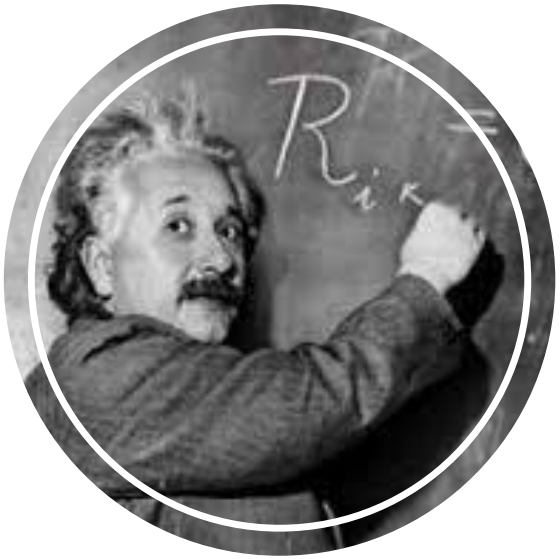
AU Fertilizer and Soil Health Action Plan

Antony Chapoto (C4PA) & Wole Fatunbi (AFSH-AP/SIA Secretariat)

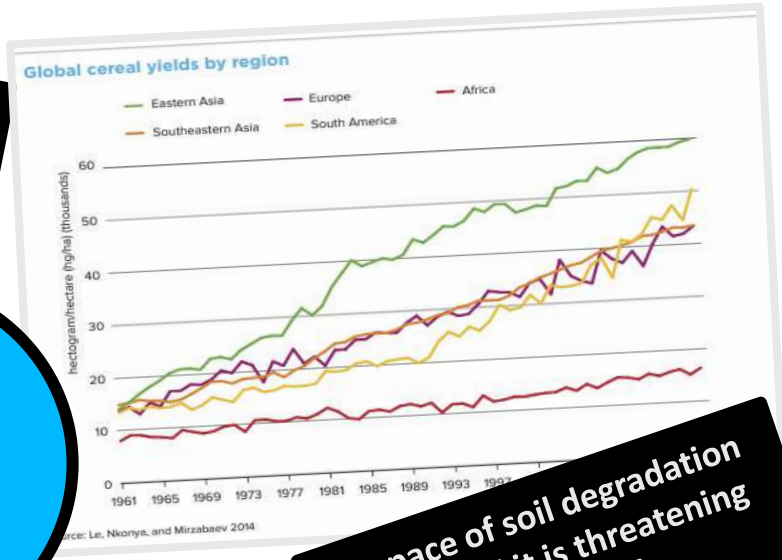
Uganda Stakeholder Engagement Workshop on Domesticating the AFSH-AP/SIA
Kampala, Uganda
March 17-18, 2025



ALBERT EINSTEIN (1879-1955) - QUOTES

- We cannot solve our problems with the same thinking we used when we created them.
- Insanity: doing the same thing over and over again and expecting different results
- Anyone who has never made a mistake has never tried anything new.

650 million Africans—50% of the continent's population—lack economic or physical access to sufficient food.



THE CHICAGO COUNCIL ON GLOBAL AFFAIRS

Considering a soil initiative for Africa

David Nielson

January 2020

Introduction

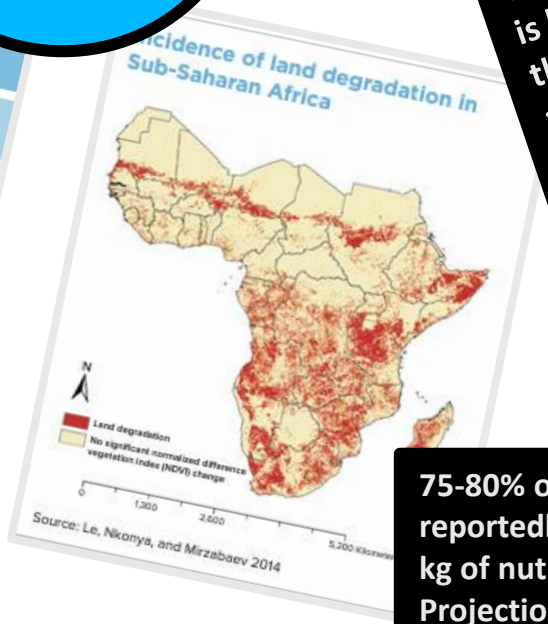
The farms and pastoral areas of Africa have experienced a widespread, secular decline in soil quality since the early 20th century that continues today.[1] This decline greatly hinders agricultural productivity and livestock production across the continent. It threatens food security and environmental sustainability as well as economic growth and well-being—particularly for Africa's poorest and most vulnerable people.

The basic nature of this problem (particularly its scale, location, local manifestations, severity, evolution, and impacts) is neither well documented nor well understood. Many projects, programs, and institutional frameworks to combat the problem exist, often with important practical achievements. Yet while the building blocks for a solution are in place, the overall attention and resources devoted to this issue have been fragmented and inadequate. Further, viable, costed, and scalable plans for effectively addressing the challenges have not emerged.

This briefing note surveys the issue and suggests practical steps for creating partnerships and formulating plans to reverse the decline in soil quality in Africa. It suggests a number of discrete workstreams that could lay the foundation for coordinated and well-informed action. These workstreams would build on what is already in place from a technical, resource, and institutional standpoint and fill in existing gaps. This briefing note also suggests initial collaborations that could move each workstream forward. Ultimately, implementation of the ideas suggested here will require leadership and institutional collaboration at every level. The purpose is to spur and inform such leadership and collaboration.[2]

The soil situation in Africa

Healthy soils—together with water, air, genetic material, and farmers themselves—are a fundamental building block for productive crop and pastoral agriculture. They provide important services to ecosystems and to rural and urban economies. Among the most important of these soil services are to host and source nutrients for virtually all crop, livestock, and forest production; provide carbon storage (and mitigation of greenhouse gas emissions); host a variety of in-soil biodiversity; and retain and purify water resources (especially from rainfall). The first *Status of the World's Soils Resources* report concluded that the majority of the world's soil resources are in only fair, poor, or very poor condition.[3] The report also found that Africa is the region of the world with the most severely degraded land and soil resources. The International Food Policy Research Institute (IFPRI) supports these findings.[4]



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 are affected' which translates to US$9.3 Billion in revenue lost every year.

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.

- **Source and sink of all plant nutrients.**
- **Global store of carbon.**
- **Major filter for water.**
- **Attenuation of toxic substances.**
- **House for trillions of microorganism.**
- **Important store of biodiversity.**
- **Support for all structure on the earth surface.**

Popular Data

- (1). 650 million Africans—50% of the continent's population—lack economic or physical access to sufficient food.
- (2). 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.
- (3). 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.
- (4). Drought is aggravated by climate change: Fresh water availability per person declined by 20% in the last two decades: 10% per decade!
- (5). The pastural, agropastoral systems are most hit by recurrent drought- about 2 million livestock died in 2021/2022 in East Africa

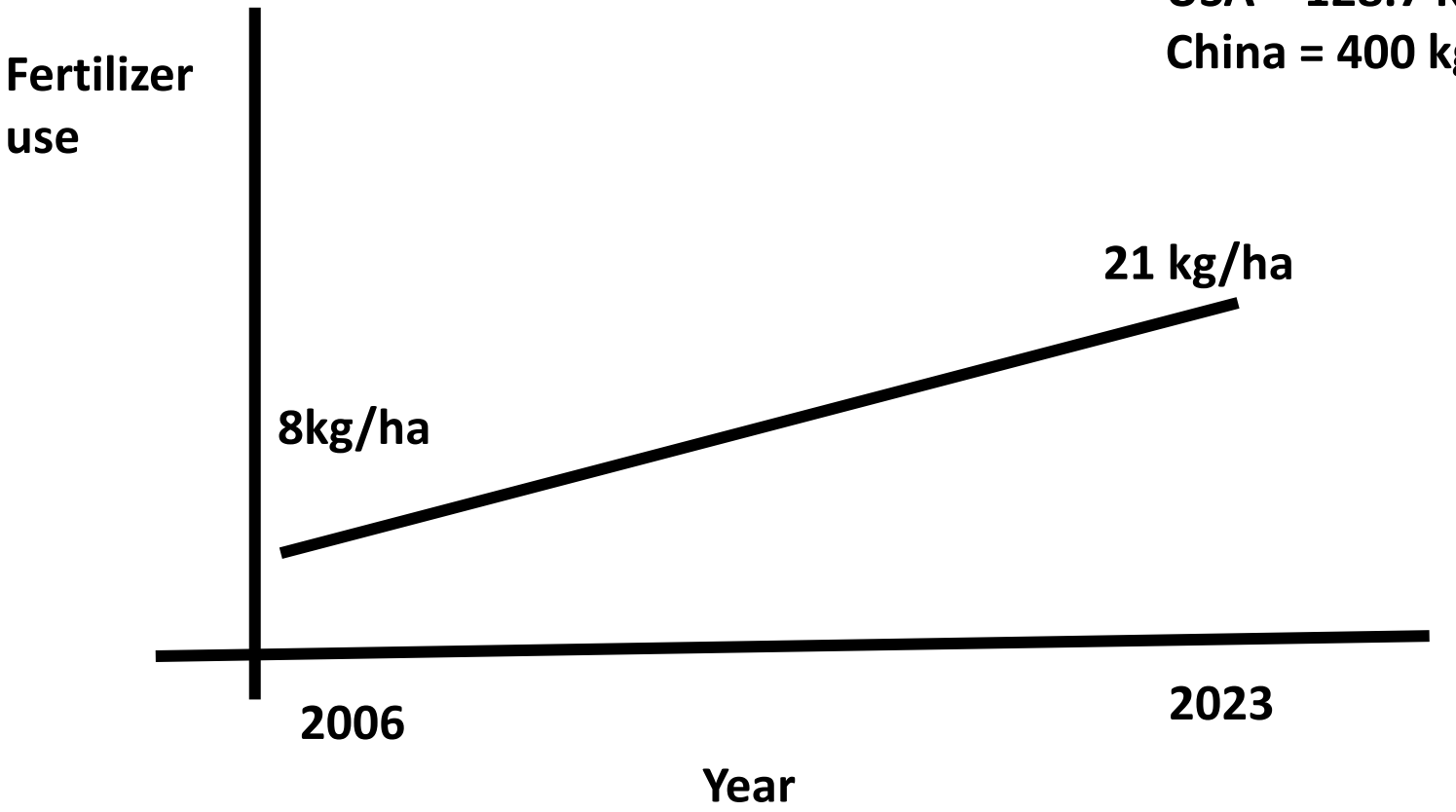
Fertilizer issues in Africa Agriculture

1. **Availability and affordability of fertilizer.**
   a) **Issues with fertilizer distribution.**
   b) **Inconsistency in fertilizer subsidy program.**
   c) **Heavy reliance on imported fertilizer.**
2. **Yield response to fertilizer use on farmers field.**
   1. **knowledge of specific nature and properties of soil.**
   2. **Soil testing / information on available nutrients etc.**
3. **Fertilizer quality.**
4. **Fertilizer financing for private sector in fertilizer value chain.**

Fertilizer Use in Africa Agriculture

Benchmarking

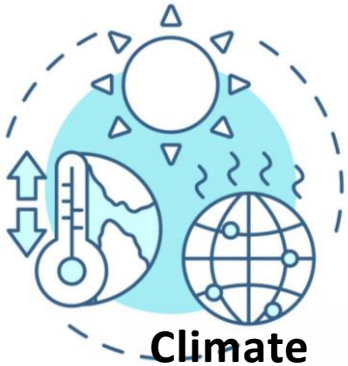
Netherlands = 274.4 Kg/ha
Brazil = 369.5 Kg/ha,
India = 193.2 Kg/ha
USA = 128.7 Kg/ha
China = 400 kg/ha



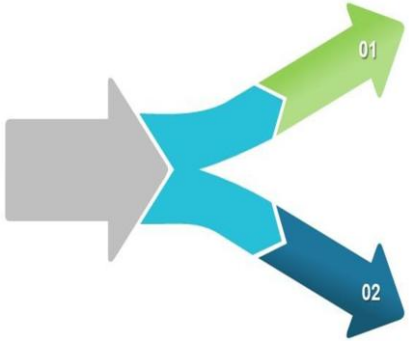
Mutual Reinforcement of Soil Degradation and Climate Change

Biggest and most urgent challenge for humanity

Soil Degradation



Climate Change



Food production
Food security
Nutritional security
Economic growth

- Reduce carbon sinks
- More emissions

- Heat stress
- Rainfall variability

- Natural resource integrity
- Incidence of new pest & disease
- Disruption in ecosystem functions
- Etc.

Progress since the 2006 Abuja declaration

The agriculture and food security narrative has evolved significantly:

- **Fertilizer use in Africa has increased**
  - Fertilizer subsidies and increased commercial purchases
  - Africa fertilizer consumption annual growth rate of over 8% (against global consumption of below 2% per year)
- **The fertilizer market has evolved and professionalized**
  - dramatic increase in the utilization of African mineral resources for fertilizer production
  - Increased long-term investments in fertilizer production plants and blending facilities
  - Agro dealer networks have improved and expanding
- **Increased recognition of the role of soil health, minimizing the negative impact on the environment**
- **Positive steps towards resolving fertilizer market financing :**
  - Establishment of the Africa Fertilizer financing Mechanism in 2007
  - African Fertilizer and Agribusiness Partnership (AFAP) funded in 2012

Africa has a choice to make

Increasing production & Productivity

1

Continue to increase its dependency on the world market for its food

- Not politically palatable and economically tenable
- Increasing frequency of conflicts and crises

2

Expanding rapid its area under cultivation

Africa mowing done its forests at a rapid pace converting it into farm land

- Major cost to the environment,
- exacerbates climate change [converting forest land into farm land releases greenhouse gases into air,
- exacerbates the rates of soil erosion, damage of rivers and loss of biodiversity
- Generally leads to the erosion of Africa's national capital stock

3

3. Increasing yields on existing farm land

Increasing the supply of fertilizer and lowering the cost to farmers

1

Continue to import fertilizers from the global market

Not politically palatable and economically tenable

Increasing frequency of crises –Russia/Ukraine conflict

2

Produce fertilizer in the Continent

Support production in countries that have comparative advantage

-increase regional cooperation

Trade within the continent

-coordination in infrastructure development

Recognition that inorganic fertilizers and improved seed -- while necessary -- are not enough

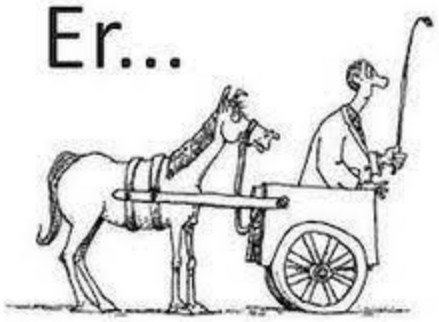
Greater attention to:

- Soil health
- Sustainability principles
- Resilience

Help farmers raise the efficiency with which they use fertilizers

- On-farm trials in East and Southern Africa commonly achieve 30kgs maize or rice per kg nitrogen (N)
- Smallholders get much lower yield response to fertilizers (commonly ranging from 7 to 18 kgs per kg N)

- Can not afford to ignore the situation “need bold decisions”



Embrace evidence based solutions to domesticate the AFSH-AP

African Union
AFRICA FERTILIZER & SOIL HEALTH SUMMIT 24
NAIROBI, KENYA | 7-9 MAY 2024

Essentials of the Declarations (I)

300%

Triple domestic production and distribution of certified quality organic and inorganic fertilizers by 2034.

70%

Make available, by 2034, targeted agronomic recommendations for specific crops, soils, and climatic conditions, to at least 70% of smallholder farmers on the continent.

30%

Reverse land degradation and restore soil health on at least 30% of degraded soil by 2034.

100%

AFFM
Africa Fertilizer Financing Mechanism

Fully operationalize the Africa Fertilizer Financing Mechanism to improve the production, procurement, and distribution of organic and inorganic fertilizers, and soil health interventions.

100%

Formulate and implement policies and regulations to create a conducive environment for fertilizer and soil health interventions.

100%

Develop and promote systemic national capacity building for locally relevant fertilizer and soil health management practices and technologies.

Essentials of the Declarations (II)

70%

Ensure that at least 70% of smallholder farmers have access to quality extension and advisory services on fertilizer and soil health from public and private extension systems.

Domesticate the continental Action Plan into national agricultural investment plans for implementation.

Key Philosophies for Change

Leadership and Coordination

- **AUC leadership**
- **Coordination mechanism to liaise and connect with existing partnerships.**

Financing mechanism

- **Mobilize resources to promote initiative initiatives that enhances soil health in Africa.**
- **Advocacy for public budget allocations to finance local and national fertilizer and soil health efforts**

Domestication

- **Africa owned and Africa led processes**
- **Use CAADP processes to mainstream SIA into the existing planning processes at all level (RECS, SRO, National Systems).**

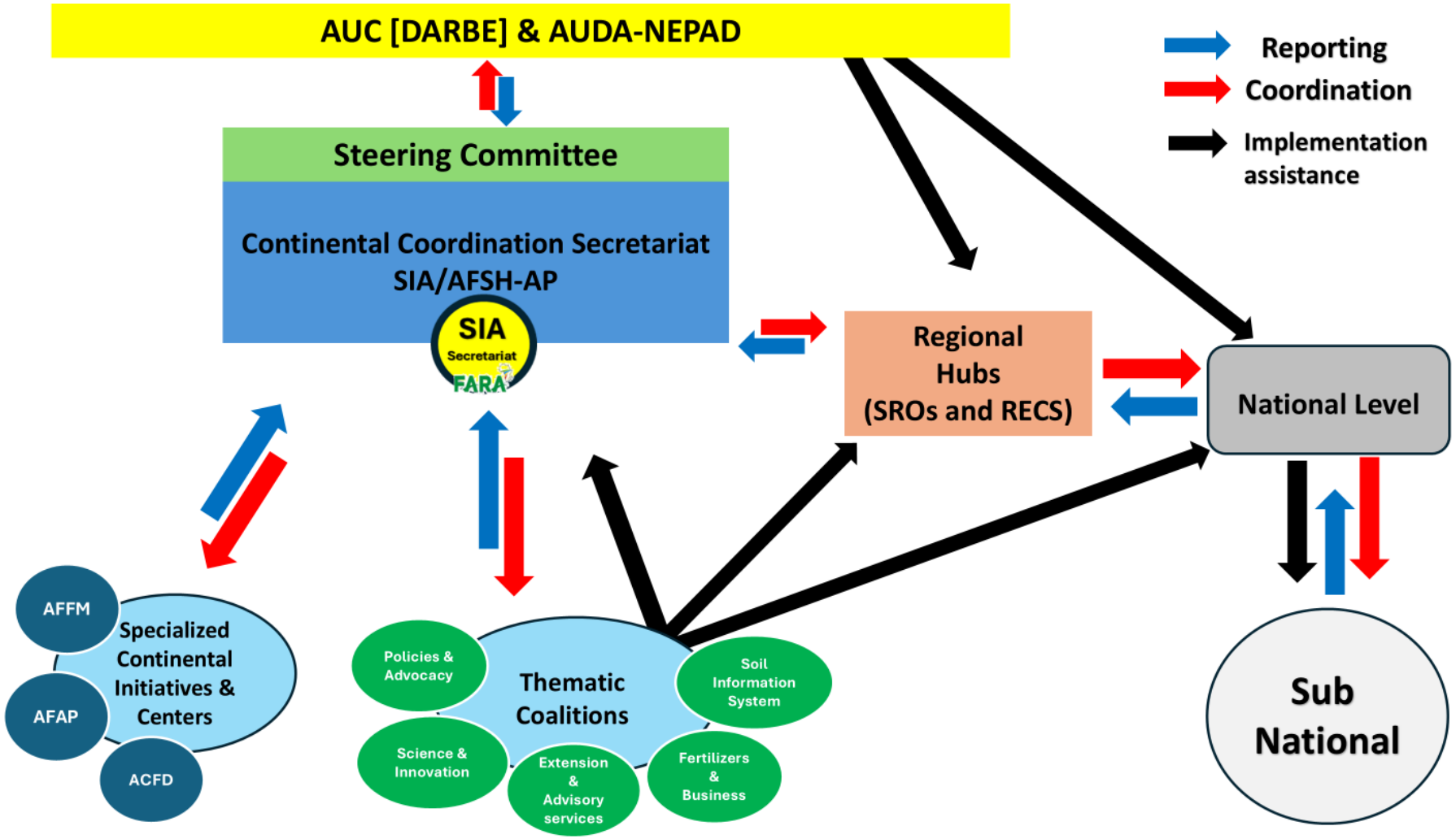
Aligned with existing continental frameworks and instruments viz., Agenda 2063, Post Malabo objectives, goals, and indicators

Soil Initiative for Africa

Implementation Principles

- Emphasis on Scaling.
- Focusing on Farmers' and the civil society Capacity to innovate.
- Foster effective multi-stakeholder partnerships
- Communication and awareness.
- Monitoring, Evaluation, Accountability, and Learning.
- CAADP Biennial Review process

Soil Initiative for Africa


AUC [DARBE] & AUDA-NEPAD
Reporting
Coordination
Implementation assistance
Steering Committee
Continental Coordination Secretariat
SIA/AFSH-AP
SIA
Secretariat
FARA
Regional
Hubs
(SROs and RECS)
National Level
AFFM
AFAP
ACFD
Specialized
Continental
Initiatives &
Centers
Policies &
Advocacy
Thematic
Coalitions
Soil
Information
System
Science &
Innovation
Extension
&
Advisory
services
Fertilizers
&
Business
Sub
National

Fostering Change

Domestication of the Action Plan at the country level is a major activity

- **Integration into the country CAADP / planning process.**
- **Agricultural Investment planning.**
- **Allocation of resources.**
- **Designation of implementing organization.**
- **Identification of champions.**
- **Implementation of Real actions.**
- **Reporting as part of the BR Process**

C4PA Coalition members

AFRICAN NETWORK OF AGRICULTURAL POLICY RESEARCH INSTITUTES (ANAPRI)

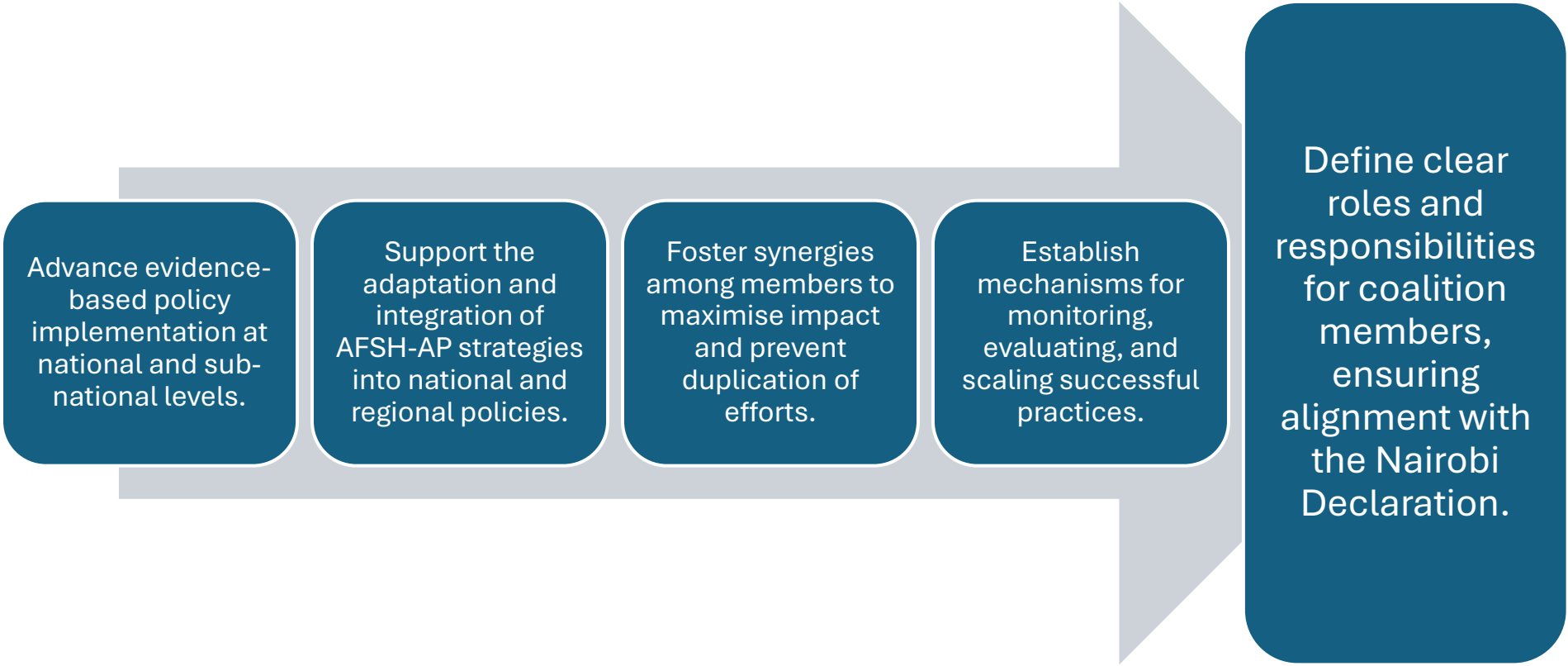
THE FOOD, AGRICULTURE AND NATURAL RESOURCES POLICY ANALYSIS NETWORK (FANRPAN)

AGRA

MICHIGAN STATE UNIVERITY (MSU)

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE (IFPRI)

C4PA Mandate



Core Pillars of C4PA

- Research
- Outreach and communication
- Capacity Building and Training
- Sustainability

Anchor for success

SIR ARTHUR LEWIS

“So we cannot in the third world simply borrow or buy science from those ahead of us. Pure science we can take as it comes, but much of applied science we have to make for ourselves.”

— Arthur Lewis, Nobel Banquet address, 1979

Thank you

It can be done!!!