

Progress and Pathways to Sustainable Agrifood Systems Transformation in Malawi

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PRESENTATION OUTLINE

Overview of
Agrifood Systems
in Africa

Current Status of
Agrifood System in
Malawi

Challenges Faced
by Malawi's
Agrifood Systems

Conclusion: Key
Messages

Transformation
and WHY is it
Needed?

Pathways to Sustainable
Agrifood System
Transformation

Progress Towards
Sustainable Agrifood
Systems in Malawi

Overview of Agrifood Systems in Africa...

- Agrifood systems **encompass** the entire range of activities involved in the **production, processing, distribution, consumption,** and **disposal of food products.**
- In Africa, these systems are complex and multifaceted, involving smallholder farmers, large-scale producers, processors, traders, and consumers.
- According to FAO (2020), approximately 80% of farms in Africa are smallholder farms, typically less than two hectares in size.
- However, these farms are responsible for producing most of the the continent's food, often using traditional farming methods.
- Agrifood systems in Africa are characterized by a growing integration of value chains, from **“farm to fork”**.
- This includes the involvement of intermediaries such as processors, wholesalers, and retailers, who add value to agricultural products before they reach consumers.



Overview of Agrifood Systems in Africa...

- The backbone of Africa's agrifood systems is crop production, which includes staple crops such as maize, rice, sorghum, and cassava.
- The diversity of crops grown across the continent reflects the varied agro-ecological zones, from arid regions to tropical rainforests (World Bank, 2021)
- Agriculture is a major driver of economic growth in many African countries, contributing an average of 23% to the continent's GDP and employing over 60% of the population.
- It also serves as a foundation for the industrial sector, providing raw materials for agro-industries.
- Agriculture contributes about 4% to the global GDP, though this percentage can be significantly higher in developing countries.
- For example, in Sub-Saharan Africa, agriculture accounts for around 15% of GDP, and in some individual countries, it can contribute up to 30% or more (World Bank, 2021).
- In Ethiopia, agriculture contributes approximately 34% of the GDP and employs about 72% of the workforce, highlighting its importance to the national economy.



Current Status of Agrifood System in Malawi

Key Crops and Agricultural Output

- **Dominant crops:** Maize (the staple crop), tobacco, tea, sugarcane, groundnuts, cassava, and rice. Maize, in particular, is a crucial crop for food security.
- **Smallholder farming:** Over 80% of Malawi's population is engaged in smallholder farming, producing mainly for subsistence with surplus sold in local markets.
- **Cash crops:** **Tobacco** remains the leading export crop, although its importance has been declining due to global anti-smoking policies. Tea and sugarcane also contribute significantly to exports.

Current Status of Agrifood System in Malawi

Contribution to the Economy

- **GDP and employment:** Agriculture contributes around 25% to Malawi's GDP and employs more than 60% of the work force.
- It is the primary **source of livelihood** for rural communities, where poverty levels are high.
- **Food security:** Despite agriculture's central role, Malawi experiences frequent food shortages, with many households reliant on maize and vulnerable to price fluctuations and poor harvests due to droughts or floods.

Current Status of Agrifood System in Malawi

Smallholder Farming Dominance

- **Over-reliance on rain-fed agriculture:** Most farmers rely on rainfall, which makes them vulnerable to climate change and erratic weather patterns.
- **Low productivity:** Smallholder farming is characterized by low productivity due to limited access to technology, poor soil health, and a lack of modern farming techniques. The use of fertilizers and improved seeds is also constrained by cost and availability.
- **Subsistence farming:** A large proportion of smallholder farmers primarily grow food for consumption, with little surplus for market sales, which limits their income potential.

Current Status of Agrifood System in Malawi

Food Security and Nutrition

- **Food insecurity:** Malawi experiences periodic food shortages, especially during lean seasons. The country's agriculture is highly vulnerable to climate shocks such as droughts and floods, which impact maize production .
- **Malnutrition:** Approximately 37% of children under five suffer from stunting, largely due to the reliance on maize-heavy diets and limited diversification into nutrient-rich crops .

Challenges Faced by Malawi's Agrifood Systems

- Malawi's agrifood system is highly **vulnerable to climate variability and change**, with rising temperatures, shifting rainfall patterns, and more frequent extreme weather events such as droughts and floods (IPCC, 2022).
 - These changes severely impact crop yields, livestock productivity, and water availability.
- **Soil degradation**, including erosion, nutrient depletion, and desertification is a major challenge in many parts of the country.
- **Poor land management practices and deforestation** reduces the land's ability to support agriculture (UNEP (2021)).
- Limited access to **reliable energy sources**, particularly in rural areas, restricts the ability of farmers and agribusinesses to process and store food, further exacerbating post-harvest losses and reducing food security (AfDB, 2021).

Challenges Faced by Malawi's Agrifood Systems

- Most smallholder farmers use **low-input, traditional farming techniques**, which result in low yields.
- **Low adoption of modern agricultural technologies**, such as improved seeds, fertilizers, and irrigation techniques limiting agricultural productivity and the ability of farmers to adapt to climate change (AGRA 2021).
- The **digital divide** is another significant barrier, with many farmers lacking access to digital tools and information that could improve their productivity and connect them to markets (World Bank, 2021).
- Malawi's agrifood systems suffer from fragmented and inefficient markets where farmers frequently face challenges in selling their products due to the lack of organized markets, price volatility, and the dominance of middlemen, which reduces their incomes (FAO, 2020).

Challenges Faced by Malawi's Agrifood Systems

- The low level of **value addition** in Malawi's agrifood systems reduces the competitiveness of its agrifood products in global markets as most products are sold as raw products.
- Farmers and agribusinesses in Malawi often face significant barriers in accessing **finance** that restricts their ability to invest in necessary inputs, technologies, and infrastructure.
- Poor rural infrastructure, especially roads and storage facilities, limits **access to markets** for smallholder farmers. This leads to high post-harvest losses and low farm-gate prices.

Challenges Faced by Malawi's Agrifood Systems

- **Price and Market Volatility:** Farmers often face challenges selling their crops due to **volatile markets**, limited bargaining power, and a lack of market information. The reliance on middlemen leads to further income loss for farmers.
- **Disparities in land ownership:** Women, who make up a significant portion of the agricultural labour force, often face challenges in accessing land and resources, limiting their productivity and economic potential.
- **Access to training and technology:** Women farmers typically have less access to extension services, technology, and financial resources than men.

What is Agrifood Systems Transformation?

Agrifood system transformation refers to the fundamental changes made to the way food is produced, processed, distributed, and consumed to make the system more **sustainable, resilient, and equitable and inclusive.**



It entails shifting current agricultural and food systems to improve **environmental sustainability, economic viability, and social inclusion** while ensuring **food security and nutrition for all.**

Why Transform Agrifood Systems?

Agrifood system transformation is essential for ensuring food security, addressing rural poverty, adapting to climate change, and aligning with the Malawi 2063 Vision for inclusive wealth creation and sustainable development.

Environmental Degradation: Current food systems contribute significantly to deforestation, greenhouse gas emissions, and loss of biodiversity.

Food Security: With population growth and climate challenges, existing food systems are struggling to provide adequate nutrition.

Economic Development: Agriculture remains the backbone of Malawi, but transformation is needed to increase productivity and improve livelihoods.

Health: Shifting to more diverse, nutritious diets and reducing processed and unhealthy food consumption is essential to combat malnutrition and diseases.

Progress Towards Sustainable Agrifood Systems in Malawi

Climate-Smart Agriculture (CSA) Adoption: Malawi has made strides in promoting and implementing climate-smart agriculture (CSA) practices that improve resilience to climate change while enhancing productivity.

Conservation Agriculture: Farmers are increasingly adopting practices such as minimum tillage, crop rotation, and organic mulching to improve soil fertility and water retention.

Promotion of Agroforestry: Integrating trees into agricultural landscapes has helped farmers improve soil health, increase biodiversity, and reduce the need for chemical inputs. The adoption of nitrogen-fixing trees (e.g., *Faidherbia albida*) helps boost crop yields and provides firewood and timber for local communities.

Irrigation: To reduce dependence on rain-fed agriculture, Malawi has developed small-scale irrigation projects that enable year-round farming.

Green Belt Initiative: This government program aims to harness water resources from lakes and rivers to support irrigation-based farming, focusing on smallholder farmers. As part of the initiative, farmers grow high-value crops like rice, vegetables, and sugarcane, increasing their income and improving food security.

Solar-Powered Irrigation. Promotion of solar irrigation such as The Kulima Integrated Development Solutions has implemented solar-powered irrigation projects in Balaka District, transforming drylands into productive agricultural fields, improving crop yields, and reducing farmers' dependency on seasonal rains.

Progress Towards Sustainable Agrifood Systems in Malawi



Policy Advancement: Government has developed policies aimed at improving food security and agricultural sustainability

Malawi 2063 Vision: Envisions a transformed agricultural sector that is more commercialized and sustainable, focusing on agro-processing, irrigation, and innovation.

The National Agricultural Policy (NAP). This is a comprehensive framework that outlines the government's vision, objectives, and strategies for the agricultural sector.

National Agriculture Investment Plan (NAIP): Prioritizes investment in productivity enhancement, market access, and climate resilience.

Affordable Inputs Programme (AIP): Aims to provide subsidized seeds and fertilizers to smallholder farmers to enhance productivity and reduce the cost of inputs.

National Export Strategy for Malawi (NESP): This is a strategic framework designed to enhance the country's export sector by identifying key opportunities and addressing challenges in order to boost Malawi's international trade and economic growth.

Progress Towards Sustainable Agrifood Systems in Malawi



The use of digital agriculture technologies has started transforming Malawi's agrifood systems by improving farmers' access to information and markets through mobile apps such as Esoko Malawi and Farm Radio Trust

E-Voucher Systems for Farm Inputs: The introduction of e-vouchers for purchasing seeds and fertilizers has helped streamline Malawi's **Affordable Inputs Programme (AIP)**. This system reduces delays and corruption in the distribution of inputs, ensuring that farmers receive necessary resources in time for planting.

Weather Information and Advisory Services: Mobile platforms like "Zathu" provide real-time weather forecasts, pest management advice, and crop yield projections to smallholder farmers via SMS.

Integrated Livestock and Crop Systems: Some farmers are adopting mixed farming practices, incorporating livestock like poultry, goats, and cattle alongside crop production for income and reduce risks from crop failure due to droughts or pests.

Aquaculture: Fish farming is expanding, providing an alternative source of protein and income for rural households. Projects like the Malawi National Aquaculture Centre, AQUAFISH at LUANAR help small-scale fish farmers adopt sustainable fish farming techniques.

Progress Towards Sustainable Agrifood Systems in Malawi

Strengthening Value Chains and Market Access: Efforts to improve post-harvest management, processing, and market access are helping Malawi's agrifood systems become more sustainable.

Agro-processing initiatives: Programs that encourage the development of small-scale agro-processing facilities for products like cassava, groundnuts, and fruits are helping farmers add value to their produce. For example, cassava is processed into flour or starch for export markets, reducing post-harvest losses and increasing farmer incomes.

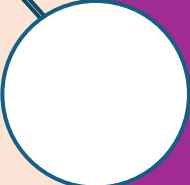
Cooperatives and Farmer Organizations: Strengthening farmer cooperatives has enhanced collective bargaining power, improved market access, and provided farmers with training on sustainable farming techniques. Successful cooperatives include NASFAM (National Smallholder Farmers' Association of Malawi), which connects farmers with markets and encourages the adoption of best agricultural practices.

Soil and Water Conservation Projects: Several community-based soil and water conservation projects have been launched to address land degradation and improve the long-term sustainability of agriculture.

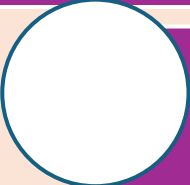
Shire River Basin Management Program: This project focuses on watershed management and the restoration of degraded lands along the Shire River. Activities include reforestation, terracing, and the construction of water catchment systems to control soil erosion and improve water availability for farming.

Catchment Area Reforestation: Community groups, often supported by NGOs, are engaged in replanting indigenous trees and creating buffer zones along riverbanks. These efforts improve soil stability, prevent siltation in rivers, and enhance the overall health of ecosystems, which supports agriculture.

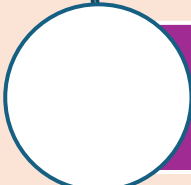
Progress Towards Sustainable Agrifood Systems in Malawi



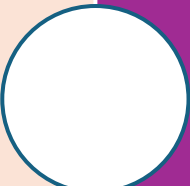
Women empowerment: Programs aimed at empowering women farmers have been critical in promoting sustainable agrifood systems, as women make up a large portion of the agricultural workforce in Malawi. For example, The **Farmers Union of Malawi** has initiated women-focused training programs to improve women's access to sustainable farming techniques and markets. This has contributed to better crop yields and improved household incomes, especially in rural areas.



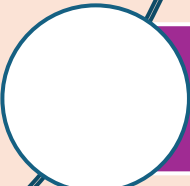
Women Farmers Organizations: Initiatives like **Tiwalere II** and **Gender Action Learning Systems (GALS)** help women gain access to resources, credit, and training in sustainable farming practices. These programs focus on financial literacy, business skills, and sustainable agriculture to improve women's agricultural productivity and household food security.'



Land Ownership Initiatives: Some local efforts focus on improving women's access to land through advocacy for legal reforms and supporting women in securing land titles. This has empowered women to make long-term investments in their land and adopt sustainable practices.



Drought-Tolerant and Disease-Resistant Seeds: Research institutions and international partnerships have developed improved seed varieties that are better adapted to Malawi's changing climate. For example, The International Maize and Wheat Improvement Center (CIMMYT), in collaboration with the Malawi government, has introduced drought-tolerant maize varieties that have significantly increased yields, even in drought-prone areas.



Promoting Crop Diversification: The **Root and Tuber Crops Development Program** is promoting the production of crops like cassava and sweet potatoes in areas vulnerable to drought, providing farmers with more resilient crops that also contribute to improved food security and dietary diversity.

Pathways to Sustainable Agrifood System Transformation



Promoting Sustainable Agricultural Practices

Climate-Smart Agriculture (CSA):
Encourage practices that increase productivity while adapting to and mitigating climate change. This includes conservation tillage, agroforestry, and integrated pest management.

Soil Health Management:
Implement practices to improve soil fertility and structure, such as organic matter addition, cover cropping, and crop rotation.

Water Management:
Expand and optimize irrigation systems, including drip and sprinkler irrigation, and promote rainwater harvesting techniques.

Pathways to Sustainable Agrifood Transformation



Enhancing Agricultural Productivity

Technology Adoption:

Promote the use of modern technologies, such as precision agriculture, high-yield crop varieties, and **mechanization** to improve productivity and efficiency.

Research and Innovation:

Invest in agricultural research and development to develop new technologies, crop varieties, and farming practices tailored to local conditions.

Extension Services:

Strengthen agricultural extension services to provide farmers with timely information and training on best practices and technologies.

Pathways to Sustainable Agrifood Transformation



Improving Food Security and Nutrition

Diversification of Crops and Diets:
Encourage the cultivation of diverse crops and the consumption of a variety of nutritious foods to improve food security and nutritional outcomes.

Post-Harvest Management:
Enhance storage and processing facilities to reduce post-harvest losses and improve food availability throughout the year.

Nutritional Education:
Implement programs to educate communities about balanced diets and the benefits of consuming diverse foods.

Pathways to Sustainable Agrifood Transformation



Strengthening Market Access and Value Chains

Infrastructure Development: Invest in rural infrastructure, including roads, storage facilities, and market centres to improve farmers' access to markets and reduce post-harvest losses.

Value Addition: Support agro-processing initiatives to add value to raw agricultural products and create new market opportunities.

Market Linkages: Develop systems to connect farmers with buyers, including digital platforms that provide market information and facilitate transactions.

Pathways to Sustainable Agrifood Transformation



Supporting Smallholder Farmers

Access to Finance: Improve access to financial services, including credit, insurance, and savings, to enable farmers to invest in improved practices and technologies.

Capacity Building: Provide training and support to enhance the skills and knowledge of smallholder farmers in areas such as crop management, business development, and financial literacy.

Cooperatives and Associations: Strengthen farmers' cooperatives and associations to improve bargaining power, access to resources, and collective action.

Pathways to Sustainable Agrifood Transformation



Encouraging Sustainable Resource Management

Resource Efficiency: Promote practices that enhance the efficient use of resources, including water, energy, and land.

Environmental Conservation: Support initiatives that protect natural resources, such as reforestation, soil conservation, and biodiversity protection.

Encouraging Sustainable Resource Management

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Pathways to Sustainable Agrifood Transformation



Promoting Inclusive Development

Gender Equality: Ensure that women and marginalized groups have equal access to resources, training, and decision-making processes in agriculture.

Youth and Women Engagement: Engage and support youth and women in agriculture by providing training, resources, and opportunities for innovation and entrepreneurship.

Pathways to
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Building Resilience to Shocks

Risk Management:
Implement risk management strategies, including crop insurance and disaster preparedness, to help farmers cope with shocks such as climate events and market fluctuations.

Resilience Building: Support initiatives that enhance the resilience of agricultural systems and communities to environmental and economic shocks.

Pathways to Sustainable Agrifood Transformation



Fostering Policy and Institutional Support

Effective Policy Implementation: Ensure effective implementation of agricultural policies and programs, addressing challenges such as budget constraints and inefficiencies.

Institutional Strengthening: Enhance the capacity and effectiveness of agricultural institutions and governance structures to support the agrifood transition.

Public-Private Partnerships: Promote collaboration between the government, private sector, and development partners to leverage resources and expertise.

Leveraging Technology and Innovation

Pathways to Sustainable Agrifood Transformation



Digital Agriculture:
Utilize digital technologies to provide farmers with real-time information, such as weather forecasts, market prices, and agricultural practices. Examples include mobile apps and online platforms.

Innovative Solutions:
Encourage the development and adoption of innovative solutions to address specific challenges in agriculture, such as drought-resistant crops and efficient irrigation systems.

HEI-Industry Linkages:
Strengthen the linkage between HEI and Industry to develop programs, technologies and innovations that are fit for purpose.

Conclusion: Main Messages

- ❑ **Sustainability and Productivity:** Enhancing agricultural productivity while ensuring sustainability is fundamental. Embracing climate-smart agriculture, modern technologies, and sustainable practices will be pivotal in increasing yields, improving resource efficiency, and mitigating environmental impact.
- ❑ **Food Security and Nutrition:** Addressing food security and improving nutrition are critical goals. Diversifying crop production, investing in post-harvest management, and promoting balanced diets will help to reduce food insecurity and improve nutritional outcomes for Malawians.
- ❑ **Sustainability and Productivity:** Enhancing agricultural productivity while ensuring sustainability is fundamental. Embracing climate-smart agriculture, modern technologies, and sustainable practices will be pivotal in increasing yields, improving resource efficiency, and mitigating environmental impact.
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Conclusion: Main Messages

- ❑ **Market Access and Value Chains:** Strengthening market access and value chains is essential for enhancing the profitability and competitiveness of Malawian agriculture.
- ❑ **Capital Investments:** Investments in infrastructure, agro-processing, and market linkages will facilitate better access to domestic and international markets, reducing post-harvest losses and creating new economic opportunities.
- ❑ **Supporting Smallholders:** Smallholder farmers are the backbone of Malawi's agriculture. Providing them with access to finance, capacity-building, and supportive policies will empower them to adopt modern practices, increase productivity, and improve their livelihoods.
- ❑ **Policy and Institutional Support:** Effective policy implementation and institutional support are critical for driving the agrifood transition. Ensuring coordinated efforts among government, private sector, and development partners will help in overcoming challenges and achieving the strategic goals outlined in national plans.

Conclusion: Mian Messages

- ❑ **Innovation and Technology:** Leveraging technology and innovation is key to addressing current challenges and seizing new opportunities. Digital agriculture, innovative solutions, and research and development will play a crucial role in transforming the agrifood system.
- ❑ **Inclusivity and Resilience:** Promoting inclusive development by supporting women, youth, and marginalized groups, and building resilience against environmental and economic shocks are essential for ensuring that the transition benefits all segments of society and withstands future challenges.
- ❑ **Supporting Smallholders:** Smallholder farmers are the backbone of Malawi's agriculture. Providing them with access to finance, capacity-building, and supportive policies will empower them to adopt modern practices, increase productivity, and improve their livelihoods.

**THANK YOU FOR YOUR
ATTENTION!**

**“There is Power in Partnerships &
Collaboration for Sustainable Agrifood
System Transformation”**