

Theory and Practice of Agroecology/Climate Smart Agriculture and its Critical Role in Supporting Sustainable Agri-food Systems in Africa

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Presentation Outline



1. Introduction

Global food system (GFS) is not delivering as needed on key metrics, eg rates of hunger & malnutrition, decent agricultural livelihoods & environmental impact of agriculture

A profound transformation is needed to meet the challenges of persistent malnutrition & rural poverty

Aggravated by growing consequences of climate change (CC)

Promotion & adoption of Nature-based solutions is a necessity

Agroecology (AE) & CSA approaches are vital for developing sustainable agri-food systems to withstand pressures of CC, while ensuring food security for a growing global population

Agroecology

- An integrated approach that applies ecological principles to agricultural systems
- Focuses on the interactions between plants, animals, humans, & the environment.
- It emphasizes diversity, resilience, sustainability, & social equity in farming practices

Definition



- Global FS promotes diverse & resilient farming systems that improve productivity & nutritional quality ensuring a stable food supply
- Mitigates climate change impacts & supports adaptation to changing environmental conditions, by enhancing biodiversity, improving soil health, & reducing dependency on synthetic inputs

Relevance

Climate Smart Agriculture (CSA)

- CSA is an approach that seeks to transform & reorient agricultural systems
- To support food security under the new realities of CC.
- Focuses on 3 pillars: increasing agric. productivity, enhancing resilience (adaptation), & reducing greenhouse gas emissions (mitigation).

- Sustainably increase productivity & incomes, ensuring that agric. can meet growing demand for food without compromising future generations
- Enhances resilience of agric. systems to climate variability & extremes
- Reduces agric's contribution to greenhouse gas emissions, making it a crucial strategy for CC mitigation & adaptation

AFAAS

Definition

Relevance

2. Theoretical Foundation of Agroecology

AE approaches have gained prominence in scientific, agric. & political discourse - pathway to transform FS

Manifests as a science, a set of practices & a social movement

AE views agricultural systems as complex, dynamic networks where ecological, social, & economic dimensions are interconnected

It aims to create sustainable and resilient agric. systems that support human & environmental well-being

By incorporating its principles & a holistic perspective

Evolution of Principles of Agroecology

Evolution of AE dates back from 1900

AE has expanded from the field, farm & agroecosystem scale to encompass, the whole food system

Broadening of topics covered & different manifestations of AE - reflected in an increasing number & diversity of principles

13 principles & 10 elements of AE developed based on consolidating outcomes from two initiatives (FAO & HLPE)

The 2 parallel processes rather than competing with each other, informed one another, but having different aims

HLPE report developed the scientific basis for a set of recommendations to policy-makers

Evolution of the Principles of Agroecology

Elements of FAO are designed to structure & operationalise the assistance that FAO provides to Member Countries on AE, from practice to policy in The 10 elements guide practical implementation of AE ie. intergovernmental work in support of agroecological transitions towards sustainable agriculture & HLPE consolidated 13 agroecological principles: recycling; input reduction; soil health; animal health; biodiversity; synergy; economic diversification; cocreation of knowledge; social values & diets; fairness; connectivity; land & natural resource governance; participation

Holistic Approach to Agroecology

Ecological Integration: Emphasizes integration of crops, livestock, trees & natural habitats to create a balanced & sustainable ecosystem. Sustainable Practices: Focuses on practices eg agroforestry, crop diversification, organic farming, & soil conservation to enhance ecosystem health & productivity.

Hybridization of knowledge & co-innovation: Values traditional knowledge of local communities & encourages participatory innovation, ensuring that solutions are context-specific & culturally relevant.

Food Sovereignty: Advocates for the rights of communities to define their own food systems, prioritizing local production & consumption over global markets.



3. The Theoretical Foundations of CSA



- Increasing Productivity: Enhancing the efficiency & yield of agric. production to ensure food security & improve farmers' incomes.
- Enhancing Resilience (Adaptation): Strengthening the capacity of agricultural systems to withstand & recover from climate-related shocks and stresses.
- Reducing Greenhouse Gas Emissions (Mitigation): Decreasing the carbon footprint of agricultural activities and contributing to climate change mitigation.

Synergies & Overlaps Between CSA & Agroecology

- Both CSA & agroecology aim to create sustainable & resilient agricultural systems
- They share common goals (Sustainability, resilience, productivity & environment),
- Can complement each other in practice
- Integration of CSA & agroecology
 - leads to a more holistic approach to sustainable agriculture.
 - resilient to climate shocks and stresses
 - increase productivity & incomes while protecting the environment



 can inform better policy-making and more effective agricultural practices

4. Practices & Techniques in Agroecology/CSA

AE/CSA provides a robust framework for developing sustainable agrifood systems in Africa. Practices enhance food security, build climate resilience, support economic stability, promote environmental tainability, & empower communities Integrating ecological principles into agriculture, AE plays a critical role in building resilient & sustainable food systems that can address the challenges of the 21st century

Detailed case studies & successful stories to e shared -Day 2



Agroecology/ CSA Practices and Techniques

CAAD-XP4 with interventions to support a science & innovation-led & climate-relevant agric. transformation in Africa -Kenya, Madagascar, Ethiopia, Malawi, Cameroon, Mali, Liberia, Nigeria, Ghana, South Africa & Uganda

Bio4Africa -Improving Rural Livelihoods through Bio Based tech & circular value chains in Africa -Uganda, Ghana, Senegal & Ivory Coast CANALLS - Driving agroecological transitions in the humid tropics of Central & Eastern Africa through traNsdisciplinary Agroecology Living LabS -Burundi, Cameroon, DRC Congo and Rwanda

AIRTEA - Digital Connectors promotion of CSA approaches through bundled services in Uganda & Kenya



Agroecology/ CSA Practices and Techniques

Sustain Sahel - Synergistic use and protection of natural resources for rural livelihoods through systematic Integration of crops, shrubs & livestock in the Sahel - promote practices which enhance soil quality & yields, build resilience towards climate change, and contribute to food security and better livelihoods -Burkina Faso, Senegal & Mali

ATREA (Agroecological Transition, Responsive Extension Approaches) involves "Identification and documentation of sustainable, inclusive and responsive extension approaches for Agroecological Transition among target countries of, Benin, Ethiopia, Kenya & Madagascar

GP SAEP - Empowering Small-Scale Farmers in the Agroecological Transition through Participatory Rural Advisory Services (RAS) in **Uganda & Madagascar**



Policy and Institutional Support -Policy Frameworks

Policies fail to achieve desired results due to Policy formulation & implementation barriers, leaving critical problems unresolved

FNSSA is among policy priorities in many African countries & at the center of the AU/EU international development agenda

StEPPFoS, funded by EU Horizon aims to at strengthening evidence-based policy practice for sustainable food systems

Project offers an innovative approach to link activities of Pan-African Network for Economic Policy Analysis of Policies (PANAP) to those of FNSSA

The project has 4 specific objectives which together aim at supporting the FNSSA 10-year roadmap & global transition towards sustainable food systems transformation



Policy & Institutional Support -Institutional Collaboration

The CEA-FIRST Consortium Europe-Africa on R&I for Food Systems Transformation (CEA-FIRST)

- An AU-EU Project with 21 consortium partners
- Funding from EUs Horizon Europe R & I Programme to:
 - Operationalize IRC
 - Develop a learning environment & a large knowledge base, including MEL, and improve communication links between initiatives
 - Develop a sound method for analysis of results of R&I activities and for identifying research gaps, providing a basis for updating of EU AU FNSSA Roadmap
 - Increase the synergies & coherence between actors, R&I projects, initiatives & funding programmes, through development of institutional alliances & clusters of projects and expertise

Expected Directions





Call to Action

1. How can stakeholders support & invest in sustainable agri-food systems 3. Inclusive, equitable & sustainable strategies, ensuring that all society members benefit from sustainable agricultural development

2. Emphasis on synergies & collaborative efforts to ensure food security * environmental sustainability in Africa.





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African Forum for Agricultural Advisory Services



