization (FAO)'s Global Soil Partnership (GSP): *Afrisoils: Boosting soil productivity for a food and nutrition secure Africa* (2019-2028). The Afrisoils program aims to promote and implement sustainable soil management for increased food and nutrition security in 47 African countries based on national priorities for SSM. Key Afrisoils interventions focus on:

- Increasing soil organic carbon and organic matter, which are essential to soil fertility;

- Adopting soil and water conservation techniques and erosion control measures,

- Rehabilitating degraded soils (including remediation of polluted soils),

- Curbing deforestation and using climate smart agroforestry practices,

- Adopting water use efficiency and innovative irrigation techniques for improved crop production,

- Establishing and/or equipping soil testing laboratories and conducting on-site soil testing,

- Building famers' capacity to use and adopt sustainable soil management practices,

- Supporting national extension services,

- Supporting the creation of legislation and policy guidelines for sustainable soil management, and

- Enhancing technical capacities on sustainable soil management.

The overall premise and priorities under Afrisoils remain relevant and have informed the development of the SIA Framework.

In line with the Comprehensive African Agriculture Development Program (CAADP), the SIA Framework has been developed to reflect and embrace all forms of agriculture, i.e., arable, forestry, (inland) fisheries and livestock sub-sector systems (New Partnership for Africa Development, 2003), with primary focus on arable, forestry, and livestock sub-systems. Accordingly, reference to "farmers" includes crop farmers, herders, pastoralists, (inland) fish farmers, and forest users; farmers further refer to all farm typologies of smallholder, emerging, and commercial farmers. From a development perspective, the SIA Framework emphasises the priority to support smallholder and emerging farmers to increase soil health and agricultural productivity for sustainable livelihoods and environmental benefits. It further recognizes and supports the role of commercial farmers in improving soil health and maintaining/ increasing agricultural productivity for sustained food production, economic growth, and environmental benefits, as well as recognizing their role in the transfer of technologies to other farmers.

1.2 Role of Healthy Soils in Addressing Africa's Priorities and Global Challenges

Soils play a pivotal role in major global biogeochemical cycles (carbon, nutrient, and water) while hosting the largest diversity of organisms on land. As a result, the ecosystem functions and services provided by healthy soils are essential to addressing and minimising the impacts of the multiple global challenges and agendas (Rio Conventions, Sustainable Development Goals, One Health, amongst others). Improving soil health is particularly important to achieve Africa's goals for increased agricultural productivity and production, environmentally sustainable and climate resilient production, improved water productivity and security, biodiversity conservation, and sustainable natural resource management under Agenda 2063, CAADP, the Malabo Declaration, Africa's Climate Change Strategy, and more.

Soil provides the foundation of the global food system and the main source of nutrients that enables the world's cropping and livestock systems to produce calories, protein and several other nutrients and bioactive compounds. After oceans, soil is the largest active store of carbon and a crucial determinant of the climate system since an increase in soil carbon storage can reduce atmospheric CO_2 concentrations. Soil organic matter itself confers multiple benefits, such as enhancing water purification and water holding capacity, protecting against erosion risk, buffering soil pH, and enhancing food and fibre provision through improved soil fertility.

Healthy soils also regulate the global water cycle, including water storage and filtration. Soils store water enabling life to exist, even during dry periods, and act as a buffer against flooding. Agriculture accounts for more than 70% of all water used globally. This sector affects water resources through land degradation (e.g., causing siltation and pollution of water sources), changes in runoff, and disruption of groundwater discharge. Low water availability is a major constraint in African rainfed agricultural and grazing systems. With predominantly rainfed agriculture, soil water availability in African agriculture is highly dependent on conducive soil properties. Sustainable soil management practices can help to increase groundwater recharge and water storage in the soil.

Above- and below-ground biodiversity is vital to ensure healthy soils and the ecosystems upon which humans and many other organisms depend on. Soil biodiversity contributes to the cycling of nutrients and carbon, helps regulate the occurrence of pests and diseases, and serves as a source of pharmaceuticals. Furthermore, soils provide building materials, fuel and fibre and numerous minerals. They underpin human infrastructure, safeguard ecosystems functions, are part of and contribute to the beauty of landscapes and preserve our cultural heritage (FAO, GSP, & Open-ended Working Group, 2022).

While in their natural state soils vary in their levels of biodiversity, fertility and productivity, all healthy soils function within the environment in which they have evolved in the provision of ecosystem services, while unhealthy soils are less resilient and have lost their natural levels of biodiversity, fertility and/or productivity, and thus are no longer as able to provide these vital services.

1.3 Rationale and Value Proposition for a Soil Initiative for Africa (SIA)

The SIA is not the first initiative promoting soil health in Africa. Numerous existing initiatives and programmes continue to promote and support improvements in soil health. The premise of the SIA is that the myriad of existing efforts have not yet led to improvements in soil health at the desired scale across the continent.

In short, the challenge can be summarised as follows:

- The science of soil health – how to manage soil to increase productivity sustainably – is generally known. A lack of science is not the problem. Instead, the challenges are to:
    - Ensure that the best available science reaches farmers where it can be combined with local/indigenous knowledge to ensure that sustainable soil management practices are locally adapted.
    - Ensure ongoing research to generate progressive scientific knowledge and scientifically proved technologies, along with effective decision support systems and processes to continue improving success.

> ***Just one example of local gains that could be scaled:***
> ***Combining soil management and water conservation practices, Malawian farmers increased maize yields by 61%*** *and significant increases in soil organic matter. Further, these improvements persisted over time, based on additional research 7 years later finding the gains had persisted, given that farmers continued the soil and water management techniques.*[1]

- While there are many local examples of success in improving and maintaining soil health in various agricultural sub-sectors (projects which have reduced soil degradation and improved soil health, fertility, and productivity in relatively small geographic areas that have led to gains in productivity, sustainable livelihoods, and more), successfully scaling soil health interventions and their impacts through continuous local adaptation in new geographical areas has been elusive.
- Knowing what to scale - scientifically sound techniques and technologies that have been proven through numerous local experiences and can be adapted to other local contexts - is

[1]Initial productivity and soil health gains in: Festus O. Amadu, Paul E. McNamara, Kristin E. Davis, "Soil health and grain yield impacts of climate resilient agriculture projects: Evidence from southern Malawi," *Agricultural Systems*, Volume 193, 2021, 103230, ISSN 0308-521X,https://doi.org/10.1016/j.agsy.2021.103230,(https://www.sciencedirect.com/science/article/pii/S0308521X21001839)
Longer term impact is based on follow up work by graduate students reported in unpublished papers.

not the constraint. Knowing how to scale has been the constraint - and building on the emerging science of scaling through processes and institutions (most existing, but perhaps new) at the local, national, regional, and continental level - is essential and do–able. This would include improved approaches to connect science at scale with service provision at farm level and landscape interventions, the scaling of farmer and community learning, know-how, and capacity, and more.

Beyond this simple statement of the challenge, myriad gaps, and weaknesses in Africa's system for managing its soils need to be identified and addressed. An ambitious, more balanced, and more effective approach to scaling is imperative.

The SIA is intended to provide a framework for and, with the support of AU member countries and partners, establish a system to improve soil health and fertility at scale across agricultural sub-sectors on the Continent. This would enable improved agricultural productivity, economic growth, improved water availability, improved livelihoods, a more sustainable natural resource base, and improved resilience to climate change, amongst others.

The SIA builds on existing important building blocks (such as scientific knowledge, successful experiences, existing agricultural research, training, and extension programs) while addressing gaps that undermine effective soil health management in Africa. Most glaring is the need to eliminate the disjointed efforts and improve effectiveness by developing well-coordinated networks and partnerships, removing duplication towards a goal-focused, African-owned plan of action. Deepening an understanding of the economic and social costs of soil degradation will also serve to elevate its visibility and prioritization among decision-makers as well as rural communities and farmers.

Related weaknesses of previous approaches include lack of *curated, easily accessible,* and *findable* data and *actionable* information at all levels including at the farmer level. While scientific progress has been made, the existing human resources and scientific infrastructure are not equal to the task of a continental soil health management system. The foregoing is made worse by weak financial support and investments into the soil health sector to fund research, public programs and soil health enhancing agribusiness ideas, entrepreneurships, and community-level projects and activities.

Secondly, previous and some ongoing efforts have suffered from lack of *coordinated* leadership and cooperation between countries and institutions. The fragmented nature of soil "initiatives" calls for a new approach whose elements need to include harnessing existing successes, an action plan based on a gaps analysis of the human, educational, and scientific resources, as well as institutional strengths and weaknesses.

The value proposition of the SIA is to bring together all key actors to deliver more efficiently in the following seven key areas:

1. Eliminating the duplication and lack of coordination that have hampered previous approaches to generate **collective action and global solidarity** for the soil health system in Africa and reversing the current scenario of "the whole being less than the sum of the individual parts".
2. Placing the **support and empowerment of all land users and communities** front-and-center of all the agreed soil health goals and recognizing that farmers, land users, and communities are the key change agents through whom a reversal of soil degradation and improved soil health is possible.
3. Improving the transfer and delivery of **policy information and research results to farmers and rural communities** to incentivize and support on-farm and community-level improvements in soil management through alignment with farmer-centric processes based on local context, knowledge, and innovation.

4. Establishing **programmatic, institutional, and human capital** support to identify gaps that constrain effective soil management at every level and put in place effective solutions to fill these gaps.
5. Enhancing the development, availability, and use of **digital products, tools, and services** to optimize planning, implementation, adaptive management, and tracking of sustainable soil management.
6. Creating momentum and providing clear guidelines and opportunity information via an **investment dashboard** to disseminate information on investable projects and programs in Africa's soil health sector.
7. Placing the **scaling** of science-based soil health capacities (including institutional as well as human capital), information, technologies, and practices at the center of the initiative to reach millions of land users across the African Continent with the best practices, access to research, information and technologies for soil health and adaptive management decisions.

Chapter 2. The Vision, Priority Investment Areas, and Theory of Change

The SIA Framework provides a long-term Framework to guide investments and efforts to improve the health and resilience of Africa's soil in all agricultural sub-sectors for the simultaneous benefits of increasing agricultural productivity, improving water availability, increasing agricultural resilience to the effects of climate change and other shocks, turning smallholder and emerging farming systems into profitable rural businesses for sustained livelihoods, promoting food and nutrition security, and supporting commercial farming systems to practice sustainable soil management and contribute their knowledge through technology transfer. Founded in the AU vision of "*an integrated, prosperous and peaceful Africa, driven by its own citizens and representing a dynamic force in the international arena*", the SIA Framework puts particular emphasis on the importance of Africa's farmers and communities as champions of change and agents of Africa's agricultural transformation in alignment with national priorities. The SIA further emphasizes the need for full gender equality and integration of youth in all its implementation facets to ensure equitable benefits for women and youth.

2.1 Vision

The successful implementation of the SIA at various levels (local, national, regional, and continental) would lead to a future for Africa in which:

Africa's soils are healthy and resilient, supported by a robust African-led sustainable soil management system with sound institutions, policies, programs, investments, partnerships, and services that supports and empowers land users across Africa to use practices that restore and sustain soil health, significantly improve agricultural productivity, income and prosperity, resilience to climate change, and reflect national priorities.

2.2 Mission

The mission and purpose of the SIA is the effective facilitation of sustainable soil management across all agricultural sub-sectors in Africa through **strong partnerships with all stakeholders** – politicians, practitioners, scientists, donors, development partners, public and private entities, industry, civil society, consumers, and land users – and investments at the continental, regional, national, and local levels to ensure an optimised support system of institutions, policies, programs, investments, partnerships, and services.

An abundance of information exists to guide soil health practices for all land users across the African continent. The SIA sets the **ambition to scale** the implementation of science-based and locally adapted

sustainable soil management practices and their impacts across Africa by **taking a landscape approach to supporting and empowering land users** to better understand and take ownership of evidence-based, adaptive, and sustainable soil management decisions and solutions for both environmental and sustainable livelihood benefits.

2.3 Priority Investment Areas

Four priority areas for investment are used to characterise the constituent elements of the SIA as a long-term Framework. These four priority areas are listed and described briefly in this section. Linkages between the SIA priority investment areas and the AFSH Action Plan Outcomes and Outputs for the first 10 years of implementation are presented in Annex 1.

2.3.1 Priority Area 1. Optimise integrated soil health and water management planning and implementation

Through the effective implementation of the SIA, Africa intends to create an environment in which farmers and communities can benefit from investing in their soils and implementing sustainable soil management practices and soil and water conservation to start a positive cycle of transformation in agriculture, soil health, and the sustainable livelihoods of Africa's people. This includes an emphasis on prioritising integrated soil and water conservation at the watershed, landscape, or catchment level to address soil degradation in croplands, grazing lands and forest lands, and enhance the soil health and livelihood benefits achieved at the farm, plot, or field level. Integrated management of soil and water resources (e.g., terrace/contour farming, conserving/restoring watersheds, rainwater harvesting/storage, etc.) improves water retention and availability, prevents soil erosion and landslides, reduces flood risk, sequesters carbon, and protects biodiversity habitat. It further includes emphasis on the protection and restoration of wetlands, peatlands, and mangroves for their ecological importance in storing soil organic carbon, regulating water flow and retention, and hosting a wide range of biodiversity. Efforts in this regard will need to pay attention to the integrated management of the water resource on the landscape, catchment, and basin levels to ensure that interventions achieve a balance between the preservation of the ecosystem, soil health, availability and natural flow of water and the socio-economic situation and needs of the local communities.

While acknowledging the importance of increasing water use efficiency in these regions, the problem requires a more comprehensive approach, which combines a focus on increasing technical support and harnessing investment in the sector, as well as enhancing regional cooperation on available shared resources. In terms of inland fisheries, integrated soil health and water management planning is essential to ensure that fishponds are constructed on suitable soils for optimal productivity

In arable agriculture, planning and implementation of soil health and water management includes the importance of addressing integrated soil fertility management through locally adapted agricultural practices/approaches and optimal nutrient management planning. Locally adapted sustainable agricultural practices are critical to address soil erosion, improve soil organic matter content, improve and support optimal nutrient cycling, improve biodiversity in and above soils, improve the soil water holding capacity of soils, and more. A range of sustainable agricultural practices exist to support improved soil health through various crop, soil, and water management technologies in various climatic, geographical, and soil contexts. These include principles and practices in the context of nature-based solutions, including regenerative agriculture and agro-ecological farming, and more. In the African context, yield increases and quality produce require the sustainable and optimized use of a range of agricultural inputs, including synthetic (inorganic), natural (organic), and mixed fertilizers, organic inputs, improved seeds, bio-stimulants and bio-fertilizers, and more. The optimized use of

agricultural inputs would include supporting the partial replacement of mineral fertilizers with organic fertilizers where contextually relevant and possible.

In coastal agriculture, integrated soil health and water management planning are critical to address soil health challenges resulting from temporal ocean/sea activities which producing saline air and water, the inundation and erosion of coastal land, as well as the effect of upstream activities on the quality and availability of water.

Key elements of a strategy for making this possible are:

- To encourage and support integrated natural resource planning for sustainable soil management and soil and water conservation across landscapes/ watersheds and where relevant, across agricultural sub-sectors.
- To ensure and facilitate farmers' expanded access to contextualized scientific information to complement their grasp of local context and local/indigenous knowledge to better inform sustainable soil management decisions they need to make on their own farms and fields.
- To ensure the availability and, where appropriate, harmonization of methods, approaches, tools, techniques, technologies, best practices, and more to enable improved sustainable soil management for improved soil health.
- To ensure farmers' expanded access to agricultural inputs, technologies, and services to support sustainable soil management and improve agricultural productivity.
- To ensure the assessment of soil status (i.e., health, fertility, production limiting factors or risks, etc.) to inform integrated soil health and water management planning.
- To ensure sharing of experiences within and between the African regions on sustainable soil and water planning and address any important trans-boundary issues.

2.3.2 Priority Area 2. Build human, institutional, and social capital for research, development, education, extension, and support for sustainable soil management

Agenda 2063 aspires to "*An Africa whose development is people-driven, relying on the potential of African people, especially its women and youth, and caring for children*" (Aspiration 6). This aspiration is particularly important in the context of African agriculture which employs about 65 % of the continent's workforce.

Farmers (including women and youth) are the key actors when it comes to sustainable soil management decisions and serve as the best agents of change in their own communities; they can serve as examples of successful sustainable soil management implementation, restoration of degraded land/soil, and increased agricultural production and sustainable livelihoods. When farmers and communities are convinced of the need for change, they will become the drivers of change, even if the economic and social environments are not *yet* conducive to such efforts. A paradigm shift is needed to think of agriculture as a business-oriented sector which can turn smallholder farmers into profitable rural businesses that generate surpluses. Smallholder farmers, like commercial farmers, should be seen and supported as investors in their own businesses that may produce increased production volumes for the market, moving beyond subsistence farming.

Strengthening soil science-related human capital for farmers, people engaged in soil-related research, in agricultural extension (including crop, livestock, and fisheries extension agents and forestry officers), and in agri-business will be critical. This will require, among other things, expanding and constantly upgrading the quality of training on soil science and related water and natural resource management topics in formal education (in primary, secondary and tertiary educational institutions),

in less formal life-long learning training activities (such as in-service training for agricultural extension agents and, through them, for farmers themselves), as well as informal education in local languages.

Development and implementation of the SIA will further depend heavily on building (strengthening and/or creating) institutional capacity to carry out the roles called for by the SIA at every level. Strategies need to be crafted for creating/strengthening institutional structures to fill the needs identified through the SIA.

Key elements of a strategy for making this possible are:

- To encourage and support farmers' (including women and youth) involvement and innovation in co-creation of best local soil management practices through local/indigenous knowledge increasingly combined with science-based evidence.
- To encourage the availability of processes to enable feedback from farmers/ communities and extension agents to communicate their experiences, challenges, solutions, and priorities to inform the development of training programs, research priorities, and support services based on local needs.
- To ensure farmers' (including women and youth) expanded access to tailored advice for the optimal use of agricultural inputs and technologies, as well as access to updated input and output market and related information to support adaptive soil management decisions and minimize risk (i.e., risks related to return-on-investment, climate change, and more).
- To leverage digitally enabled products and services, to the extent operationally and financially sustainable, including privately provided products and services.
- To identify successful examples of sustainable soil management implementation and approaches for learning, sharing, and scaling.
- To establish or strengthen agricultural research institutions and extension services to ensure the generation, availability, and delivery of up-to-date and tailored research, information, data, and services to inform and support sustainable soil management and policy development.
- To ensure that extension staff are fully equipped (with knowledge, approaches, resources, etc.) to support farmers to understand and employ scientifically sound, locally adapted techniques to nurture and maintain soil health, fertility, and productivity.
- To ensure adequate availability of soil laboratories with sufficient capacities and resources, including up-to-date technologies, to provide quality soil and fertilizer information.
- To ensure adequate soil science degree programs at the tertiary education level and ensure that soil science is embedded into multi-disciplinary programs related to soil and water management across land use sectors.
- To ensure networking opportunities and structures are in place at the regional and continental level to support coordination, systematic interaction, and partnerships between countries and regions on soil issues in research, extension, development, and implementation and to facilitate scientific and technical cooperation and exchange with nations and regions outside of Africa.

2.3.3 Priority Area 3. Optimise data and information for effective planning and monitoring

The availability of quality soil information is critical to understand the state of soil across the Continent, by region, by nation and in local agricultural landscapes. Without it, Africans – and the SIA – will not be able to pinpoint challenges, address them based on a combination of best science ad local context. Soil information is also needed to set and monitor progress against soil health targets.

Optimising data and information for sustainable soil management planning and monitoring will require standards for soil information systems, including harmonisation and interoperability of key data across borders and intellectual property rights (following international standards for these). Such standards and protections would enable soil health monitoring across the continent and support the development of value-added products to guide and support decisions at the various levels.

National soil information systems would enable countries to provide objective information to farmers, identify soil health and water problems to be addressed, and improve decision making regarding sustainable soil management and land planning. Local market actors, including farmers themselves, can use soil data and information to target their farming practices and use value-added services based on such soil information within the rules of intellectual property rights protection.

Regional institutions can aggregate key secondary soil information with related goals to monitor soil health progress at the regional level and support the identification of priority sustainable soil management intervention areas. They can also provide technical support to countries needing additional capacity.

A continental soil information centre could work with expert organisations to facilitate setting standards for data harmonisation and aggregation, and the protection of intellectual property rights. Such a centre could also facilitate the sharing of best practices for leveraging public and private value-added services that enable soil information to reach more farmers and decision makers across Africa to support decision making.

With effective soil information systems and related capacities in place, countries would be able to measure and monitor soil health for evidence-based and data driven decision making and monitoring, and reporting at the national, regional, and continental level. This would require systematic collection and analysis of soil health, agricultural productivity, farmers' livelihood, and other information.

At the regional and continental level sharing of successful national approaches to Monitoring, Evaluation, Accountability and Learning (MEAL) and facilitating the aggregation of useful data would enable comparison across countries and regions and globally.

Key elements of a strategy for making this possible are:

- To ensure the development/ availability and harmonization of methods for systematic monitoring of soil health, water availability (above and below ground), agricultural productivity, and farmers' livelihoods, leveraging any existing and effective approaches (including digital).
- To ensure agriculture market actors at all levels can contribute to, and benefit from national soil information, leveraging publicly and privately available products (adding value and usefulness to the information), and respecting intellectual property rights.
- To encourage the development of national soil information centers/services at an appropriate institution or Ministry.
- To encourage and support the setting of soil health targets to guide planning, support, and implementation, monitor progress against the targets and well as report to international Conventions.
- To facilitate aggregation and standardization of useful data at the regional level to enable analysis and comparison across countries and regions.
- To facilitate sharing of, and lesson learning from, successful approaches to soil information systems and, where appropriate, provide regional level linkages.
- To encourage the establishment of a continental soil information center that works with other expert organizations to facilitate setting standards for data harmonization, and protection of

intellectual property and defining and sharing best practices for use of data across borders where useful to identify challenges and progress.

- To develop (or use existing) appropriate indicators to track implementation of the SIA across the continent.
- To leverage CAADP's digitally enabled reporting system for SIA reporting.

2.3.4 Priority Area 4. Ensure enabling policy, legal and regulatory frameworks

Effective, coherent, and supportive policy, legal, and regulatory frameworks are critical to support farmers and other land users to protect and restore soils and ensure that soils are used sustainably. In many countries, regulatory provisions for sustainable soil management are often neither explicit nor substantive, and may even be lacking entirely. Furthermore, regulatory provisions related to soil, and the mandate to implement them, often resides under different Ministries, authorities, and sectors, such as agriculture, water, mining, urban development, or environmental protection, with soil degradation also stemming from all these sectors. Regulatory provisions for sustainable soil management should therefore address all these possible uses and sectors, and their impacts on soil functions and ecosystem services in a consistent and harmonized manner across line Ministries.

Policies should set targets and threshold values, provide incentives and regulations and need to be consistent and improving over longer periods of time; instability in policies can be detrimental to development. Effective policy development and implementation requires an effective science-policy interface; soil science is required to provide information and data concerning the status of soils, potential effects of the different forms of soil uses and reasonable environmental quality standards. To this end, soil science institutions should improve the transfer of knowledge about soils; contribute to educational programs; facilitate communication with policymakers by framing research in terms that resonate with politicians.

Key elements of a strategy for making this possible are:

- To encourage and support the identification of areas of high agricultural or ecological importance for protection, restoration, and sustainable management.
- To mainstream soil health and the protection of ecologically important areas (i.e., wetlands and peatlands) into policies, regulatory frameworks, and guidelines.
- To mainstream/ integrate climate resilience through improved soil health in planning, budgeting, and monitoring of development outcomes and processes.
- To support the incorporation of SIA-recommended frameworks, budgets, actions, and policies into soil-related policy environments and investment plans.
- To support the setting of quality and regulatory standards related to soil health and agricultural inputs.
- To support local authorities to develop bylaws that support the implementation of sustainable soil management.
- To ensure that farmers have security of land tenure and use rights to provide increased incentives to invest in the soils, farms, and landscapes available to them.
- To ensure the development of effective policies to improve access to agriculture inputs, services, and markets.
- To ensure that strong centers of excellence on soil science and management issues exist in each region and are available to support related priorities and actions in their respective regions.
- To ensure harmonization of relevant policies at national, regional, or continental level.

- To ensure the development, maintenance, and updating of materials that express African approaches to soil health and share such materials across the Continent and globally.

2.4 Theory of Change

The vision of a robust African-led soil management system with sound institutions, policies, programs, investments, partnerships, and services that supports and empowers millions of land users can be achieved through a set of steps that also provide the outlines of a theory of change as follows:

If

- Soil health and water management planning is conducted in an integrated way across landscapes and agricultural sub-sectors for optimized improvements in soil health and water availability and retention.
- Existing technical know-how, research, human capacity, policies, and institutional structures and partnerships are strengthened, and human resource and institutional capacity gaps begin to reduce from research to extension and to farmers.
- Modernised, empowered, and capacitated extension systems in turn empower farmers with actionable soil health information and associated practices.
- Gaps in data, coordination mechanisms, financing and last mile delivery are addressed.
- Private and public investments in soil health management and inputs (including balanced organic and inorganic fertiliser options) enhance land users' access to and optimal use of soil health inputs.
- Coherence exists across local, national, regional, and continental policies, institutions, programs, and investments.
- Continental partnership, expertise and political will are galvanised across the continent for systems change at scale.

Then

The majority of land users across Africa will be empowered and supported to employ practices that restore and sustain soil health, ecosystem services, food security and provide the foundation for a thriving, economically productive and climate-resilient agriculture sector across the continent.

Chapter 3. Implementation Approaches and Considerations

3.1 SIA Design and Implementation Principles

The following underlying principles derived from consultations, are considered critical to be reflected in the design and implementation of the SIA:

Landscape approach

The SIA emphasises the critical importance of considering sustainable soil management and soil and water conservation at the landscape and plot level simultaneously, rather than solely at the plot level. Considering the landscape from the onset of agricultural land management planning is particularly important in the context of African smallholder agriculture where large areas of the landscape often comprise grazing lands or forest lands, while agricultural plots are predominantly smaller than two hectares. The potential gains in soil erosion prevention and water retention, for example, are greater when addressed at the landscape or watershed level than solely at the plot level.

Farmer and community-centric approach

Africa's farmers and rural communities are the key actors in the implementation of the SIA to improve soil health across the continent. The central emphasis of the SIA is therefore to support and empower farmers and communities as agents of change and transformation to improve soil health, agricultural productivity, and sustainable livelihoods. Engaging with communities from the onset of sustainable land and water management planning in the landscape is critical to foster community-level understanding and ownership of soil and water management decisions. Working with communities can impact all farmers and community members and foster a more conducive social and biophysical environment for individual farmers to invest in and improve soil and water management at the plot-level.

Building on local successes

The SIA recognises the existence of a multitude of local and grassroots successes in fostering farmer and community empowerment and stewardship, improving and maintaining soil health, feeding local soil management planning into sub-national natural resources planning processes, and more. The SIA supports the identification of these successes in order to learn from and build on these successes to scale the impacts on soil health, agricultural productivity, and sustainable human livelihoods.

Leveraging existing institutions and systems

The SIA builds on existing local / national / regional / continental planning systems and processes as the mechanism for aligning the SIA to national/regional/continental plans. The mandates and strengths of existing institutions would be built on, if required, and used appropriately for the implementation monitoring, evaluation, accountability, and learning process of the SIA. In addition, the SIA builds on existing infrastructure and systems as well as on the successes and failures of various political, environmental, and socio-economic initiatives launched on the continent and globally.

Agility

During the 2014 Bahir Dar Ministerial Retreat on Agenda 2063 it was aptly stated that "planning 50 years ahead, allows us to dream, think creatively, and sometimes crazy…to see us leapfrog beyond the immediate challenges." The world is rapidly changing, and technological developments are progressing at a tremendous pace; it is impossible to predict what the world will look like in the distant future. Just like Agenda 2063, the SIA with a long-term timeframe is a flexible instrument and a living document to be adjusted according to exigencies of the time. The SIA actions and milestones to be achieved during the first 10 years are presented in the Africa Fertilizer and Soil Health Action Plan.

Subsidiarity

There are four layers – local, national, regional, and continental - for the implementation of the SIA and at each layer, tasks need to be assigned and performed by whomever is the most efficient and effective at doing so.

Accountability and transparency

To ensure that all stakeholders know, understand, and are equipped to play their roles, the implementation framework should be:

i. Results driven: with realistic and measurable targets set for each stakeholder and a monitoring, evaluation, accountability, and learning framework put in place to track results

ii. Evidence driven: all decisions relating to prioritisation or focus areas, allocation of resources amongst others should be based on objectively defined criteria to ensure convergence / acceptance by all stakeholders and the building of the African knowledge base and the collection of data and statistics, to underpin implementation and monitoring of plans.

Diversity

While providing a general framework and a common set of priorities and targets, the SIA also takes account of Africa's diversity and defines trajectories and addresses issues related to that diversity.

3.2 Applying a New Scaling Approach: Focus on Farmers' Capacities and Systems Innovation

The combination of the information-, data-, and knowledge-intensive nature of soil health solutions and the need to adapt the received information to hyperlocal conditions means that **scaling soil health solutions will be more about scaling farmer and community learning, know-how, and capacity, before and instead of specific practices.** A foundational goal would be to build an inclusive, accessible, and farmer-centred knowledge management and learning system that enables well-informed farmer and community agency, autonomy, and self-determination. The role of farmers' organizations at various levels will be particularly important to support farmer-centred knowledge management, learning, and feedback to continuously improve localised solutions for improved soil health.

Scaling soil health solutions within SIA will therefore hinge on three things: 1) scaling (domesticating, mainstreaming) successful methods of building community and farmers' knowledge and technical capacities, 2) as more farmers acquire better soil management skills, that leads to soil health improvement at scale, and 3) empowered individual land users will in turn form the empowered communities needed to manage soil health at community and landscape levels, where some of the most consequential actions for soil health will be undertaken (see section 2.3.2).

The above will require a range of micro and macro enabling conditions. At the micro level, immediate agronomic and financial returns are an irreducible minimum for farm-level adoption (precursor to scaling). Investing in dense networks of farmer/community learning sites for capacity building will be needed more than ever. At the macro level in this new approach, the other enabling factors will be organised around how to achieve the farmer- and land-user centred capacity building already elucidated. These may be **policies** to improve returns at farm level, modernised and well-equipped **extension institutions** that build farmer and community know-how, or **market** interventions that efficiently deliver affordable soil health inputs, and provide accessible and sufficient output markets.

In sum, the SIA will approach scaling not as a matter of simply taking specific practices and rolling out standardised solutions as this is not possible for soil health. Rather, the SIA will depend on a holistic systems-wide approach to scaling to bring about human capacity growth and lasting change. This approach recognizes the need to alter (where needed), the "underlying structures (e.g., community organizations, policies, routines, relationships, resources and even power [relations])" that have contributed to persistent degradation of soil resources in most of Africa. The opportunity is to facilitate broader systemic changes, not simply focusing on one part of the system. The ownership of SIA by AU member countries is a critical and necessary step towards this process of system changes as only national authorities and institutions have the mandates, authority, and ownership to drive these needed systemic changes. There are many globally produced and accessible resources that can

be brought to bear to assist country teams in deciding what, how, when, and where to scale local successes.[2, 3, 4]

3.3 Implementation and domestication/ Integration into national development and investment plans

The formal launch of the SIA at the Africa Fertilizer and Soil Health Summit will initiate, under CAADP, action at scale across the Continent. This will include developing and providing SIA guidance materials (and accompanying technical assistance) for planning processes at various levels. The SIA guidance materials will provide user-friendly recommendations (formulated by Africa's community of practice on soil health issues and based on African and global experience) for consideration in reviewing the effectiveness of soil management-related institutions, programs, policies, and investments. Regional Economic Communities (RECs) will be encouraged and supported to contextualize the recommendations to their respective situations – and to use the contextualized recommendations in the formulation of their approach to soil issues within their CAADP regional agricultural investment plans. AU member states will equally be encouraged to consider soil health solutions in the development of CAADP National Agricultural Investment Plans (NAIPs).

The AU and development partners will signal that they are ready to mobilize technical, political, and financial resources to support the implementation of soil-related aspects of NAIPs that are consistent with SIA recommendations. Correspondingly, the AU and development partners will signal readiness to mobilize technical, political, and financial resources for implementation of soil-related aspects of CAADP regional agricultural investment plans that are consistent with SIA recommendations. Finally, a similar process will also be carried out by CAADP at the Continental level – and the AU and development partners would mobilize technical, political, and financial resources for implementation of soil-related roles (institutional, programmatic, policy, investment, and activities) that have been identified as necessary by the SIA.

3.4 Leadership and coordination

The AUC will have ownership and leadership of the SIA.

A coordination mechanism may be considered to facilitate and support the adoption of the recommendations of the SIA at every level to implement the institutional services, programs, policy initiatives, investments, projects, and activities that are needed at each level as indicated in the paragraphs above. A coordination mechanism would encourage the use of materials developed within the SIA and Africa Fertilizer and Soil Health Action Plan to guide the design and implementation of all SIA related activities at every level. A coordination mechanism may connect and liaise with existing related partners working on soil health globally and in Africa (i.e., Global Soil Partnership, African Soil Partnership, Near East and North Africa Soil Partnership, Coalition of Action for Soil Health, amongst others) to ensure effective coordination of efforts and effective utilization of existing mechanisms, tools, and systems. Development partners will be encouraged to scale up and coordinate their support

---

[2] https://www.scalingcommunityofpractice.com/groups/scaling-up-in-agriculture-and-rural-development/

[3] See https://repository.cimmyt.org/handle/10883/20505

[4] *Scaling Principles and Lessons: A Guide for Action to Achieve Sustainable Development Impact at Scale, 22 February 2022* https://www.scalingcommunityofpractice.com/scaling-principles-and-lessons/ Also Kohl, Richard and Johannes Lin, *Scaling Up: Scaling Principles*, November 2021 https://www.scalingcommunityofpractice.com/scaling-principles/ . See also *Scaling Toolkit for Practitioners* https://www.scalingcommunityofpractice.com/scaling-toolkit-for-practitioners-new-2021-edition-available-now/ and

for activities at every level that are consistent with the recommendations of the SIA. Development partners will be encouraged to do this while engaging with each other in a manner that facilitates coordination of effort. It is anticipated that this will be done through a variety of mechanisms and modalities (technical support, project support, joint financing, loans, grants, etc.) that development partners have available to them.

A coordination mechanism could support the AUC in carrying out its leadership role. The SIA will involve a wide variety of actions, projects, programs, investments, institutional developments, and policies at every level. Under the SIA umbrella, the relevant authorities at each level will have responsibility for leadership of the actions, projects, programs, investments, institutional developments, and policies that fall under their respective jurisdictions and according to the principle of subsidiarity.

The SIA will be a priority initiative of CAADP and the implementation framework for the 10-year AFSH Action Plan. Not all SIA partners will be involved in every activity - but all actors involved in each activity will be expected to coordinate their activity with other participating actors, and in doing so to follow the approaches and recommendations of the SIA Framework.

Details of how a coordination mechanism would function, including the interface at different layers (continental, regional, and national level) and how all these processes will be managed, coordinated, and carried out will be developed during the implementation of the Africa Fertilizer and Soil Health Action Plan. This would include provision for the identification of points of weakness in existing structures and interfaces and identifying solutions to strengthen these.

3.5 Establishing effective partnerships

The implementation of any plan or programme starts with the involvement of key actors in the formulation process, including the beneficiaries (i.e., farmers and communities). Participation and inclusion of all key stakeholders is a critical success factor, which will enhance awareness, ownership and knowledge of the SIA objectives and purpose and strengthen collective commitments. The SIA will be dependent on strong, multi-stakeholder partnerships for effective implementation.

Within Africa, stakeholders within and across national and regional borders will be encouraged to collaborate on approaches consistent with the SIA. Similarly, development partners will be encouraged to support activities consistent with the SIA and do so with other development partners, likely facilitated by a partner advisory group. Implementation of the SIA will be a decentralized process with different partners implementing different parts of the SIA according to their strengths, mandates, and comparative advantages.

Effective partnerships will be established/ strengthened to ensure participation and inclusiveness by involving all stakeholders at:

i. Local level: Farmers/ land users/ and communities, community/village level natural resource committees, local leadership, local extension agents, local/community agricultural innovation platforms, organised farmers' groups, and farmers' organizations with emphasis on the inclusion of women and youth.
ii. National level: Government with support from (as laid out in the national strategic and planning systems and NAIPs), civil society organizations, farmers' organizations, private sector, industry, business/ service/ professional associations, soil and climate change related platforms, national extension services, women, youth, indigenous people, poor and vulnerable groups, community groups.

iii. Regional level: RECs, Sub-regional Organizations (SROs), industry, business/ service / professional associations, regional farmers' organizations; and
iv. Continental level: AUC/AU Organs and Agencies, STCs, industry, business/ service/ professional associations, continental farmers' organization, and the Diaspora in the implementation, and MEAL arrangements for the SIA

The Guidelines for Non-State Actor participation in CAADP processes will be utilized to guide the effective establishment of partnerships and support accountability (CAADP Working Group on Non State Actor Participation, 2011).

3.6 Effective Communication

Effective communication will be essential to generate sustained public awareness, involvement, support, and ownership of the SIA by the African population and all relevant stakeholders in its execution. Extensive outreach will be required with up to date and accurate information, packaged as effective messages for different target audiences. A SIA communication campaign and process will be developed to target AU Member States, staff, organs and agencies, RECs, African citizens both within the continent and in the diaspora and their institutions, including private sector, civil society, academia, farmers, consumers, etc, as well as AU's partners.

Communication will be executed by the relevant AU Organs and Agencies (including NEPAD). Communication will include activities such as consultation meetings with stakeholders, implementers, donors, etc., debates, discussions, workshops, community forums, songs, poems, plays, teaching in school, volunteers, radio and television programmes, pamphlets, internet and social media groups, memorabilia and paraphernalia, newsletters, promotional items such as caps, pens, t-shirts, key holders, bags, awareness meetings, and other promotional activities.

3.7 Financing the SIA

The efforts and resources currently devoted to improving soil health in Africa have not been sufficient. Public budgets to finance activities that improve soil health at local and national levels are generally insufficient. Farmers, especially poor, smallholder farmers, often have neither the financial resources nor the capacity to manage the risk required to use recommended agricultural inputs, including organic and inorganic fertilizers, or to make investments in soil health on their own plots or farms. farms. On its own, the private sector has not had adequate incentives to finance field-level activities or the research and outreach activities that would help poor, small-farm operators improve soil management. Support from African and global development partners (whether from public-private partnerships or from programs of bilateral and multilateral development partners at national, regional, and global levels) have not included a significant focus on soil health so far.

Successfully financing improved soil health at the local, national, regional, and continental levels requires the development of an innovative, effective and targeted financing mechanism or instrument that would enable investment from a variety of funding sources. This includes the need for additional support to the CAADP processes to accommodate additional requirements to support country level domestication, monitoring, evaluation, accountability, and learning. In addition, there is a need to work with development partners to define concrete funding areas that suit their priorities and are consistent with SIA's priorities for progress at the national, regional, or continental levels.

3.8 Monitoring, Evaluation, Accountability, and Learning: Dashboard and metrics

The progress and performance under the SIA will be reported regularly via a digital dashboard so that the public, African institutions, and countries across Africa may monitor and applaud progress across

the continent, regions and countries or find ways to adjust SIA activities to increase its reach and impact and foster mutual accountability across the continent.

Progress under the SIA will be monitored through the AUC CAADP (Comprehensive African Agriculture Development Programme) Biennial Review (BR) process. Should additional indicators be required in the BR process to account for specific progress under the SIA, such indicators would ideally draw on indicators already in use in national reporting processes (such as for reporting against Rio Convention targets and Sustainable Development Goals).

References

African Union Commission. (2015). *Agenda 2063*. *April*, 24.

African Union Commission and African Union Development Agency - NEPAD. (2022). *AUC & AUDA-NEPAD Second Continental Report on the Implementation of Agenda 2063*.

CAADP Working Group on Non State Actor Participation. (2011). *Guidelines for Non State Actor participation in CAADP processes*. *January*, 0–4.

Jayne, T. S., & Sanchez, P. A. (2021). Agricultural productivity must improve in sub-Saharan Africa. *Science*, *372*(6546), 1045–1047. https://doi.org/10.1126/science.abf5413

Mansourian, S., & Berrahmouni, N. (2021). Review of forest and landscape restoration in Africa 2021. In *Review of forest and landscape restoration in Africa 2021*. FAO and AUDA-NEPAD. https://doi.org/10.4060/cb6111en

New Partnership for Africa Development. (2003). Introducing the Comprehensive Africa Agriculture Development Programme (CAADP). *Introducing the Comprehensive Africa Agriculture Development Programme*, 8. http://www.nepad.org/download/file/fid/3606

Okapi Environmental Consulting. (2018). *Independent Evaluation of the TerrAfrica Partnership and the TerrAfrica Leveraging Fund*. *September*.

Annex 1. Linkage between the Soil Initiative for Africa Framework Priority Investment Areas and the Africa Fertilizer and Soil Health Action Plan Outcomes and Outputs.

SIA Priority Investment Areas	**AFSH Action Plan Outcome**	**AFSH Action Plan Output**
1. Optimise integrated soil health and water management planning and implementation	3. Greater Efficiency, Resilience and Sustainable Use of Mineral and Organic Fertilizer Inputs and Enhancement of Soil Health Interventions	3.1 Recommendations developed targeted to specific crops, soils, and climatic conditions
		3.2 Agronomic fertilizer use efficiency increased to optimal levels
		3.4 Soil health and water management optimized across agricultural sub-sectors and landscapes
	2. Improved access and affordability of organic and mineral fertilizers	2.1 Increased low-carbon domestic production and distribution
		2.2 Enhanced intra-regional fertilizer trade
2. Build human, institutional, and social capital for research, development, education, extension, and support for sustainable soil management	4. Institutional and Human Capacity Enhanced for Sustainable Soil Health and Fertilizer Management	4.1 Locally relevant soil health and fertilizer management technologies developed and promoted
		4.2 Scale appropriate advisory services on soils and crops available and affordable to smallholder farmers
		4.3 Regional networks for knowledge exchange established
		4.4 Fertilizer analytical services available for fertilizer quality assurance
3. Optimise data and information for effective planning and monitoring	3. Greater Efficiency, Resilience and Sustainable Use of Inorganic and Organic Fertilizer Inputs and Enhancement of Soil Health Interventions	3.3 A digital information platform and database established
4. Ensure enabling policy, legal and regulatory frameworks	1. Improved Policies, Investment, Finance and Markets for Sustainable Soil Health and Fertilizer Management	1.1 Improved policy environment
		1.2 Improved financing and investment