



Converging Knowledge and Science-based Innovations for resilient, Nutrition Sensitive and Smart Food System

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Content



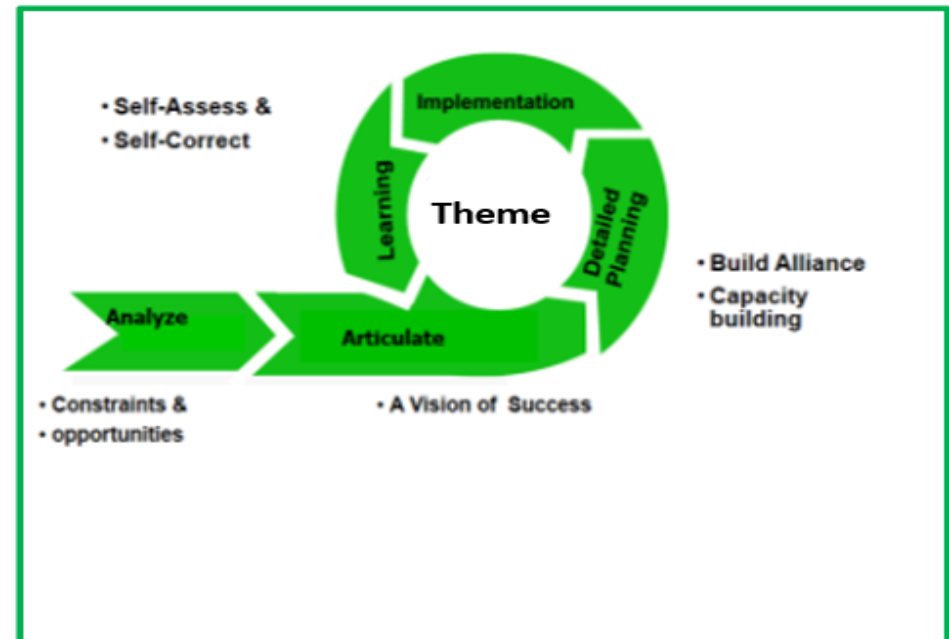
- Background
 - Africa's Economic Outlook
 - Challenges to agricultural transformation
- What thinking would enable effective transformation at scale:
 - A Theory of change
 - A theory of Actions
- FCI in Practice
- Implications

Self Drive mindset

5 A's- STRATEGIC APPROACH TO A SELF-DRIVE MINDSET

DIMENSIONS OF A HUMAN CENTERED DEVELOPMENT APPROACH

1. Analyze Challenges and Opportunities (**What challenges and opportunities exist?**)
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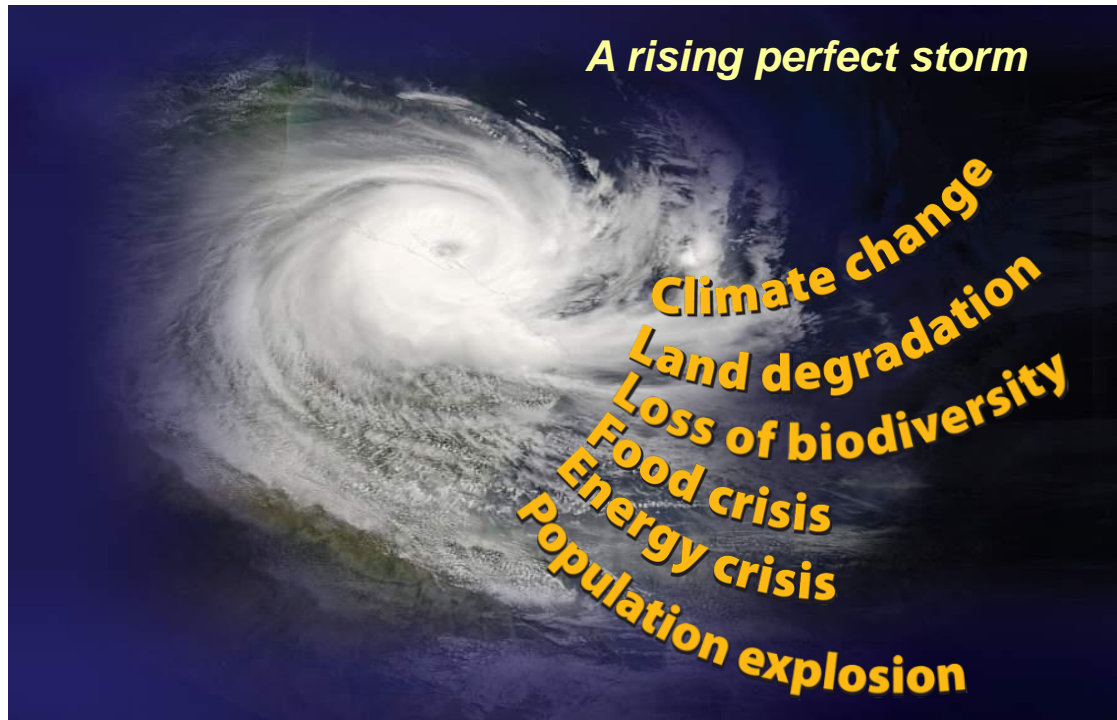


The global food systems context >>

- **Fast growing global population** (about 1.05% per year) or 80 million additional people each year, projected to grow to over 11 billion in the next 80 years – when population growth rate will become zero (UN).
 - Africa has the highest population growth rate in the world. The population of is projected to rise by 26.2% to 1.68 Billion people by 2030,
- **Hunger on the rise:** Africa for example has 277 M people severely food insecure [33.7%] of the world's total population of 822 M. Approximately 21.5% of Africans remain severely hungry.
- About 225 million people are currently undernourished.
- SSA will need to produce about 350% as much food in 2050 to feed its growing population
- Gender inequality: women are disproportionately affected by hunger: 70% of the hungry are female.
 - They are also less performing due to gendered access to productive resources and services:
 - 20-30% productivity gap between women and men farmers



African agriculture is threatened by a wide range of challenges....



- **Climate change:** Small-scale farmers do not have the resources or ability to mitigate or protect themselves.
- **Limited Agric education and technology: the farmer's allies.** 'Most of those trained in agriculture end up "growing bureaucracies" rather than growing food crops.'
- **Challenges for small-scale farmers to secure financing and market incentives.**
- **Policy and infrastructure.** Outdated policies, high import duties, poor or broken rural infrastructure.

A Food Systems Approach Brings New Perspectives on Issues ?

- **Diets and the food systems** that deliver them are at the nexus of the challenges associated with **malnutrition, natural resource degradation and climate change**:
 - Progress in addressing malnutrition in all its forms and diet-related ill health is stalling;
 - Food systems continue to operate unsustainably, far outside planetary boundaries:
 - The serious health and economic implications of the rising levels of malnutrition and diet-related non communicable diseases are becoming all too clear;
- **The roots cause of the crisis of the food systems**, poor diets and health and environmental crisis are situated in **policy distortions** which underlie their operations;
- Achieving the outcomes of transforming diets as the most strategic means of achieving the other sustainable development goals;
 - Huge opportunities of exploring and taking advantage of **the interconnectedness of issues** and the high-level order of the healthy diet outcomes.
- Transforming food systems requires a series of **Game changing Initiatives** that require significant engagements between different action across different geographies; leading to policy, financing and investment **commitments**



Ag transformation in African countries is met with various systemic constraints

Ag. transformation is focused on commercialization and agro-industry development, to create jobs and raise incomes on the one hand and facilitating a long-term **rural transition** from subsistence agriculture to off-farm job opportunities as these emerge¹

Inadequate public Investments

- Inefficient allocation of resources.
- Inadequate targeting leading to low investment in high impact areas.

Weak institutions, policy and regulatory framework

- Inadequate coordination of investments.
- Distortionary policies.
- Weak policy implementation and enforcement.

Breakdowns in agricultural market and trade systems

- Uncompetitive supply chains.
- Underdeveloped production systems.

Insufficient private sector investment

- Risky environment preventing private sector investment.
- Reliance on imports.



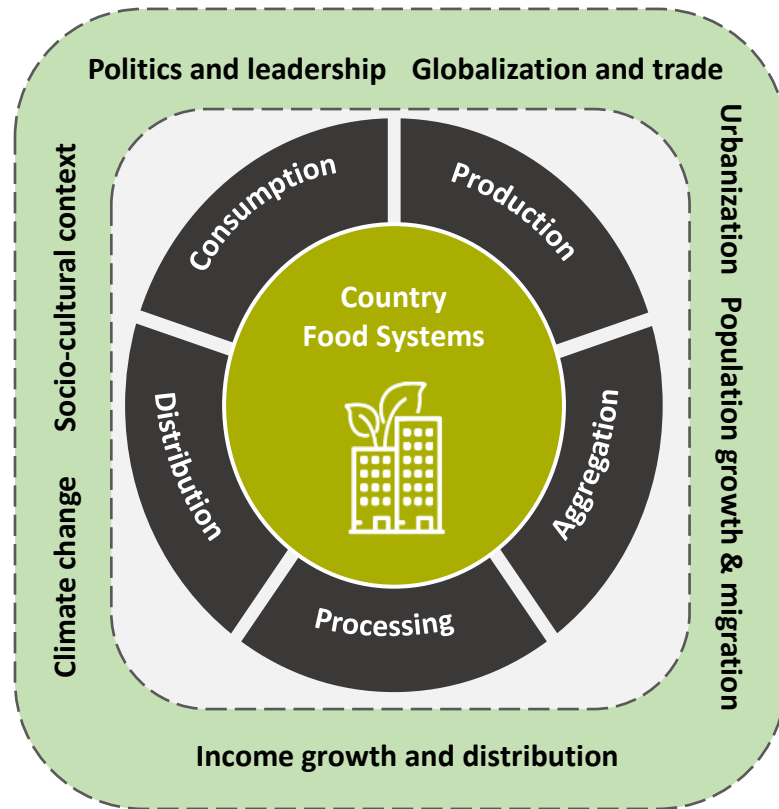
Implications for Farmers

- Lack of access to improved inputs.
- No extension services.
- Lack of markets.
- Significant volatility of produce price.
- Inability to access finance.
- Inability to produce competitively and thus remaining in the poverty trap.

• 1 Adapted from P. Timmer

Adopting a Food Systems Approach: what is at stake for the African Continent ?

The Food Systems Approach



Key Highlights

- **The food system approach puts at the centre all people and activities** involved in growing, transporting, supplying, and, ultimately, eating food.
- **The approach incorporates all element of agriculture system;** production, aggregation, processing, distribution and consumption
- **Existing food systems have not been well functioning** - even though enough food is produced for everyone, poverty, hunger and malnutrition still remain
- **Improvements in productivity** have also come at a **huge environmental and health cost**

Implications for Africa

Questions is how to ensure a healthy balance: - key contentions

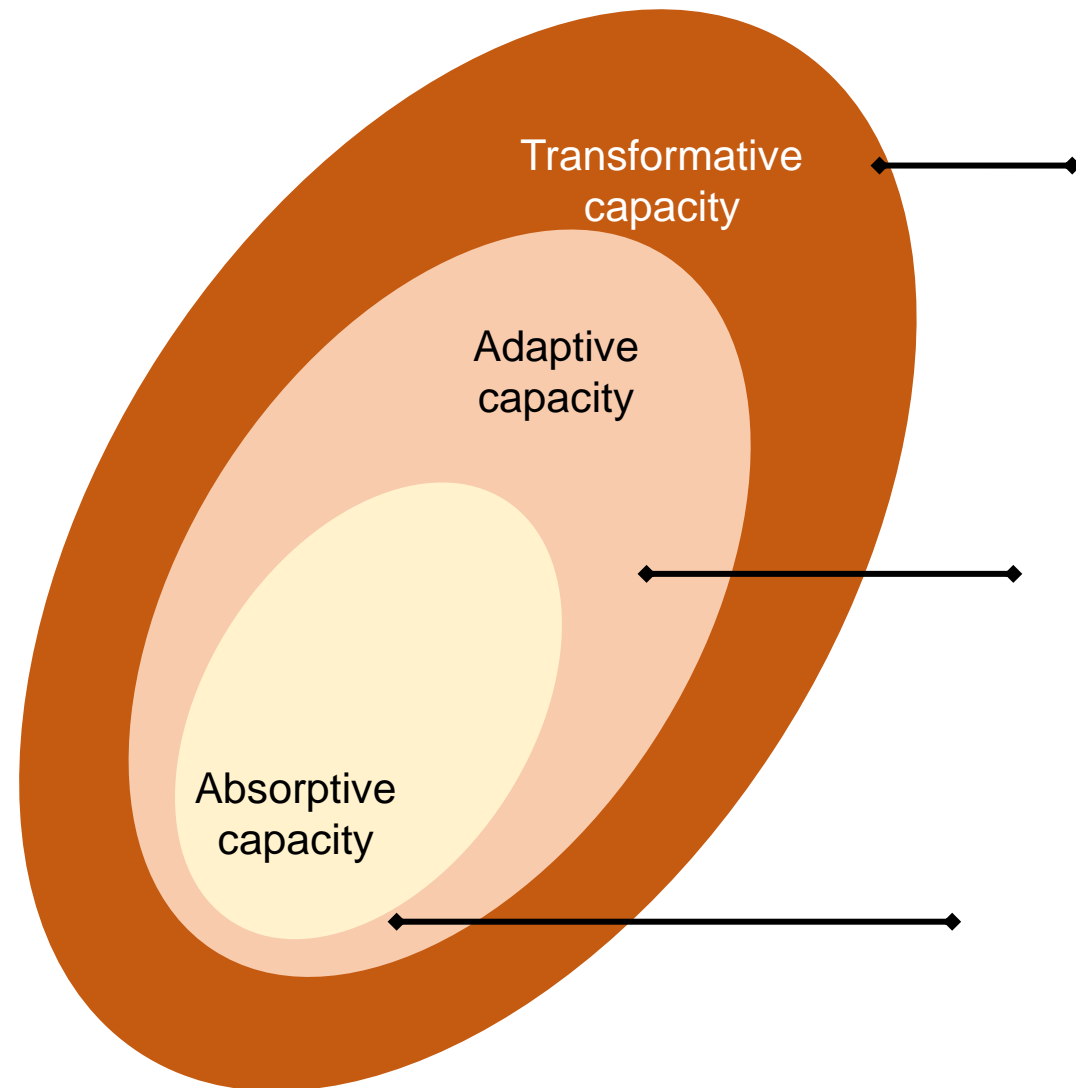
- between care for and utilization of natural resources,
- between nature and profits
- Between inclusion and competitiveness



What package of actions are needed for agricultural transformations in Africa

- Government commitment through political will & appropriate mechanisms for prioritization and effective Implementation.
- Increasing public **investment** in agricultural science, technology and innovation (STI)
- Catalyzing increased private sector investment in local research and innovation particularly for market access;
 - **Yield improvement for staple** crops grown by small scale producers with other crops (vegetables and fruits as intercropping and agroforestry),
 - **post-harvest loss reduction and value addition at smallholder and SME** level to keep more value in Africa and reduce import bill.
 - **Stimulation of more healthy diets** by making healthy options more affordable.
 - **Developing trade and markets within Africa** and between Africa and other global regions;
- Mandating/**regulating/setting standards for sustainable agriculture and waste-reducing food processing technologies**
- **Build appropriate capacity** (infrastructure, equipment and expertise) at **local level to enable African STI institutions develop solutions for increased productivity, resilience to shocks, value added production and quality assurance for market access.**
 - Build and strengthen solidarity and collective actions through partnerships that mobilize STI expertise for the design and testing of long-term models for financing agriculture, enhanced use of research and innovation outcomes for sustainable agriculture, rural entrepreneurship and agribusiness.
 - Enhance the capacity of farmers and consumers to contribute to research and innovation, and to policy formulation and implementation.
 - Harness the potential of women and the youth to equitably and gainfully participate in the food system.
- **Multi sectoral policies such as Socio protection, safety nets, school feeding programs that address** the undernourished and graduation pathways to address chronic food insecurity

The Need for Resilience Building Strategy which accommodates the Needs & Opportunities across different Agro-ecologies and production systems



Create an enabling environment through investment in good governance, infrastructure, market information, policies/regulations for systemic change, e.g.

- institutional and regulatory systems and capacities in seed development

Make proactive and informed choices based on an understanding of changing conditions, e.g.

- drought-tolerant, early maturing, pest and disease resistant varieties
- use of water efficiency technologies
- postharvest management techniques to minimize losses
- diversification of crops
- Agroecology principles and practices on-farms

Minimize exposure to shocks through preventative measures and appropriate coping strategies, e.g.

- Weather-based and yield-based crop insurance
- Soil maps to adapt agriculture practices
- Agroecology principles and practices on-farms
- Policies and practices that promote SME and agribusiness growth

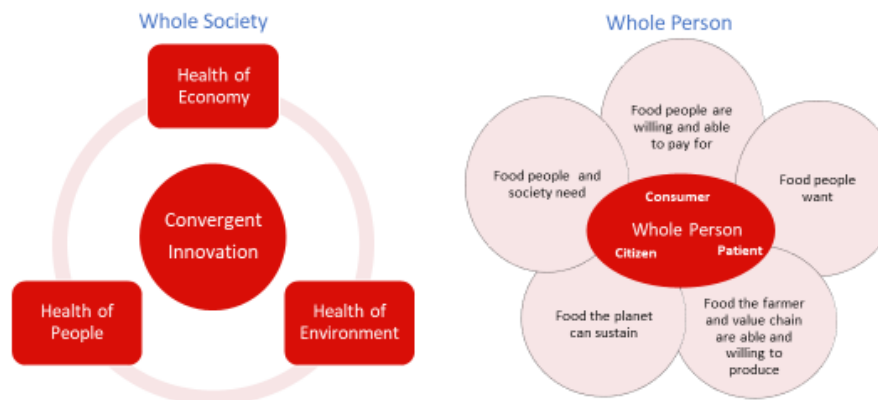


What does success look like?

- Source: Prof L Dube presentation at the IITA-BMGF-AGRA webinar on scaling of agriculture innovation through commercialization, March 4, 2021

Food Convergent Innovation

Innovate the way we Innovate in the Agri-Food Sector and in Whole Society



Mission A transformational discovery & innovation platform to produce, promote and consume food that sustains the health of people, planet and economy for sustainable development and affordable healthcare

        Centre for the Convergence of Health and Economics

UNIVERSITY OF GHANA Transforming African Agriculture Global Open Data for Agriculture & Nutrition Innovate the Way We Innovate in Agri-Food Sector and in Society

Food Convergence Innovation (FCI) mobilizes 3 core capabilities of a person-centered ecosystem approach that accelerates innovation

These are FCI multi-layered platforms utilizing a modular project approach, targeting real world impact through an open-source (shared learning) approach.

Ongoing initiatives, cross-leveraging learnings from each.

Capabilities	Partners	Geographies	Entry Point
Integrative Digital Backbone (Connect People, Organizations, Knowledge, and Data)	Academic Partners	FCI Global	Plant-Based Protein-Pulses innovation
		FCI Canada	Plant based/Hybrid protein innovation
Behavior-Context-Market-Industry Insights and Trends, Research (S&T) Support (Precision Retailing)	Digital & Data Partners	FCI Quebec	Clean label/ technology/ naturalness
		FCI Montreal	Food security/ local food systems
Integrative Human Backbone: (Industry, technical and strategic advice & support to action by FCI experts for accelerated on-the-ground support)	Action Partners	FCI Ghana	Consumer-facing CI branding for mother and child food with ecosystem building
		FCI India	Pulses

FCI is linked to and complements EU funded Wageningen University efforts in the Digitization of Agri-Food

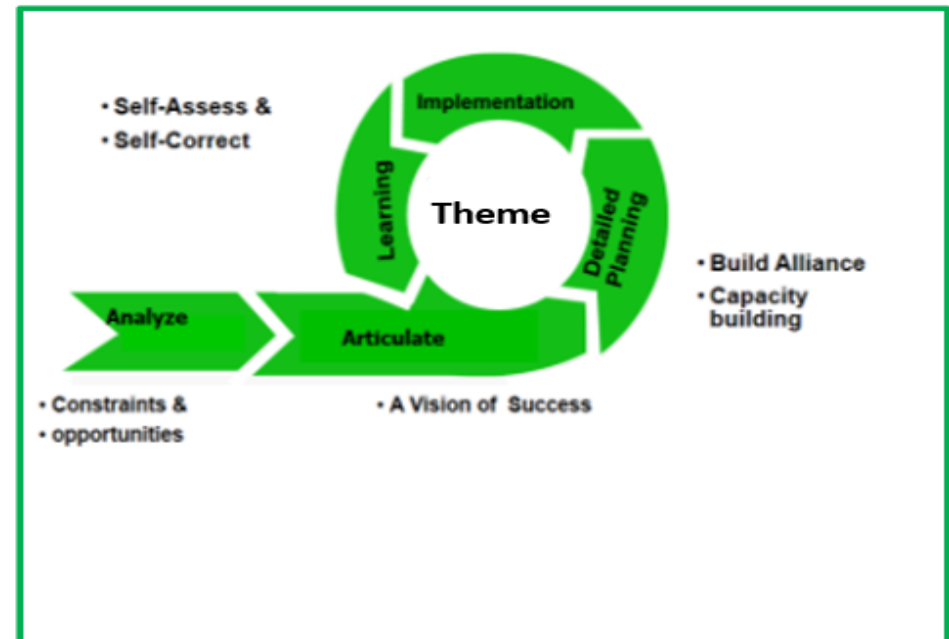


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Agriculture

Thank You

