# ‘Game-changer’ case studies and stories from

## Stronger, together –Collaborative leadership in agricultural development and food systems transformation

CALA is an AGRA-led initiative

AGRA
Sustainably Growing Africa’s Food Systems

African Management Institute

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# Preface

The case stories in this collection were written over a two-year period, from July 2021 to July 2023. They were commissioned by the CALA team at AGRA, in partnership with the African Management Institute (AMI), with a view to providing compelling case material for CALA leadership classes, forums and seminars.

The brief was for each piece to highlight a 'game-changer' project or programme within the agriculture and food systems landscape, focusing on collaborative leadership as a catalyst for transformation. The proposed subject list was widespread, requiring extensive research and interviews with experts from multiple institutions across Africa and beyond.

AGRA's extensive knowledgebase and network ensured the team had access to leading thinkers and innovators in each thematic area. AGRA's ongoing project work also meant the voices of smallholder farmers, business owners, entrepreneurs and programme beneficiaries were captured and incorporated in the case studies.

Over two years since the first case study was completed, we now have a substantial body of 'game-changer' stories documented. It is hoped they will provide a wealth of knowledge, insight and inspiration for present and future African leaders in agriculture.

***October 2023***

# Foreward

> *The African proverb, "if you want to fast, go alone; if you want to go far, go together", resonates through this collection of stories, just as it underpins CALA's founding vision.*

Indeed, this collection demonstrates the power of integration, co-creation and collaboration within the agricultural space. As such, it aims to inform and inspire the next generation of African leaders in agriculture, as they prepare to address the challenges and opportunities that lie ahead.

The stories gathered here shift in focus from specific country projects to broader programmes and frameworks spanning whole regions and continents. The opening chapter looks at an agroecology scheme to scale sustainable land and forest management in western Kenya. Another chapter considers the work of Planting for Food and Jobs (PFJ) in Ghana, a flagship programme to modernise Ghana's agriculture sector. Other chapters cover seed system transformation in Malawi and Tanzania; rapid Covid-19 response in Kenya; a major initiative to strengthen women-led SMEs; and new digital platforms enabling agtech innovation.

The 'bigger picture' chapters consider the de-risking of financial investment in agriculture; delivery mechanisms for agricultural transformation; leadership challenges around the UN Food Systems Summit; and the role of South-South Cooperation in driving progress towards the UN Sustainable Development Goals.

Despite their diverse focus areas, the stories in this collection share a unifying theme: collaborative leadership and its role in agricultural transformation. As these narratives confirm, the interconnected nature of the challenges facing agriculture in Africa require equally interconnected responses. In the new food systems landscape of multistakeholder engagement, individuals and organisations are recognising the value of collaborative and coordinated action – across sectors, value chains, countries and regions.

***Dr. Agnes Kalibata,***
*AGRA President.*

**“These stories remind us that only by working together will actors in the agricultural sector – from smallholder farmers to government ministers and leaders – drive the changes needed to transform agriculture and food systems in Africa.”**

# Introduction

## CALA and the next generation of leaders in agriculture

In 2021, the Alliance for a Green Revolution in Africa (AGRA) launched a new initiative to provide hands-on leadership implementation support for African leaders in the agriculture sector.

The Centre for African Leaders in Agriculture (CALA) represents a deepening of AGRA's ongoing support to state capability. It complements the technical assistance that AGRA has been providing to transform national and regional agriculture priorities alongside government, public and private sector partners.

The role of leadership in agriculture is critical to the achievement of AGRA's goals. Specifically, AGRA's strategy works to catalyse and sustain an inclusive agricultural transformation in Africa to increase incomes and improve food security for 30 million farmers. With a core focus on leadership development, CALA supports this strategy by addressing two specific challenges:

1. Enabling leaders to better drive and deliver on national agricultural transformation initiatives.
2. Preparing the next generation of public and private sector leaders to meet the succession challenge in agriculture.

In addition to AGRA, CALA's key implementing partners include KfW Development Bank, who have provided core financial support, the African Management Institute (AMI), and USAID's Policy LINK. As one of Africa's top providers of leadership and business management programmes, AMI performs the role of lead learning partner. The CALA model incorporates AMI's hallmark blended learning approach, with a strong focus on highly engaging programming delivered virtually. This includes online learning (and in-person workshops when possible), on-the-job coaching, leadership forums, and action-oriented learning projects linked to national policy priorities. Policy Link supports AMI across these functions and leads the executive and team coaching sessions.

**30 Million farmers**

AGRA's strategy works to catalyse and sustain an inclusive agricultural transformation in Africa to increase incomes and improve food security for 30 million farmers.

## The CALA programme

CALA offers an Advanced Leadership Programme for established and emerging leaders who are spearheading country-level agriculture strategies. Over time, AGRA's ambition is to institutionalise CALA as a centre of excellence supporting leaders to successfully implement national and regional plans for agriculture transformation.

The programme's core focus is on supporting leaders in government, the private sector and civil society across eight countries. These countries are Kenya, Tanzania, Uganda, Rwanda, Ethiopia, Nigeria, Ghana, and Malawi.

The cohorts are structured around executive-level leaders and 'rising stars.' *

The CALA programme helps leaders to enhance their skills to aid in the navigation, coordination and implementation of solutions designed to address the challenges engulfing the agricultural sector. It also highlights agroecological principles in agriculture, which are increasingly recognised as contributing to sustainable farming, food production, and climate-resilient food systems.

> *The executives are those with more than 15 years' experience and key decision-making responsibilities within national programmes, for example, PSs, Director Generals, CEOs, and Directors. Rising stars are those with more limited experience but significant responsibility for portfolios linked to national priority programmes. They may include deputies, managers, and development officers.*

## The CALA curriculum

The blended learning approach which underpins the CALA leadership initiative is focused on practical, hands-on support and development. CALA modules are not theoretical but interactive, practical and flexible. They are shaped by participant demand to sharpen leadership skills and enhance implementation practices. Meanwhile, proposals for training modules are informed by the following three sources:

- Lessons learnt from AGRA's interactions with government officials, as well as from the vast collective experience of CALA's implementing partners.
- Recommendations emerging from AGRA's Institutional Capacity Assessments. These include building the capacity of local governments though on-the-job training to strengthen technical and managerial skills, specifically in Financial Management, Human Resources Management and Programme/Project Management.
- Findings from ongoing learning needs analyses.

Overall, CALA learning is structured around three pillars:

### Adaptive leadership skills development

Content modules for the adaptive leadership skills training cover a range of key topics. These include: sustainability considerations for sector leaders; leading and managing change; adapting leadership styles to meet changing needs; leading during a crisis; influencing with and without authority; motivating others; enabling others to perform; communication and collaboration skills; intercultural management; conflict management; and public speaking, among others.

### Management skills for delivery

Management skills are an important component of what good leaders need to deliver on their priorities. Specific course offerings are informed by detailed needs analyses. Examples of core modules include: contract negotiation; partnership development; project management; communication and financial analysis; and results-based management.

### Game-changer case studies

Throughout the CALA programme, curriculum-linked case studies are provided to help maintain focus on the leadership skills required for successful agricultural transformation. These case studies are thematically organised to deliver insights at key stages of the course

The 'game-changer' case stories in this collection highlight key leadership requirements across a range of contexts and challenges. As such, they support CALA's goal of equipping public sector leaders with the tools they need to create a prosperous and food-secure Africa. In the words of AGRA President, Dr Agnes Kalibata: "Achieving Africa's food security and economic growth requires leaders who are responsive, adaptable and collaborative, while also integrating new strategies for environmentally sustainable agriculture."

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# 1. Agroecology in Western Kenya

This chapter considers the work of Sustainable Land & Forest Management (SLFM) in Western Kenya – an agroecology project focused on "scaling up sustainable land management and agro-biodiversity conservation to reduce environmental degradation in small-scale agriculture".

Operational from 2017 to 2022, the project was conceived as a direct response to natural resource depletion, encroachment, and exploitation within the Kakamega-Nandi Forest ecosystem in Western Kenya. Over five years, SLFM in Western Kenya engaged local farmer communities in sustainable land and forest management. Reaching nearly 100,000 smallholders, it significantly reduced environmentally degrading activities and stimulated a 300% increase in local farm productivity. It also facilitated, through participatory forest management systems, the rehabilitation of over 7,000 hectares of forest land.

But promoting SLFM techniques as a viable alternative to forest-based income generation was no easy task. Community behaviours in the Kakamega-Nandi ecosystem were entrenched, and resistance to the new ideas was strong. At the outset, the fulfilment of the project's goals, and the future of Kakamega forest, looked uncertain. Convincing farmers to embrace new methods required major engagement and education interventions as part of a region-wide behaviour change programme.

This chapter looks at the work undertaken by the project team to overcome the barriers to SLFM uptake. It also explores the collaborative leadership efforts that united multiple stakeholders around the common goal of biodiversity conservation in Western Kenya.

## Uncertain ground: land degradation in sub-Saharan Africa

Land degradation is the process by which anthropogenic activities negatively impact the value of a biophysical environment. Such activities include intensive agriculture, overgrazing by livestock, and overexploitation of forests and woodlands.

The additional pressures of population growth, climate change and poverty also play a part, accelerating unsustainable

land management practices.

Across sub-Saharan Africa (SSA), hundreds of millions of people depend upon land and natural resources for food production and income generation. Land degradation, which is estimated to affect about 67%, or 16.1 million km2, of SSA's total land area, therefore poses a major threat to livelihoods and food security. And in a region of over one billion people, countries are having to meet the demands of growing populations from a rapidly diminishing resource base.

In Kenya, these challenges loom large. Recent studies show that 22% of land area in Kenya is affected by land degradation. Other countries fare worse, with degradation affecting 51%, 41% and 23% of land area in Tanzania, Malawi and Ethiopia respectively. However, it is estimated that around 30% of Kenya's landmass experiences 'severe soil degradation', which is the point at which land cannot be productive without a certain level of rehabilitation. And in recent decades, an expansion of agriculture and livestock production has led to increased pressure on natural resources. These pressures are set to rise further, with the UN Food and Agriculture Organization (FAO) predicting that Kenya's cattle population will increase by 90% by 2050.

Water erosion, soil nutrient depletion, agro-biodiversity loss and deforestation are just some of the degradation impacts witnessed in recent years. In Western Kenya, for example, average soil loss in 2017 was 0.5 tonnes per hectare per year, compared to 0.3 tonnes per year in 1995. And originally fertile lands that yielded 2-4 tonnes of cereal grains per hectare now have cereal crop yields of 1 tonne per hectare. At the same time, commercial farming activities have driven a downward trend in the cultivation of indigenous crops and vegetables.

Kenya's forests have been especially vulnerable, with land pressures prompting frequent encroachments into forest reserves and woodland areas. According to the FAO, between 1990 and 2010, forest cover in Kenya reduced from 3.7 million to 3.4 million hectares. In turn, forest ecosystem fragmentation has led to the loss of natural habitats and biodiversity. This reflects the general trend for Africa as a whole, which has the highest annual rate of net forest loss in the world (3.9 million hectares a year), followed by South America (2.6 million hectares).

To relieve these pressures and, where possible, reverse the damage done, the expansion of sustainable land and forest management (SLFM) policies and practices is essential. In Kenya and across SSA, SLFM is critical to restoring agro-biodiversity, reducing environmental degradation, and improving food and water security. It is also vital to helping smallholder farmers transform their productivity and income.

> **22%**
> **of land area in Kenya**
> is affected by land degradation. worse, with degradation affecting 51%, 41% and 23% of land area in Tanzania, Malawi and Ethiopia respectively

## Scaling SLFM and biodiversity conservation

Kakamega forest is the only forest of its kind in Kenya. The eastern-most fragment of the Guinea-Congolean lowland rainforest belt, Kakamega is home to plants and animals not found anywhere else in the country. It has a rich diversity of primates, such as the redtail monkey and the black and white colobus monkey, plus over 500 species of bird, many of which are endangered. It is also home to more than 120 species of tree; some, like the Elgon teak and Prunus Africana, are of 'special conservation concern'.

The forest area extends to around 230 square kilometres (23,000 hectares) and comprises two protected zones – a forest reserve, designated in 1933, and a national reserve dating back to 1985. Crucially, it provides a wealth of biodiversity benefits and ecosystem services. The ecological health of Lake Victoria, for example, depends upon the forest's ability to generate rainfall and control soil erosion. Similarly, the forest sequesters and stores carbon, helping to regulate the carbon cycle and mitigate climate change. It also stabilises stream flows and water runoff, reducing the risk of floods and landslides.

The forest is economically important too. About 3 million people depend upon it for their livelihoods, with Kakamega providing a rich source of food, fuel, cattle fodder and building materials, as well as medicinal plants and tree bark. But over the years, as land pressures have intensified, local communities have increasingly abused their forest privileges As a result, Kakamega's natural resources have become perilously overexploited.

Western Kenya is the most densely populated region in the country, with 1,000 people per square kilometre in some areas compared to the national average of 66. This population bulge has driven increased demand for food, shelter, water, energy and waste disposal.

But in a region with limited available land, where farmsteads are on average just 0.4 hectares in size, such demand is difficult to meet. Consequently, people have turned to Kakamega forest to supplement their incomes. Poverty-driven logging and other illegal activities have accelerated. Unsustainable harvesting of fuelwood and non-wood products, such as bushmeat, herbs and honey, has increased. Woodland has also been opened up for grazing and cultivation. In the process, the Kakamega forest has become severely damaged and degraded.

Between 1933 and 2010, the forest cover in the Kakamega-Nandi ecosystem declined from 24,798 hectares to 11,848 hectares. In the past 38 years, tree cover in the Kakamega forest has reduced by 50%. And according to Global Forest Watch, more than 200 hectares of tree cover was lost between 2001 and 2014 alone.

Such a degradation rate threatens to push the forest into irreversible decline, threatening social, economic and environmental wellbeing across the region.

In response to these challenges, SLFM in Western Kenya sought to relieve the pressures on Kakamega forest by increasing the

productivity of adjacent, non-forest land.

To this end, the project's primary goal was to enhance the livelihoods of smallholder farmers in Kakamega, Nandi and Vihiga counties. Its development objective was to promote the adoption of sustainable land and forest management practices as part of a region-wide behaviour change programme. And its global environment objective was to reduce land and ecosystem degradation, mainstream biodiversity conservation, and contribute to climate change adaptation and mitigation.

Overall, the project's intervention strategy comprised four main pillars:

- Building capacity among farmers and stakeholders in SLFM and biodiversity conservation
- Strengthening farmer linkages to agricultural input and output markets
- Supporting the policy environment and institutional framework at the local level
- Enabling knowledge management and dissemination

Through these efforts, SLFM in Western Kenya supported progress towards the strategic objectives of the United Nations Development Assistance Framework (UNDAF). It also contributed to the Nagoya Protocol on Access and Benefit-sharing and the UN SDGs, in particular, SDG 1 (no poverty); SDG 2 (zero hunger); SDG 11 (sustainable cities and communities); SDG 15 (life on land); and SDG 16 (peace, justice and strong institutions).

SLFM in Western Kenya was forged through a Partnership Cooperation Agreement signed in 2016 between the Alliance for a Green Revolution in Africa (AGRA) and the United Nations Environment Programme (UNEP). Funded by the Global Environmental Facility (GEF), the project was launched in 2017 with a five-year operational period to 2022.

With direct funding from GEF of US$ 3.58 million, the project received additional in-kind co-funding of US$ 9.0 million from key project partners. It was delivered under UNEP National Execution procedures, with AGRA as the executing agency and the Kenya Agricultural and Livestock Research Organisation (KALRO) leading on-the-ground implementation in a consortium of eleven other institutions. These institutions included the County Governments of Kakamega, Nandi and Vihiga, the Kenya Forest Service (KFS), the Kenya Wildlife Services (KWS) and the Kenya Forestry Research Institute (KEFRI), among others, all acting undersigned Partnership Agreements.

In support of these institutional actors, Farmer Associations and Community Forest Associations were formed or strengthened to ensure farmers played a key role in project development and delivery.

## Scaling SLFM and biodiversity conservation

SLFM in Western Kenya was built on AGRA's previous work on integrated soil fertility management and other SLFM-related projects, implemented through KALRO from 2009 onwards. Despite the success of these earlier schemes, when SLFM in Western Kenya was first conceived, uptake of SLFM practices was still desperately low – as indicated by the rate and extent of degradation in the region.

During project formulation, it was unclear why so many local farmers continued to engage in unsustainable land-use practices. Why did they resist the adoption of available SLFM technologies and techniques?

To answer these questions, the project team had to identify and understand the principal gaps, barriers and bottlenecks preventing local engagement with SLFM.

The overwhelming challenge the project faced was resistance to change among local communities and smallholder farmers, mainly linked to socio-economic constraints and concerns, as follows:

**Poverty-driven short-termism**

Poverty, hunger and lack of resources, driven primarily by low crop and livestock productivity, meant many local farmers adopted a short-term livelihood outlook. Unable to make long-term investments in their land or livelihoods, they were reluctant to abandon their forest-based income generating activities. Their on-farm production efforts were also subsistence in nature. This meant they prioritised the mining of local resources for short-term profit over enterprise development.

**Lack of ownership, security and incentive**

Another major barrier to scaling SLFM was farmers' lack of security over their resources. The local land management system failed to provide security of tenure, making it difficult for farmers to make SLFM practices profitable. These arrangements also meant they had little sense of ownership or agency over their land. Farmers, therefore, lacked the incentive to adopt measures designed to deliver long-term land enhancements.

**Lack of value chain approaches to production***

Farmers' production and income constraints were compounded by an absence of market-based opportunities across the value chain. Most smallholders were not connected to structured value chains of any kind. Their productivity was therefore hampered by inefficiencies linked to lack of storage capacity and post-harvest services, poor access to input markets, and limited credit facilities. As a result, farmers remained trapped in a cycle of low productivity and poverty, which reinforced their reluctance to invest in SLFM technologies.

** A value chain approach considers the entire spectrum of agricultural activity, from raw commodity production through to the marketing and distribution of produce for wealth creation.*

**Lack of value chain approaches to production***

Above all, awareness and understanding of agrobiodiversity, and the benefits of sustainable land use, were low among the

farmer population. For example, indigenous crops and vegetables (sorghum, finger millet, African kale) were still looked down upon as a poor man's crop, despite their good commercial prospects within the region. The critical role of in-situ pollinators (such as bees) in agricultural production was also misunderstood. Farmers were, therefore, disinclined to embrace practices whose benefits and value they could not perceive.

In short, many farmers were reluctant and, in many instances, unable to engage conceptually or practically with SLFM measures. As such, in 2017, the fulfilment of the project's goals, and the future of Kakamega forest, looked uncertain. A new approach was clearly needed to win the confidence of the local farming communities.

To complicate matters further, within the SLFM in Western Kenya consortium, a number of institutional challenges began to emerge. These were:

**Technological and knowledge barriers**
The project team discovered that a full economic valuation of local ecosystems and land degradation had never been undertaken. This, they saw, made it difficult for decision makers to appreciate the enormity of the problem and secure political will to promote SLFM. *

It also became clear that very few SLFM best practices had progressed beyond pilot sites to the wider landscape. Furthermore, narrow sectoral and monolithic approaches to SLFM and biodiversity conservation had failed to account for the multiplicity of actors, landscapes and interdependencies involved in these efforts. This had led to a lack of integrated ecosystem thinking and action, creating a major barrier to uptake.

** The project's key political stakeholders included county executives, esp. Governors and members of County Assemblies, who play a key role in converting project evidence into policy frameworks. With the Ministry of Environment chairing the project steering committee, the national government was also a major political stakeholder.*

**Lack of harmonisation and alignment**
As a multidisciplinary, multi-institutional and multistakeholder project, SLFM in Western Kenya was initially hamstrung by conflicting operational frameworks and technical approaches. With NGOs, academic bodies, faith- based organisations and parastatal agencies thrown together, a general lack of coherence and collaboration slowed progress on the ground. Differing expectations also caused disagreements around workload, output, roles and responsibilities. For example, there was a lack of clarity around the roles of the executing agencies, AGRA and UNEP.

**Policy and protocol constraints**
Varying administrative protocols and financial management systems led to delays in the opening of partners' accounts and the disbursement of funds. This again slowed project execution. Further, in Kenya, agricultural decision making is devolved to the county level, with county governments responsible for their own agricultural policies and practices. Environmental 10 cala.agra.org affairs, however, sit with the national government. Harmonising agricultural and environmental policy in support of project objectives therefore took time, resulting in further delays.

**Lack of consistency and continuity**
Local government systems and structures meant senior staff members were frequently replaced, leading to a lack

of consistency in project personnel. Governors also regularly delegated to their deputies, who in turn delegated to their staff. With one person attending meetings one week, and another person the next, continuity of knowledge was hard to maintain. In a major quirk of county protocol, directors attending meetings at which their boss is also present are not allowed to speak. During the project's early days, this often resulted in ill-informed and irrelevant exchanges, with information owners forbidden from contributing to discussions.

## Driving progress through participation and collaboration

To overcome the barriers to engagement, SLFM in Western Kenya developed a game-changing model based on the following core approaches:

### Community engagement, consultation and collaboration

At the time of project formulation, an in-depth stakeholder consultation exercise was conducted. This brought farmers and other local stakeholders together to identify the underlying challenges. These stakeholders also helped to define degradation hotspots that could be targeted for project interventions. In addition, baseline stakeholder surveys were conducted throughout the region to ascertain local priorities and needs. Based on collaborative interaction and dialogue, the leaders of several Farmer Associations and Community Forest Associations then played an active role in the project design and development. Validating the baseline study and assessment, they ensured the project reflected the needs of local communities and landscapes.

### Local ownership and empowerment

Through sensitisation meetings, awareness-raising sessions and field demonstrations, the project team rolled out a comprehensive community involvement and education programme. This programme sought to engage farmers and other stakeholders as active participants in the project, as well as key beneficiaries. It highlighted the costs and consequences of forest encroachment, and the profit potential of sustainable land use.

As part of this process, SLFM in Western Kenya assigned key project roles to early adopters and farmers who showed initiative. Some were appointed Agricultural and Environmental Change Agents or Trainers of Trainees. Others were made Community Change Agents, Ecosystem Conservators and Forest Stewards.

By empowering local farmers, the project team built a grassroots behaviour change programme focused on local ownership, agency and participation. Leveraging the power of peer-to-peer influence, it encouraged local farmers to embrace and disseminate the core principles of sustainable land and forest management.

Integrated landscape management Integrated landscape management (ILM) addresses complex and interconnected agricultural and environmental issues. It brings together diverse stakeholders who share the same landscape, often with conflicting interests, and provides i nnovative strategies to achieve a shared vision and goal. In the case of SLFM in Western Kenya, stakeholders ranging from County Extension Service Leadership, through to grassroots community groups and individuals, were engaged with project objectives.

This process also involved identifying micro-catchments of land adjacent to Kakamega forest and sensitising their inhabitants to the implications of resource degradation. Further, it involved rehabilitating and increasing the productivity of these catchments, enabling farmers to improve their livelihoods without exploiting forest resources.

## Participatory forest management

Whereas ILM refers to on-farm interventions by farmers, participatory forest management refers to the actual protection and conservation of forests by Community Forest Associations. It is predicated on the belief that the involvement of multiple stakeholders leads to sustainable forest stewardship. SLFM in Western Kenya used this approach to overcome local resistance to change and promote community cohesion around the goal of conservation. It brought local farmers and families together to help them collectively agree on how best to reverse the impacts of degradation.

A key point of convergence and collaboration came through the agreed co-management of natural resources between Kenya Forest Service and local Community Forest Associations. Achieving common agreement on resource preservation, this work laid the ground for Participatory Action Plans (PAPs), which combined known conservation technologies with scientifically selected SLFM techniques.

In addition, the project team encouraged farmers to view their micro-catchments as a common resource, while raising awareness of the forest as a valuable natural asset. In this way, SLFM in Western Kenya nurtured local collaboration around sustainable land and forest management.


*Figure 1: Guidelines for the implementation of Participatory Forest Management in Kenya*

## Unifying and collaborative leadership

Through a central project steering committee, SLFM in Western Kenya provided vital umbrella leadership and harmonised the diverse interests and agendas of the stakeholders within the project. The steering committee comprised top-level administrators, such as permanent secretaries of affiliate government ministries, CEOs of state corporations, and directors of NGOs or their representatives. Providing clarity and closure on a range of key issues, it acted as a core decisionmaking body, with the mandate to approve project work plans and budgets and authorise major actions. And while it operated separately from farmer representation bodies, it regularly interacted with them, especially during organised field visits. Above all, the steering committee provided a platform for collaborative leadership. It ensured all parties worked together constructively and focused on the delivery of the set outputs and outcomes. And it successfully united multiple stakeholders around the twin goals of agricultural transformation and biodiversity conservation.

The main interventions and activities

promoted through SLFM in Western Kenya were:

**Agroforestry**
Agroforestry interventions were critical to enhancing smallholder productivity. Farmers were shown how to develop woodlots, and how to combine silviculture, agriculture and pastoralism. By planting tree species appropriate to local soil conditions and climate, farmers created sustainable sources of fuelwood and fodder.

Farmers were also shown how to grow leguminous trees like the Calliandra. This species enhances soil fertility through nitrogen fixation, while using its leaves as animal feed generates nitrogen-rich manure for fertiliser.

**SLM practices**
In addition to agroforestry, farmers were trained in a range of SLFM and integrated soil fertility management techniques. These include maize-legume intercropping, conservation agriculture, soil and water conservation, crop-livestock integration, and the use of farmyard manure. A focus on African leafy vegetables and other indigenous crops – cowpea, black nightshade, Ethiopian kale helped farmers to enhance productivity cycles and profitability. It also enabled them to support agrobiodiversity conservation.

**Input outreach**
Capacity gaps were bridged to enable input suppliers and extension service providers to reach farmer communities. Demonstrations, training sessions and field days were held to help farmers get the most from new inputs and technologies.

**Market linkages**
As farmers increased their productivity, the project team forged strong links with produce aggregators and output markets, maximising income-generation potential for smallholder communities.

**Financial inclusion**
To ensure farmers could purchase the inputs they required (seeds, fertilisers), relationships with microfinance institutions (MFIs) were established, providing access to soft loans and credit.

## Innovation Platforms

To successfully unite the numerous value chain actors involved in SLFM and forest management, the project team created ten Innovation Platforms for Technology Adoption. These grassroots platforms comprised groups of interested stakeholders, ranging from input dealers, producers and researchers, to MFIs, traders and women and youth groups. They were designed to help visualise joint objectives relating to increased farm production, conservation, and markets for wealth creation. In the Makuchi micro-catchment, for example, the local Innovation Platform drove smallholder engagement with commercial vegetable production, influencing opinions and behaviours around indigenous crops and land preparation techniques.

During the course of the project, the ten platforms matured into functional entities with elected officials and certificates of incorporation. In many ways, these platforms embody the achievements of SLFM in Western Kenya: harmonising the efforts of multiple stakeholders across diverse value chains and sectors; enabling these actors to collectively address the constraints and challenges

they face; and leveraging the resources at their disposal to scale SLFM practices, policies and interventions.

## Delivering on the ground: programme impact

SLFM in Western Kenya reached almost 100,000 farmers in its work with communities in Kakamega, Nandi and Vihiga counties.

Most of these farmers adopted SLFM technologies and techniques, increasing productivity levels with crops they had struggled with previously, such as maize and beans. They also increased their focus on local vegetable cultivation. As a result, they boosted their incomes and enhanced their livelihoods. And they no longer encroach or exploit the Kakamega forest area.

Overall, project interventions helped to increase local productivity by 300%. At the same time, close to 7,000 hectares of land were placed under participatory forest management and are currently being rehabilitated.

Between April and October 2020, the SLFM project underwent a mid-term review conducted by an independent consultant. The mid-term report recorded the following achievements:

- Increased yields (maize 0.8 t/ha to 2.3 t/ha, beans 0.2 t/ ha to 0.32 t/ha, vegetables >than 10-fold from 0.22 t/ha to 2 t/h)
- Reduced poverty levels, whereby farmers obtain at least US$240 in monthly income, up from US$105 in 2019, through the commercialisation and sale of local crops and vegetables
- Reduced pressures on forest resources (6,090 hectares put under participatory forest management)
- Adoption of technologies by 76% of the total beneficiaries reached
- Reduced land degradation through the planting of 282,758 tree seedlings in hotspots and on farms, as well as increased access to clean water due to conservation and rehabilitation of water sources

> **300%**
> **increase in local productivity**
> Overall, project interventions helped to increase local productivity by 300%. At

## Replicating success: leadership lessons learned

There is much to be learned from SLFM in Western Kenya's five-year operational period. The leadership lessons below provide clear pointers for agroecology actors looking to lead and sustain meaningful change in this crucial development sector.

**Enable local ownership and agency:**

Successful behaviour change programmes depend upon the positive engagement of local actors. By allocating individual farmers key roles in project delivery (Change Agents, Conservators etc.), SLFM in Western Kenya mobilised grassroots action and participation. Empowering local actors leads to successful peer-to-peer knowledge dissemination, motivating collective community uptake. This approach focused on bottom-up engagement rather than top-down instruction, fosters ownership and agency among the target community, which is key to attaining project goals.

**Convene and collaborate:**

Both centrally, through the project steering committee, and locally, through Innovation Platforms, SLFM in Western Kenya brought people together. Through gaining investment funds, the project had the power to convene disparate entities, which took direction from the project team and facilitated collaborative leadership and implementation. On the ground, participatory management approaches encouraged people to work together and take collective responsibility for their resources. Such strategies are essential to agricultural and biodiversity projects, where multiple interdependencies and linkages require synergistic endeavours.

**Align environmental and agricultural approaches:**

Sustainable land management is all about balancing the conservation of environmental resources with the interests of agricultural communities. In the past, approaches to agricultural and environmental issues have been separate, sectoral and siloed. This has led to misaligned efforts and poor outcomes. Further, SLFM and biodiversity conservation are deeply connected, cutting across ecosystems and value chains. Integrated ecosystem and value chain approaches are therefore critical to achieving unity and impact.

**Keep stakeholders regularly updated:**

Sustainable land management is all about balancing the conservation of environmental resources with the interests of agricultural communities. In the past, approaches to agricultural and environmental issues have been separate, sectoral and siloed. This has led to misaligned efforts and poor outcomes. Further, SLFM and biodiversity conservation are deeply connected, cutting across ecosystems and value chains. Integrated ecosystem and value chain approaches are therefore critical to achieving unity and impact..

# Stakeholder perspectives

"The real game-changing aspect of SLFM in Western Kenya was its ability to unite and combine the strength of so many different stakeholders. Bringing all of these diverse individuals and organisations together, getting all of them working for the common good of achieving food security through improved farm productivity, and the common good of preserving Kakamega forest, was an exceptional achievement."

***Abednego Kiwia, Associate Program Officer, Program Innovation and Development, AGRA***

"Implementing a multi-institutional, multi-disciplinary and multi-stakeholder project like SLFM in Western Kenya requires participatory and hands-on leadership. It requires joint planning and prioritisation of actions and decisions which are satisfactory to all, but responsive to the anticipated project delivery."

***Dr George Ayaga, SLFM Project Coordinator and Centre Director at KALRO Alupe***

"My position as Agricultural and Environmental Change Agent enables me to educate the community on sustainable land and forest management on a weekly basis. This encourages men and women to become involved in gainful engagement in farming as a business to improve production and profit...we need to take care of our land and use appropriate SLFM technologies to reduce poverty

***Wellington Ingosi Izechero, farmer, Makuchi micro-catchment, Vihiga County***

# 2. Agricultural planning and prioritisation: Planting for Food and Jobs in Ghana

This chapter considers the work of Planting for Food and Jobs (PFJ) in Ghana. PFJ is a flagship programme designed to help modernise Ghana's agriculture sector and deliver structural transformation of the national economy through food security, employment opportunities and poverty reduction.

PFJ was conceived by the current government of Ghana, led by President Nana Akufo-Addo, during its time in opposition before the 2016 general election. The brainchild of Dr Owusu Afriyie Akoto, now Ghana's Minister for Food and Agriculture, PFJ was a key part of a campaign manifesto that promised sweeping change. Following its electoral victory, President Nana Akufo-Addo's new government faced the enormous task of translating this election pledge, which had no clear underlying strategy, into a tangible programme backed by on-the-ground commitments and disbursements.

Many donors and development partners were initially reluctant to get behind PFJ. Mobilising public support for such a large and ambitious programme, and unifying multiple diverse components within the agriculture sector, presented a further monumental challenge. The future of PFJ specifically, and agriculture in Ghana generally, looked perilously uncertain.

This chapter focuses on the planning and prioritisation efforts deployed by the Ghanaian government to achieve alignment, coordination and clarity of vision for the PFJ programme. In particular, it looks at the flagship model as a means of uniting partners, resources and investments under a single banner. It also explains how this model, combined with a powerful communications campaign, helped to create a compelling and cohesive narrative that mobilised nationwide engagement with PFJ. And how this, in turn, enabled the delivery of key objectives through accelerated agricultural development.

## Agriculture in Ghana

Agriculture is key to Ghana's economy, contributing roughly 20% of GDP and employing over 45% of the population. It accounts for more than 40% of export earnings and provides over 90% of domestic food requirements. The sector is dominated by smallholder farming; 90% of all holdings are less than 2 hectares in size, with these farms contributing 80% of Ghana's total agricultural output.

As is the case in many countries in sub-Saharan Africa (SSA), farming provides a lifeline for millions of people. There are an estimated 2.5 million+ agricultural households in Ghana, representing a population of just under 11.5 million. Around 75% of these households are located in rural areas, while about 22% of urban households are also engaged in agricultural activities.

Roughly 136,000 km2 of land, covering approximately 57% of the country's total land area, is classified as 'agricultural land', of which 58,000 km2 (24.4%) is under cultivation. Agriculture is mainly rain-fed and subsistence-based, while farming systems vary according to the agroecological zones in which they are located.

Ghana's forest zone is home to tree crops such as cocoa, oil palm, coffee and rubber, and food crops like maize, plantain, cocoyam and cassava. The country's middle belt is rich in maize, legumes and yam, with tobacco and cotton as the predominant cash crops. In the north, the primary crops under cultivation are maize, millet, cowpea, groundnut, rice and yam.

Before the launch of Planting for Food and Jobs (PFJ) in 2017, Ghana's agriculture sector faced multiple challenges. Due to poor structuring within the seed sector, only 11% of crop farmers were using improved seeds. Only 15% were using fertilisers, and fertiliser application rates were a mere 8kg per hectare, way below the Abuja Declaration standard of 50kg per hectare.

As a result, on-farm productivity had stagnated, with a significant 'exploitable difference' between actual and potential crop output. For example, actual yields for most staple crop varieties (including maize, rice and root tubers) were 40-45% of their potential yields. These productivity shortfalls impacted overall sector growth and competitiveness. Between 2007 and 2017, while growth in non-agricultural sectors in Ghana averaged 8.3%, the agriculture sector expanded at just 4.3% per annum.

Product quality, as well as quantity, was also an issue. Between 2014 and 2017, Ghana lost about US$30 million in revenue as a result of a ban on vegetable exports to the European Union (EU). The ban applied to gourds, chillies, aubergines and other vegetables from Ghana thought to be infested with pests. Weak sanitary and phytosanitary systems, and a lack of appropriate on-farm technologies, were to blame for this costly non-compliance with EU quality standards.

Compounding these problems, Ghana's agricultural extension services were close to collapse. In 2016, the total number of extension agents in the country was 1,560, with an extension agent-to-farmer ratio of 1:1,900. Consequently, smallholder farmers were not receiving the agronomic guidance or technical support they needed to improve their production, processing and marketing.

Other challenges facing the sector included the emergence of Fall Army Worm (FAW) in 2017, which posed a major threat to maize production across the country. With FAW prevalence as high as 79.5% in some areas, the value of Ghana's annual maize crop lost to FAW was estimated at US$177 million.

Mechanisation was another key concern. Despite long-held ambitions to modernise the sector, the majority of Ghanaian farmers still worked with 3 rudimentary

agricultural equipment. In addition, only a handful of the country's 68 mechanisation centres – where farmers could go for help with machinery – had any operational capacity.

Finally, agriculture in Ghana received less than 6% of committed public funds, against a target of at least 10% set out in the Malabo Declaration. The Ministry of Food and Agriculture (MOFA), which itself received only 2% of public funds, lacked the finances and resources required to tackle the challenges it faced.

With these entrenched barriers to progress and productivity, combined with high levels of poverty among rural populations, the future outlook for agriculture was bleak. There was certainly little to attract younger people to farming. According to surveys, the agricultural space was becoming increasingly populated by older farmers, as young Ghanaians migrated to the cities to realise their ambitions.

## Planting for Food and Jobs

Such was the situation in Ghana when Nana Akufo-Addo's New Patriotic Party came to power in December 2016. PFJ had been the central component of the party's election manifesto – its proposed mechanism for transforming the country's agriculture and economy. Now the new government had to deliver on its campaign pledges. It had to prove that 'Planting for Food and Jobs' was more than just a slogan. It had to make its promise a reality.

The problem was, PFJ had no underlying structure or strategy. As a concept, PFJ expressed a broad ambition to modernise Ghana's agriculture sector, achieve food security, stimulate employment, reduce poverty, boost farm incomes and enhance the national economy. But the details were hazy and the government's plans lacked evidence and clarity. Furthermore, donors and development partners were wary, with many unwilling to endorse what they perceived to be a politically motivated programme.

Dr Owusu Afriyie Akoto, who first conceived PFJ, became Ghana's Minister for Food and Agriculture in early 2017. Speaking in 2021, he described an atmosphere of "great doubt" among the investment community when PFJ was first announced. ***"Our campaign," he said, "initially did not resonate well with most of our development partners."*** While the government's commitment and vision for PFJ were strong, much-needed financial and technical assistance was lacking. How then would the government actualise this vision and deliver a tangible, workable programme?

Shortly after his appointment as Minister, Dr Akoto received a visit from Dr Agnes Kalibata, President of AGRA. Dr Kalibata congratulated Dr Akoto and expressed her support for the government's agricultural transformation plans.

***"AGRA," reflected Dr Akoto, "was the only development partner that understood and believed in [PFJ] from the outset."***

This support was predicated on the fact that, in AGRA's view, the programme's objectives were closely aligned with Ghana's National Agriculture Investment Plan (NAIP). AGRA also believed these objectives could be achieved through the creation of a robust strategic framework.

Led by the President Dr Agnes Kalibata and Mr Forster Boateng, AGRA's West Afri-

ca Regional Head, AGRA helped Dr Akoto and his team to unpack the vision for their programming. AGRA supported the Ministry with a six-month grant to establish a farmer database for input supply. AGRA also provided vital technical and strategic assistance by helping the team to dissect the programme down into practical and manageable modules (see next page).

AGRA and the Ministry team developed a five-year strategic plan for PFJ with clearly defined investment packages and campaign landmarks. They developed detailed strategy documents and initiated evidenced-based planning and prioritisation. AGRA consulted with relevant stakeholders, including development partners and the private sector, and brokered crucial discussions with the Ministry.

The team also mapped out a delivery model, whereby programme implementation would take place at district level. Utilising the three-tiered structure of Ghana's decentralised government system, coordination would be overseen through National, Regional and District Technical Committees. District Assemblies would drive programme activities on the ground, with support from the National Crops Directorate, while ongoing strategic direction would come from central government through the MOFA.

In concept and formulation, PFJ would build on previous agricultural programmes and policies. These include the Food and Agriculture Sector Development Policy II (FASDEP II), which set annual productivity targets for selected commodities in Ghana between 2007 and 2015. PFJ would also leverage Ghana's NAIP, known as the Medium Term Agricultural Sector Investment Plans (METASIP I & II) developed under the CAADP framework.

Meanwhile, to oversee partner coordination and PFJ performance, the MOFA created a dedicated secretariat – a key step towards successful programme management and implementation. The Ministry also developed strong coordination mechanisms among key actors and committed to regular stakeholder meetings and updates. Such measures were designed to enhance the transparency of the programme and build trust among potential partners.

With robust plans, processes and procedures established, PFJ became validated by Ghana's Agriculture Sector Working Group, a policy dialogue platform focused on the delivery of 'accelerated agricultural modernisation'. This validation, in turn, helped to build confidence in, and credibility for, PFJ, leading to support from 5 major donors. Convinced the necessary measures were now in place to ensure programme success, the World Bank pledged US$50 million for year one, and the Government of Canada committed CA$125 million over five years. There were additional commitments from USAID through its Feed-The-Future initiative and from the Agriculture Development Bank, while Ghana's Ministry of Finance allocated around US$52 million to PFJ in its 'Asempa Budget'.

Despite the initial doubt and hesitancy surrounding the programme, PFJ's funding and foundations were now firmly in place.

PFJ was officially launched on 19 April 2017 in Goaso, in the then Brong Ahafo region, by President Nana Akufo-Addo. Speaking at the opening ceremony, Akufo-Addo said PFJ would help Gha-

na realise its "unique potential to feed its growing population, meet the raw material requirements of our processing industries, achieve food security, and compete successfully as a leading supplier to countries [in West Africa] and beyond".

Programme activity initially centred on the first of five implementation modules, Food Crops, with the other modules scheduled to launch over the following five years. The five PFJ modules are:

- Food Crops
- Planting for Export and Rural Development
- Rearing for Food and Jobs
- Greenhouse Villages
- Agricultural Mechanisation Services

This chapter primarily focuses on module 1, Food Crops.

## Food Crops

Spearheading the PFJ programme, the Food Crops module is designed to increase the availability of selected crops at market, create jobs, and strengthen value chains. It aims to motivate farmers to adopt certified seeds and fertilisers, while equipping them with knowledge and skills to maximise the benefits of subsidised inputs.

It also aims to improve the marketability of farm produce through the creation of strong links between producers, aggregators, public institutions and private food and feed enterprises. Other goals include overcoming food deficits, reducing the importation of basic food commodities, and increasing exports to neighbouring countries.

At launch, the Food Crops module focused on the production of maize, rice, sorghum, soybean and vegetable crops (onions, tomatoes, peppers) – staples Ghana has historically struggled to cultivate successfully due to its prioritisation of cocoa. This list was expanded to include groundnut, cabbage, carrots, cucumber, lettuce, cassava, cowpea, plantains and orange flesh sweet potato. These high-yield crops were strategically selected to help boost on-farm productivity and maximise income and employment opportunities.

| Item | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|
| **Commodity** | **Cereals:** Maize, Rice, Sorghum<br>**Legumes:** Soybean<br>**Vegetables** Tomato, Onion, Pepper | **Cereals:** Maize, Rice, Sorghum<br>**Legumes:** Soybean<br>**Vegetables** Tomato, Onion, Pepper, Cabbage, Lettuce, Carrot<br>**Roots & Tubers:** Cassave, | **Cereals:** Maize, Rice, Sorghum<br>**Legumes:** Soybean, Groundnut, Cowpea<br>**Vegetables** Tomato, Onion, Pepper, Cabbage, Lettuce, Carrot<br>**Roots & Tubers:** Cassave, OFSP, YAM | **Cereals:** Maize, Rice, Sorghum<br>**Legumes:** Soybean, Groundnut, Cowpea<br>**Vegetables** Tomato, Onion, Pepper, Cabbage, Lettuce, Carrot<br>**Roots & Tubers:** Cassave, OFSP, YAM |
| | 260 Districts 16 Regions | 260 Districts 16 Regions | 260 Districts 16 Regions | 260 Districts 16 Regions |

*Figure 1: Focused Commodities*

To support implementation, Food Crops is built around five key pillars:


While none of these pillars is new per se, one of the key innovations of PFJ is the packaging of all five interventions together. Combined, the pillars are designed to counter the laxity of past agricultural transformation efforts. Their core interventions include:

- Reform of input subsidies, including:
  - A 50% government subsidy on certified seeds and fertilisers to reduce upfront costs for farmers
  - A voucher scheme to facilitate ease of access

- Recruitment of 2,500 extension officers to provide technical support and guidance to farmers.

- Strengthened links between farmers and markets, including significant expansion of post-harvest storage capacity across the country.

- Synergies with complementary initiatives, such as One District One Factory.

- Use of ICT to disseminate information, enhance beneficiary decision making, and capture data on participating farmers. In support of this intervention, AGRA donated 100 mobile phones under the Ghana Extension Systems Strengthening Project (GESSiP).

With the launch of the Food Crops module, PFJ was up and running. But to achieve the hugely ambitious targets set out by the government, PFJ needed to mobilise mass public support and engage a multiplicity of stakeholders.

Government ministries, directorates, regional bodies and private sector firms, as well as development partners, donors, farmer associations and, of course, farmers, would all have a part to play. Private sector involvement would be especially important, with seed and fertiliser importers, distributors and retailers essential to PFJ's success.

But how exactly would the government rally all these people to its cause? How could it unify multiple diverse components within a notoriously siloed sector? And how could it achieve the alignment and coordination required to deliver against its programme objectives?

The answer to these questions lies partly in the flagship programme model adopted to deliver PFJ. Flagship programmes are in essence prioritised, bankable investment projects selected from national agriculture investment plans that enable governments to address key issues and rationalise agricultural investments. They help to mobilise partners, resources and investments, and leverage core assets and operations.

Flagships are especially effective in driving national agricultural transformation efforts, and are an increasingly popular mechanism for state capability enhancement. In particular, they underpin efforts to deliver integrated country support, encompassing programme initiation and design right through to final implementation.

For PFJ in Ghana, the flagship approach enabled the government to unite

resources, activities, sector partners, individuals and organisations under a single banner. It also provided a cause around which local offices, operations and initiatives could coalesce. Most importantly, it enabled the government to create a cohesive, unifying narrative – crop production, food security, job creation – that was easy for others to adopt and support.

In the early days of the programme this narrative was critical, with nationwide communication efforts helping to get local farmer associations and farmers on board. From the President down, advocates regularly Tweeted and broadcast PFJ's expected outputs and impacts (in particular, "750,000 jobs in both direct and indirect employment"), with the programme utilising all available media platforms. And up and down the country, the PFJ 'brand' messaging became widely disseminated and endorsed – even appearing on the sides of Modernizing Agriculture in Ghana (MAG) vehicles in every district. According to Charles Kwowe Nyaaba, a smallholder farmer and Executive Director of the Peasant Farmers Association of Ghana, the PFJ communications campaign was hugely effective:

*"There was a lot of communication about agriculture. The programme was properly communicated, and because of this even people who were not originally farmers were inspired to go into farming. This has significant implications for the overall performance of the agriculture sector."*

Of course, not everyone bought into this narrative initially. There were, in the words of Dr Owusu Afriyie Akoto, a number of "doubting Thomases" among the donor community and the Ghanaian population. But once PFJ's strategic plan and direction became clear, the majority of doubters and detractors revised their opinions and got behind the programme.

Through this sustained and targeted campaign, built on the flagship model, PFJ was able to unite a country around a cause. It was able to generate mass mobilisation around what it compellingly argued was the single most important issue for Ghana: the revival and modernisation of agriculture. As a result, it succeeded in aligning and coordinating multiple actors, across multiple sectors, and breaking down the operational siloes that had previously hampered agricultural development. In this way, it also created a platform for collaborative leadership across the many institutions and organisations involved.

## Planning and prioritisation

Within the flagship programme framework, planning and prioritisation were critical to the overall success of PFJ. From the outset, the government needed to identify and prioritise areas for intervention – in particular, key crops that would maximise productivity and job creation, and value chains, partners and initiatives that would support overall programme objectives.

Taking a bottom-up approach, this process began with rigorous consultation and research among stakeholders in the agricultural space. The aim was to leverage insights and data on pressing areas of need to help shape programme strategy. District field directors consulted with farmers to elicit information – for example, the seed characteristics and crop varieties they wanted, and the productivity challenges they faced. Information gained was relayed to the regions, and then on to central government,

who engaged the private secto
specifications for inputs, goods

As an example, farmers in Akuse
Manya Krobo municipality
Eastern Region, expressed a
for 'AGRA rice'. AGRA r
named because AGRA sp
development – is a high
hybrid rice variety with a po
of about six to seven tonnes
It has high levels of resistanc
and drought, takes only fou
mature, and has a pleasan
aroma.

Such insights into farmer
and crop performance, cor
expert guidance from acad
agronomists, enabled the
to develop a highly str
targeted programme of
transformation. Crops wer
according to their high pr
income generation and exp
and for their adaptability to t
agroecological zones: coasta
savannah. On this basis, ma
vegetables have been depl
all 16 regions, while soybean a
production has been concen
Northern, Upper East and Upper W
As part of its approach to F
and prioritisation, the gove
allowed sufficient flexibility
strategic shifts into new arec
and intervention. Within the
Export and Rural Developn
module, for example, the gove
an opportunity to diversify t
sources of cash crop
Having historically depended
as its predominant export crop
Ghana has pivoted to a
crop sample to maximise
exchange earnings.

before Ghana's Agriculture Sector Working Group.

While PFJ's future remains unclear, its achievements to date are impressive. Not only has it succeeded in transforming the government's promises into programme reality, it has also delivered against the majority of its founding aims and objectives. It is now the driving force of agricultural and economic transformation in Ghana.

Key programme outcomes under PFJ Food Crops module include:

**Beneficiaries reached:**

- 1.6 million farmers mobilised and enrolled in PFJ by end of 2021
- 470 Senior and Junior High Schools, 10 public and private universities and other institutions receiving crop cultivation assistance by end of 2019

**Job creation along the commodity value chain:**

- 744,601 jobs created in 2017
- 794,944 jobs created in 2018
- 746,948 jobs created in 2019
- 773,173 jobs created in 2020

**Expanded supply of certified seed and fertiliser:**

- 31,869 MT of certified seed distributed to farmers by end of 2021 (compared to 2,750 MT in 2016)
- Certified seed usage increased from 4,400 tonnes in 2017 to 6,800 tonnes in 2018 and 18,333 tonnes in 2019
- 290,000 MT of improved fertiliser distributed to farmers by end of 2021 (compared to 134,000 MT in 2016)
- National fertiliser use per hectare increased from an average of 8kg per hectare in 2017 to an average of 20kg per hectare in 2019

**Improvements in extension service delivery:**

- 2,700 agriculture extension officers recruited, with extension agent-to-farmer ratio of 1:709 (compared to 1:1,900 in 2016)
- 305 vehicles and 3,367 motorbikes procured for extension services with funding from the Canadian Government

**Increase in post-harvest storage capacity:**

- 64 new warehouses, each with 1,000 MT of storage capacity, constructed to handle excess produce and reduce post-harvest losses, with another 16 due for completion (the nation's baseline storage capacity in 2016 was 34,000 MT)
- The completed warehouses are mainly in Oti, Upper East, Volta, Savannah, North East, Bono East, Bono, and Upper Wes Regions

Improved yields of major crops (MT/HA):

| Crop | 2016* | 2017** | 2018** | 2019** | 2020** | Target 2021 | % Change in PFJ (2020/2016) |
|---|---|---|---|---|---|---|---|
| Maize | 1.7 | 3.5 | 3.5 | 3.8 | 3.3** | 4.0 | 94% |
| Rice | 2.7 | 4 | 4 | 4.3 | 4.5 | 5.0 | 67% |
| Sorghum | 1.1 | 1.24 | 1.39 | 1.57 | 2.0 | 2.5 | 82% |
| Soybean | 1.7 | 3 | 3 | 2 | 1.6*** | 2.0 | -6% |

*National Average effect ** PFJ Average *** Drought

*Figure 3: Improvements in major crop yields*

**Food and nutritional security:**

- In 2020, Ghana was the only country within the ECOWAS region that had a stable food security situation
- Four out of every five houses in the country are now able to meet their dietary and non-dietary needs without recourse to unusual coping strategies


1.6 Million
farmers mobilized
1.6 million farmers mobilised and enrolled in PFJ by end of 2021
773, 173
jobs created in 2020

## Leadership lessons learned

There is much to be learned from the design and implementation of Planting for Food and Jobs in Ghana. While PFJ has been an overwhelming success, it has not been without its challenges and areas of weakness.

The lessons below provide clear pointers for future agriculture transformation programmes:

**Divide programmes into manageable components.**
Programmes such as PFJ can appear daunting in their ambition and scale. Breaking programmes down into separate modules and initiatives can help to make them more manageable for government, increasing the chances of effective implementation. As a secondary benefit, this process can also help to create a more appealing proposition to potential investors and partners.

**Ensure programme structure and strategy are in place before soliciting external support.**
PFJ initially deterred donor partners and investors due to its lack of structure and strategy. Only through rigorous planning and prioritisation, which led to the creation of the five programme modules, was the government able to make PFJ an investable flagship initiative. Note: A compelling vision on its own will never be enough to mobilise financial or technical support.

**Build flexibility into programme frameworks.**
Be opportunistic, not rigid. A structured plan is vital, driving clear focus on goals. But it is equally important to be strategically and operationally nimble. PFJ's ability to pivot to new modules and opportunities (e.g., towards tree crop and cash crop value addition) has been one of the programme's major strengths.

**Adapt implementation modalities as you go.**
In the early phase of PFJ, many farmers defaulted on their post-harvest payment commitments for subsidised inputs. Learning from this situation, the government has since adapted its approach, requiring all farmers to pay upfront for their share of the cost before inputs are delivered to them.

**Make it attractive to youth.**
Failure to engage young people in agriculture casts a long shadow over the future of farming. Through focused interventions targeting young Ghanaians (e.g. technology training and internships via the Greenhouse Villages module), PFJ is seeking to reverse the tide of youth migration from rural areas to cities.

**Develop a strong, unifying narrative.**

A strong programme narrative can unify disparate components within the agriculture space and rally diverse partners to their cause. This narrative can serve as the basis for collaborative leadership and action towards specific programme goals. 15 That said, programme leaders should also be ready to counter any doubters and detractors – those who don't buy into the central narrative. In the case of PFJ, creating a clear strategic plan was key to winning over the "doubting Thomases" within Ghana and the donor community.

**Anticipate supply issues early.**

PFJ has recently run into fertiliser supply issues, leaving farmers without the inputs they need to maintain enhanced levels of crop production. These bottlenecks can derail progress and frustrate farmers, negatively impacting programme support and engagement.

**Maintain promises and commitments.**

Since launch, PFJ's 50% subsidy for certified seed and fertiliser has dropped. Where possible, maintain consistent levels of support for farmers throughout a programme's duration, otherwise it can look as if commitment and momentum are waning.

**Be truly consultative and inclusive.**

Not all farmers have been convinced of the 'bottom-up' approach to PFJ programme design. Some claim their voices have not been incorporated or heard, and that PFJ has been delivered from the top down.

**Build local seed production capabilities.**

PFJ highlighted Ghana's lack of local seed production, particularly during Covid-19 when borders to neighbouring countries were closed. Reliance on seed imports is costly and unsustainable; for national agriculture development programmes to succeed, a functioning domestic seed system is essential.

# Stakeholder perspectives

"I have great joy in being a central part of today's historic occasion. Historic because it marks the out-dooring of a Tree Crop Development Authority, a strategic institution bound to change the face of Ghana's agriculture for good. The change about to happen will be unprecedented, given that it will place Ghana on the firm and critical path to diversify and maximize its foreign exchange earnings from the tree crop sector."

***Dr Owusu Afriyie Akoto, Minister For Food and Agriculture***

"PFJ is unique in that it has been able to reach every corner of the country, with almost 2 million farmers registered and extension services provided to the majority of smallholders. Under PFJ, nobody is left behind – youth, adults, men, women, everybody is included.

***Dr Dorothy Effa, Programme Officer, AGRA***

"The future of Africa's youth does not lie in migration to Europe, but in a prosperous Africa. We must turn rural areas from zones of economic misery to zones of economic prosperity.

***Akinwumi Adesina, President of the African Development Bank (AfDB)***

# 3. Crisis management: Kenya's Agriculture Transformation Office and Food Security War Room

This chapter considers the work of the Agriculture Transformation Office (ATO) and the Food Security War Room (FSWR) – key components of Kenya's response to the national food security risks aggravated by Covid-19.

In March 2020, the Kenyan government began implementing its ten-year Agricultural Sector Transformation and Growth Strategy (ASTGS 2019-2029). No sooner had this process begun than the first cases of Covid-19 were reported in Nairobi and Mombasa. The coronavirus pandemic had reached Kenya.

As cases spread, imposed restrictions began to impact agricultural value chains, leading to labour and supply shortages, reduced imports and exports, last mile disruptions and commodity price spikes. Further, to stem the transmission of the virus, a number of congested local markets across Kenya were closed. In a country where 1.3 million people already experience acute food insecurity, these measures threatened to push communities deeper into hunger and malnutrition. The health crisis triggered by Covid-19 looked set to become a major food security crisis.

This chapter focuses on the collaborative leadership at the heart of the ATO and the FSWR that enabled Kenya to navigate the multiple challenges it faced. In particular, it considers how data and analytics informed key decision-making, at speed, to help avert worst-case food security scenarios during the pandemic.

## Food insecurity in Kenya

Food insecurity, malnutrition and hunger have always been major challenges for Kenya. Today, many people in the country lack access to adequate quantities of nutritious food, especially in the ASALs (arid and semi-arid lands), which make up over 80% of Kenya's land area. Levels of malnutrition are high, with stunting affecting 29% of chil-

dren in rural areas and 20% of those in cities. Vitamin and mineral deficiencies are also a major public health issue. Overall, 1.3 million people in Kenya are classed as chronically food insecure, facing "crisis, emergency or catastrophe" as defined by the Integrated Food Security Phase Classification (IPC). This figure rises to 3.7 million during periods of severe drought.

According to the World Food Programme, the key factors contributing to food insecurity in Kenya are "rapid population growth – at a rate of 2.9% a year – climate change, stagnating agricultural production and inefficient food systems".

In recent years, Kenya has taken steps to modernise its agriculture sector and lay the foundations for agricultural transformation. Agriculture forms the backbone of Kenya's economy, contributing approximately 33% of the country's GDP, employing more than 40% of the total population, and accounting for roughly 60% of all exports.

But agriculture in Kenya is vulnerable. Climate shocks, such as drought and unpredictable rainfall, regularly impact crops – 95% of which are rainfed – and cause widespread soil erosion. Agricultural production is also impacted by pests like fall armyworm and locusts, and by diseases such as maize lethal necrosis disease (MLND). In 2020 alone, locust infestations affected the food supply and livelihoods of some 2.5 million people in Kenya.

Much also remains to be done to enhance agricultural productivity and income, with huge unfulfilled potential across the sector. Kenya achieves one eighth of the value add per agricultural worker achieved by other countries in Sub-Saharan Africa (SSA), with Kenya at KES ~80k and its SSA peers at KES 350-750k. As a result of yield gaps in maize, beans and tea, KES 100bn remains uncaptured, while fisheries production in Lake Victoria could be ncreased three-to-four times.

Further, food system inefficiencies lead to price fluctuations and supply issues. In 2020, Kenya experienced two times the price volatility of other East African Community (EAC) members, including Uganda, Tanzania, Rwanda and Burundi, for key staples. And despite Kenya recently acquiring lower-middle-income status, wealth has not been evenly distributed. Currently 35.6% of Kenyans live on less than US$1.90 a day. That's over a third of the population living below the international poverty line, with nutritious food remaining unaffordable and unattainable for millions of people.

Covid-19 was detected in Kenya around March 2020, with the first cases appearing in Nairobi and Mombasa. By late April, there were 363 confirmed cases, 114 recoveries and 14 deaths, with sustained local transmission.

As the virus spread across the country, the Kenyan Government moved quickly, imposing lockdowns, travel restrictions and border closures. Food produce and livestock markets were also closed to help stem community transmission. In a country already grappling with multiple food security challenges, these measures had devastating implications for agricultural value chains and food systems.

At the time, the World Bank predicted that Covid-19 would likely cause agricultural production in SSA to contract by between 2.6% and 7%, with food imports declining substantially by up to 25%. Meanwhile, the World Food Programme estimated the pandemic would almost double acute hunger by the end of 2020, with the majority of affected countries in SSA. Within the region, Kenya was one of several countries identified as a food insecurity hotspot.

The situation in Kenya began to unravel fast. The imposed travel restrictions led to labour and supply shortages. Border closures impeded imports, which caused further supply bottlenecks. As Nairobi went into lockdown, the collapse of logistics meant food commodities couldn't get to consumers in certain parts of the city. Agricultural inputs, imported into Mombasa (also in lockdown), couldn't be distributed to rural communities. And last-mile disruptions, combined with the closure of local markets and distribution centres, significantly affected food availability. All the while, heavy rains and the likelihood of further locust invasions posed a major threat to crop productivity.

These multiple disruptions, in turn, caused prices spikes and fluctuations. In April 2020, counties in Western Kenya reported price increases of 20-50% for cereals and legumes. Elsewhere, 50kg bags of CAN topdressing fertiliser rose from KS 2,500 to KS 4,500.

Export activity also declined sharply, with major interruptions to fresh produce exports due to limited cargo space. The impact was felt across a number of sectors. In April 2020, sales of Kenyan cut flowers to Holland were down 70% on March, leading to cashflow challenges, reduced farm operations and job losses.

In short, as Covid-19 took hold, Kenya faced a perfect storm of interconnected crises. With the clock ticking, the government had to control the spread of the virus and protect public health. Simultaneously, it had to prevent the country from plunging headlong into a food security crisis and socioeconomic meltdown. Action was needed, and fast.

At the Ministry of Agriculture, senior officials confronted a major conundrum: how to coordinate a collaborative and rapid response in a sector notorious for its siloed structures and slow-moving bureaucracy. Following the standard procedures, they knew, would take far too long. What was needed was fast, joined-up action and decision-making that bypassed the usual bureaucratic

protocols. What was needed was a means of convening the right people in the right place, with access to the right information, and the mobilisation of resources to solve problems in real-time.

Fortunately, at that moment, a fledgling organisation within the Ministry, the Agriculture Transformation Office (ATO), was endeavouring to implement the government's new agricultural strategy. With a focus on, inter alia, food system risks, the ATO had been designed to facilitate exactly the kind of sector-wide collaboration required now, in the nation's hour of need.

## The Agriculture Transformation Office

In July 2019, the Kenyan Government unveiled a major new agricultural programme – its ten-year Agricultural Sector Transformation and Growth Strategy (ASTGS). Building on previous national strategies, including Vision 2030, the Medium Plan III and the President's Big 4 agenda, ASTGS aims to drive agricultural transformation and achieve 100% food and nutrition security. It aligns with Article 43 of the Kenyan Constitution, which states that "Everybody has the right to be free from hunger, and to have adequate food of acceptable quality". It also aligns with the UN Sustainable Development Goals (SDGs), in particular, SDG 2 (zero hunger) and SDG 11 (sustainable cities and communities).

To implement ASTGS, a delivery mechanism was proposed in the strategy called the Agriculture Transformation Office, housed within the Ministry of Agriculture. The ATO's mandate was to facilitate multi-stakeholder engagement with ASTGS and ensure its successful delivery. Its staff would comprise of a mix of individuals, some seconded from various ministerial state departments, and other professionals recruited to perform key coordinating functions, as well as monitoring, evaluation and reporting. Above all, the ATO had an operational mandate to break down silos, enhance coordination across the sector, and cut through the red tape that has traditionally hindered agricultural transformation.

In early 2020, the ATO was still in its infancy. Despite having plans and personnel in place, it wasn't yet a visibly functioning entity within the Ministry. But following the arrival of new Cabinet Secretary, Hon. Peter Munya, with his priority focus on ASTGS, things began to change. Deeply committed to the national agriculture strategy, Hon. Peter Munya kickstarted, elevated and empowered the ATO. He brought in one of his own advisors as ATO coordinator, and put systems in place to begin driving ASTGS implementation. Under Hon. Peter Munya, the ATO would become operationalised to offer a range of technical support capabilities focused on performance management; inter-government coordination; and data and digitalisation.

As Covid-19 hit and events unfolded, the ATO's priorities shifted and accelerated further. More urgently than ever, the ATO needed to ensure full implementation of ASTGS for the long-term benefit of Kenya's agricultural sector. It also had a more immediate task: to dove-tail with government efforts to combat the looming food security crisis. As part of this process,

the ATO would provide emergency support to the national Food Security War Room (FSWR).

Kenya's FSWR was conceived by government as a rapid response mechanism to deliver food security interventions during Covid-19. Headed by Principal Secretary Hamadi Boga, and reporting directly to Cabinet Secretary Hon. Peter Munya, the FSWR was established through five key founding members. These were: the ATO, who would facilitate coordination and stakeholder engagement; the Ministry of Agriculture, who would provide leadership and strategic oversight; Mastercard Foundation and AGRA, who would deliver funding and technical guidance; and an additional strategic consultancy, responsible for convening, programme management and data analysis. Other key ministries and institutions also played a part in FSWR's formation, in particular the Ministry of Water & Sanitation and Irrigation, the Ministry of Devolution and Planning, and the Council of Governors.

The FSWR was based on replicable rapid response models from around the world. Variously termed 'business situation room', 'operation room' or 'response committee', a war room is in essence a dedicated team of cross-functional decision makers.

It has a mandate to take appropriate actions to drive impact through thought leadership, enhanced visibility, and accountability, often in response to an unfolding crisis, transformation or major change event.

In Kenya, the FSWR's founding goals were as follows:

**A. Ensure availability, accessibility and affordability of food**

- Maintain flow of produce from production to markets (including imports where relevant)
- Ensure minimal disruption to markets and access to food
- Maintain sufficient stocks and storage to manage prolonged shocks to the system

**B. Provide support for subsistence and livestock farmers and fisherfolk**

- Maintain the provision of inputs and extension services to smallholder farmers
- Support access to markets and limit dumping and returns

**C. Maintain agricultural output and value addition**

- Support ongoing operations of large farms and processing/export companies
- Limit disruptions to market access

To achieve these goals, the FSWR brought together various sub-working groups from different areas of agriculture and representatives from county governments. It also facilitated collaboration with the Ministry of Industrialization, Trade and Enterprise.

To tackle the confluence of crises facing the country at the time, the FSWR began holding twice-weekly virtual meetings, with up to 25 people in attendance, during which key decisions were made. Crucially, the meetings were dedicated to problem solving, not problem raising; to defining actions that would be filtered back down through the devolved county structures, or out across ministerial departments.

No postponements, procrastinations or deferments were permitted. No planning of additional meetings to tackle additional issues. The twice-weekly FSWR meetings were all decisive and immediate action.

Uniquely, having county representation meant the FSWR was able to cut through multiple layers of hierarchy and negotiation. And with a direct line between the Principal Secretary and Ministry of Agriculture staff at county level, the whole process of coordination and communication became streamlined.

This ground-breaking approach enabled the FSWR to focus clearly on the emerging issues affecting food availability, market access, input supply and food prices. The principal concern was the availability of major food and cash crops, such as potatoes, maize, rice, tea and beans. But any issue impacting food security could and would be addressed: the movement of locust swarms and the spread of Covid cases; the availability of water for handwashing or cargo space for exports.

And yet none of these issues would have been addressed, and none of the key actions agreed, without the wealth of data and expert analysis that undepinned the FSWR's operations.

The FSWR's twice-weekly meetings were informed by a rigorous process of data collection from county level upwards. The flow of data was managed by the ATO and FSWR's external consultant, who routinely chased participants for their metrics 48 hours before each call. This process ensured all discussions and decisions undertaken undertaken during meetings were shaped by up-to-date information.

The data model adopted by the FSWR was based on the rationale that accurate market information on crop production, domestic marketing, consumption, utilisation, distribution and cross-border trade is crucial for food security crisis management.

The key components of the model were as follows:

Data generation, consolidation and analysis:

- **Food security monitor, which looked at:**
  - Trends in food stocks held by government and the private sector
  - Trends in key staple food prices
  - Climate, pests and weather dynamics
  - Policy shifts around food trade and food security

- **Food balance sheet, comprising:**
  - National food balance sheets
  - National stock monitoring reports
  - Regional food balance sheets
  - Information on supply, consumption, wastage and trade
  - Digital food production forecasting

- **Realtime food price and stock monitoring, which incorporated:**
  - Regular reports on key staple food prices for major markets
  - Digital stock monitoring in public and private warehouses
  - Humanitarian assistance tracking

- **Policy monitoring, looking at:**
  - Key policy decisions
  - Investment trends around food security

Other key components included:

- A food security dashboard and dissemination tool, which developed and published key data points and triggers
- Engagement with agriculture officials from other countries (Private Secretaries, Ministers and private sector stakeholders focused on food security)
- Engagement with continental institutions as part of the Africa Food Security and Strategy Committee
- Engagement with PIATA partners and other stakeholders investing in food security

Through these key data gathering methods and mechanisms, the FSWR was able to devise crisis management interventions, at speed, based on relevant and reliable intelligence. For example, through accurate data on commodity prices, decisions could be made on the transportation of goods across borders. Through dashboards showing stocks of maize and other key crops, the FSWR could pre-empt food shortages and order redistributions to specific warehouses. And through the monitoring and forecasting of locust movements, pesticides needed to control the swarms could be ordered or relocated.

## Collaborative leadership

The success of the ATO and the FSWR also depended upon strong, decisive and collaborative leadership. In particular, Principal Secretary Hamadi Boga was a driving force behind the FSWR's rapid interventions. Cutting to the core of what needed to be achieved, PS Boga led by example, attending every FSWR meeting, demanding others do the same, and holding all stakeholders to account. Displaying extraordinary levels of commitment and consistency, he motivated, engaged and inspired, eliciting an immediacy of action and response. Indeed, even FSWR participants out in the field, often in remote locations, would dial into the twice-weekly meetings.

PS Boga and Cabinet Secretary Hon. Peter Munya also established a robust platform for collaboration. Building on the ATO's mandate to break down siloes and reduce duplication of effort, the FSWR set in place multiple collaborative approaches and practices. Such measures, they realised, would be necessary to combat the food security crisis in the short term, and to drive ASTGS into the future.

Facing such a wide-ranging and multifarious set of challenges, the FSWR needed an equally wide-ranging response, requiring input and intelligence from multiple sources. Realising that isolated departmental interventions would spell disaster, the FSWR leadership instituted cross-sector, inter-government coordination.

As such, during the FSWR meetings, representatives from every area of agriculture e.g. livestock, fisheries, crops, dairy, water would be present. This enabled attendees to share data, achieve collective oversight of the various threats and challenges, and develop collective solutions. And while private sector actors did not participate in FSWR meetings, bodies such as the Cereal Millers Association were regularly consulted on agreed food security actions.

## Impacts and outcomes

Through the work of the ATO and FSWR, Kenya successfully navigated the multiple challenges it faced at the start of the Covid-19 outbreak. During the first wave of infections, from March through to August 2020, the anticipated worst-case food security scenarios were averted. Food prices stabilised and the flow of food into the cities was re-established. And crucially, through FSWR's creation of Covid-safe operating procedures and guidelines, produce and livestock markets were reopened.

An FSWR meeting report from August 2020 states that "98% of food markets (114 out of 116) in 34 sampled counties are operational", with "wide food commodity range in local markets [keeping] the food situation stable". The same report communicates that "after months of variation due to Covid-19, fish prices started stablising at the end of July". Specifically, "prices of Nile perch and Tilapia across all markets decreased by 0.3% and 4.2% respectively". Elsewhere, the report confirms that "prices of most commodities continued to stabilise in the past three weeks..."

The work of the FSWR left Kenya well positioned, from a food security perspective, to respond to the second and third waves of Covid that were to follow. It also left a

valuable institutional legacy. As the national situation began to normalise, in August 2020 the FSWR transitioned into the ATO, becoming the Food Security Monitoring Committee (FSMC). The ATO, now fully operationalised and validated, was the perfect home for the new Committee, sharing as it does the war room's commitment to collaboration and rigour. In this way, the FSWR helped to establish a new platform for food security monitoring, which the ATO continues to leverage as it drives the implementation of ASTGS. Above all, it set new standards in proactive and collaborative leadership, engagement, efficiency and speed that provides a vital model for the future.

## Collaborative leadership

There is much to be learned from the work of the ATO and FSWR in 2020. The lessons below provide clear pointers for the management of food security issues in times of crisis.

**Engage active champions:**
Having active champions from levels of high authority, committed to driving critical problem solving, is key to keeping things moving quickly and solving the problems that matter.

**Get full buy-in across State Departments:**
Representation from all State Departments is essential to driving actions forward, especially when the people assigned are of high-calibre. Private Secretary involvement in FSWR from early on made it clear this was a response from the whole Ministry.

**Take an action-oriented approach:**
Insist on action being taken to unlock bottlenecks; discourage the culture and custom of setting up further meetings. Enable quick decision-making, anchored in quick turnaround times, and identify a clear owner for every single action.

**Set up coordination structures and support functions:**
Emergency response structures need to be aligned to relevant strategic pillars and enablers, with working groups and stakeholders aligned to these within the response unit. County coordination is also critical for communication and collective problem-solving.

Be opportunistic, not rigid:
Having a structured plan is vital, driving clear focus on goals, but it is also important to be operationally nimble. Flex to the crisis need and be able to act on opportunities that present themselves.

**Establish a consistent cadence:**
A weekly cadence means all stakeholders present can be held accountable;

pressure can be asserted and turnaround cycles kept short. Weekly communication means early surfacing of misalignments or bottlenecks and allows rapid escalation of issues. And weekly submission of data, using digital means where possible, creates visibility on the status of key indicators and allows for a quick response.

**Involve private and development partners early:**
Co-creation with other stakeholders helps reach a better answer, faster. Involve private sector and development partners early as part of the intervention design process, using these networks for gathering and validating data and eliciting rapid feedback.

**Track a manageable set of indicators:**
Selecting one easily understandable indicator/success factor for each initiative (in some cases spread out by value chain), allows for a manageable monitoring system.

# Stakeholder perspectives

"The ministry has continued to implement the ASTGS despite COVID-19, floods and locusts. The strategy is written in such a way that pillar nine itself focuses on responding to crisis and it recognises that the crises that we will face are economic, disease and climate related"

"When Covid-19 came it looked like a medical crisis, but as it evolved and the lockdowns kicked in, there was a challenge in food production...[in]stability of produce prices, panic buying by consumers. All of this needed to be understood and stabilised, [so] we created a food security war room which enabled us to track all these aspects.

***Prof. Hamadi Boga, Principal Secretary, Ministry of Agriculture***"

"Inside and outside the Ministry, collaborative leadership and coordination were critical to get things moving. The challenges were so interlinked we needed a coordinated, collective response. By bringing together diverse institutions and individuals, all working towards the common goal of food security, we were able to tackle the issues head-on."

***John Macharia, Kenya Country Manager, AGR***"

# 4. Strengthening women-led agribusinesses and advocacy: VALUE4HER

This chapter considers the work of VALUE4HER, a major continental initiative designed to strengthen women-led enterprises and amplify women's voices and advocacy within African agriculture.

The cycles of poverty and inequality in which many African women remain trapped are notoriously entrenched and have been extremely difficult to break. Previous attempts to increase business opportunities for women have failed to undertake robust market analyses, resulting in market saturation and suboptimal outcomes. Fragmented or non-existent data on women-led agribusinesses has also led to weak knowledge foundations. And traditional funding mechanisms have proved woefully inadequate in reaching and empowering women.

**VALUE4HER** was conceived in response to the major constraints faced by women in access to, and control over, productive resources and services. These constraints, which include lack of access to inputs, finance and information, inhibit women's productivity and profitability in the agricultural sector. Launched in 2018, the programme was initially developed by The Technical Centre for Agriculture and Rural Cooperation (CTA), but was transferred to AGRA in 2020. Since its launch, VALUE4HER has made significant progress against its founding objectives. But at the point of conception, it faced an enormous task.

To succeed where others have failed, VALUE4HER had to generate new insights and evidence, form new partnerships, and rewrite the rulebook on agricultural SME engagement. This chapter focuses on how VALUE4HER has successfully unlocked the potential of women-led SMEs through new market connections and collaborative leadership. It also introduces the voices of women participants and beneficiaries to articulate the programme's ongoing impact.

## The gender gap in African agriculture

Across sub-Saharan Africa, women play a critical role in agriculture. Women are essential to rural production, food and nutrition security, household health and wellbeing, and

provide up to 50% of the agricultural labour force. But long-standing policies and customs conspire to disadvantage and discriminate against women within the sector. Gender-based inequalities in access to productive resources and services – such as inputs, extension services, finance, credit and mechanisation – inhibit women's productivity. Lack of land ownership and authority over crop production further disempowers women within the agricultural economy.

The gender gap in access to productive resources reduces women's agricultural output by 20-30%. This has the knock-on effect of reducing agricultural GDP 2.5-4.0%: equivalent to food volumes sufficient to feed 150 million people. Closing this gap would generate significant gains for rural households, local and national economies, and society as a whole, especially in sub-Saharan Africa, where agriculture is two-to-four times more effective in reducing poverty than other sectors. 'The Goalkeepers Report 2019' from the Bill & Melinda Gates Foundation shows that women are more likely than men to invest resources under their control in children's health, nutrition and education. Tackling gender-based inequalities in agriculture, therefore, aligns with the objectives of the Malabo Declaration and the UN Sustainable Development Goals (SDGs), in particular SDG 1 (no poverty), SDG 2 (zero hunger), and SDG 5 (gender equality).

The World Bank asserts that entrepreneurism among women in Africa is often driven by "necessity rather than opportunity". To supplement household income, many women engage in flexible entrepreneurial activities that enable them to balance work with domestic responsibilities. They operate small and informal businesses, often unregistered and without tax clearance, trading in saturated markets where fierce competition drives down profit.

Within these local and limited spheres of operation, women-owned businesses often fail to attract investment, restricting their ability to expand and access more profitable value chain stages. Financing is an essential precondition for business growth, but only 16-20% of women-owned enterprises attract long-term finance. This is due to high risk perceptions among financing institutions, low levels of financial literacy among women, and lack of asset ownership and collateral. This problem is not unique to Africa; globally, businesses owned or managed by women are 5% less likely to receive a loan than those owned or managed by men, while women's interest rates are typically 0.5 percentage points higher.

Other factors restricting business expansion include complex formalities within the agricultural system and personal capability limitations. Many women tend to exhibit lower entrepreneurial efficacy and confidence, which restricts their ability to run bigger businesses in formal markets. Limited access to market intelligence also negatively impacts decision-making. Similarly, low uptake of new technologies, such as mobile phones, means women don't receive information they might otherwise use to diversify and develop their businesses.

Naturally, these constraints affect business performance, as confirmed by a recent World Bank study of selected countries in sub-Sa-

haran Africa. The report, which describes the overall lag in performance between male and female-run businesses, puts the average profitability gap between male and female enterprises at 34%.

Momentum is building towards a safer, more equitable and inclusive trading environment in Africa, with the potential for increased participation of women-owned enterprises within structured markets. The recent ratification and launch of the African Continental Free Trade Agreement (AfCFTA) presents a major opportunity. Women are estimated to account for nearly 70% of informal cross-border trade within Africa, and are well placed to take advantage of the new trading freedoms under the AfCFTA.

The AfCFTA is poised to create a consumer base of 1.2 billion in unrestricted markets, generating increased demand for agricultural commodities. According to the African Union (AU), AfCFTA protocols give clear guidelines to protect emerging enterprises and infant industries, adding impetus to the Agenda 2063 goals of gender equality, women empowerment and youth development. Through the AfCFTA, informal, micro and small enterprises will become more integrated into continental markets. Tariffs will be reduced and trading regimes simplified. This will make it easier for informal traders to operate through formal channels, which according to the AU "will offer more protection by addressing the vulnerabilities women in cross-border trade often encounter, such as harassment, violence, confiscation of goods and even imprisonment".

But as the AU cautions, "the shift from micro to macro business opportunities for women will not be spontaneous". It will also not happen unassisted. These opportunities will only be realised if women entrepreneurs are e empowered to access the resources, skills and networks required to drive business growth and development.

## The gender gap in African agriculture

In 2018, looking to leverage the momentum and promise of the future trading landscape, and deeply committed to promoting gender equality, The Technical Centre for Agriculture and Rural Cooperation (CTA) launched a major new continental programme: VALUE4HER.

VALUE4HER aims to strengthen women-led enterprises and amplify women's voices within African agriculture. Designed to tackle glaring gender-based inequalities in the sector, the programme seeks to increase the performance of women entrepreneurs through access to markets, trade, finance and investments. It also promotes global advocacy, focused on the key barriers to growth and participation for women-led enterprises.

The specific objectives of the initiative are to:

**The specific objectives of the initiative are to:**

- Support women-led agribusinesses in their efforts to access competitive regional and global markets.

- Strengthen the knowledge, skills and capabilities of women business leaders, helping them prepare their agribusinesses for growth and higher returns.
- Facilitate collective action and advocacy to level the playing field for women's entrepreneurship.

From the outset, VALUE4HER sought to address the historic weak spots in gender-based interventions, such as market analysis, networks, data, and digital enfranchisement. Rather than impose a generic intervention, the programme was well contextualised and conceptualised. It considered the key challenges facing women in agriculture, and devised nuanced and tailored solutions around those areas of need, looking to bridge major access gaps and address key constraints.

In the words of Sabdiyo Dido Bashuna, the Head of Gender and Inclusiveness at the Alliance for a Green Revolution in Africa (AGRA), and formerly of CTA, "VALUE4HER sought to bring together all the different pieces, from finance to markets to information, that would help to connect women to industry". And it was this 'bringing together' that shaped the development of a powerful online platform, VALUE4HERConnect, Africa's first digital marketplace for women in agribusiness.

VALUE4HERCONNECT sits at the heart of VALUE4HER, driving the programme's efforts to empower and enable women-led SMEs. It offers integrated solutions to integrated challenges, enhances visibility for women entrepreneurs and helps them build collective capital and networks across the continent. Critically, the platform leverages the power of digital technology to bridge gaps in access to business resources, information and knowledge.

By 2019, VALUE4HER was gaining traction and brand recognition, with over 400 online platform members, and through innovative training and engagement programmes. But in 2020, just two years after launch, CTA's mandate and operations came to a close. This closure followed the end of the Cotonou Agreement between the European Union (EU) and the ACP Group of States, with the financial and legal framework that supported the CTA expiring. Keen to ensure the continuation of its work, in particular VALUE4HER, CTA reached out to prospective partners. Seeing clear alignment between VALUE4HER and its own gender and inclusion strategy, AGRA responded, and on 22 October 2022, by mutual agreement, VALUE4HER was transferred from CTA to AGRA's jurisdiction.

It was a perfect fit, a home from home. AGRA has always believed that equitable access to resources and opportunities holds the key to inclusive agricultural transformation. Following the recent refinement of its gender and inclusion strategy, AGRA has resolved to be bold and intentional in its approach to gender equality. Through its newly refocused gender lens, it saw that investing in VALUE4HER would directly support its ambitions in this area. As an African-led organisation, AGRA already had infrastructure in place to amplify the voice of women entrepreneurs through advocacy, thought leadership and stakeholder networks. Key personnel from the CTA team, including Sabdiyo Dido Bashuna and Meju-ry Shiri, also transferred across to AGRA – a

boost to the project that helped to smooth the transition process. The continuity of vision and leadership made it possible for AGRA to maintain momentum. The presence of founding team members also reassured VALUE4HERConnect participants as the programme relocated.

With the transfer complete, and PIATA funding secured, AGRA swiftly adopted VALUE4HER as an umbrella brand for all its work on women in agriculture. It also devised a bold new vision for the programme: to reach 100,000 women-led agribusinesses with integrated business solutions by 2030. Within this plan, AGRA aims to reduce the gender profitability gap by 50% (for half of the agribusinesses reached) by the end of the decade.

AGRA repositioned VALUE4HERConnect as an African Centre of Excellence for Women's Agripreneurship (ACEWA). This process involved enhancing the capabilities and scope of the platform to offer:

- Research, innovation, knowledge and insights into all aspects of women's agri-preneurship.
- A hub of integrated digital resources and solutions for growing women's businesses and reducing gender profitability gaps.
- Digital identity and visibility for women agribusinesses to grow their networks.
- Digitally tractable business graduation pathways.
- A sourcing hub where gender-intentional market players can interact with women business leaders.
- A socio-capital generation platform for women in agribusiness, learning and earning profitably together, with a strong voice to influence gender-friendly business policies, strategies and investments.
- A platform of partners with intent to empower women and improve gender equality in agriculture.

Five key pillars were introduced to support AGRA's ambitions for VALUE4HERConnect, as shown below:


*Figure 1: The five pillars of VALUE4HERConnect*

Each pillar focuses on a specific area of need for women entrepreneurs looking to develop and grow their business. The Women2Market and Women2Finance pillars, for example, are intended to strengthen women-owned SMEs through capacity building and investor readiness respectively. Combined, they aim to prepare women for the kind of trade opportunities and engagements opening up within the AfCFTA framework.

In the past, attempts to increase business opportunities for women in Africa have failed to undertake robust market analyses. Lack of market intelligence and insight has resulted in market saturation, poor decision-making and suboptimal outcomes. Meanwhile, fragmented or non-existent data on women-led businesses has led to weak knowledge foundations, undermining efforts to build networks and drive engagement.

Michael Sudarkasa, CEO of South Africa-based consultancy Africa Business Group, was involved in the original VALUE4HERConnect platform design. In 2019, he explained the importance of market analysis and intelligence to women agripreneurs:

"Women...looking to access new markets [need] a lot of market intelligence – from quality standards, phytosanitary regulations, trade protocols and tariff issues... The other critical part is identifying impact buyers those buyers who are seeking or willing to have women and youth suppliers, whether government or multinational corporations. From the procurement side, we also [need] to identify institutions, as is the case with the Kenyan government, where 30% of the government procurement has been set [aside] for women and youth."

Aggregating this kind of information and data into a single programme platform, VALUE4HERConnect provides an invaluable source of market intelligence for women agripreneurs. Its Women2Market pillar in particular includes country profiles, buyer and supplier information, commodity prices and market entry requirements. This vital intel enhances business decision-making and helps women devise effective strategies for reaching target markets and investors.

It informs efforts to form partnerships and access more profitable stages of agricultural value chains. It also ensures that VALUE4HER is building a database and knowledge-bank of women-led agribusinesses to support future interventions.

The primary game-changing dimension of VALUE4HER is the opportunity it has created, through VALUE4HERConnect, for collaboration and conversation. As Africa's first-ever digital marketplace for women agripreneurs, VALUE4HERConnect embraces the principle that agricultural value chains are highly complex and diverse, comprised of multiple interconnected components. Acknowledging the trade-offs, synergies and codependencies at work within agricultural systems and markets, VALUE4HERConnect is founded on the belief that people – particularly women – have to work together if they are to progress and prosper in the agricultural space.

## Programme perspectives and beneficiary stories

Brigitha Faustin is a VALUE4HER beneficiary and Founder and CEO of OBRI Tanzania, an impact-led enterprise working with smallholder sunflower farmers. Reflecting on the opportunities for collaboration, networking and collective endeavour provided by VALUE4HERConnect, Faustin observes:

"Agriculture, especially in Africa where we mainly depend on rainfall, needs collaborative efforts to bring about the transformation and impact we want to see. Businesses, governments, development partners, farmers and even consumers have to work together to deliver the changes needed in agriculture. The silo mentality mainly creates more challenges and burden, especially for farmers and consumers, wasting resources that could be used to solve many challenges at grassroots level."

VALUE4HERConnect enables women like Faustin to build networks and communities where they can share ideas and information, celebrate successes, analyse failures, and help one another solve problems. The Women2Women pillar, for example, allows members to chat, interact, trade and share information. Through focused 'network', 'exchange' and 'partner' features, it presents opportunities for women to engage like-minded agripreneurs.


*Figure 2: The Women2Women Pillar*

The Women2Women pillar also provides unique, integrated networking sessions called TalkCorners. The sessions shine a light on successful women to increase their visibility and confidence. Participants can share lessons from their entrepreneurial journeys while profiling and marketing their businesses. In addition, webinars and VALUE4HER Advocacy Convenings creates a platform to connect women with national, regional and global policymakers. Embracing the collaborative principle, these convenings help create enabling environments that foster women's participation in agricultural policy dialogues.

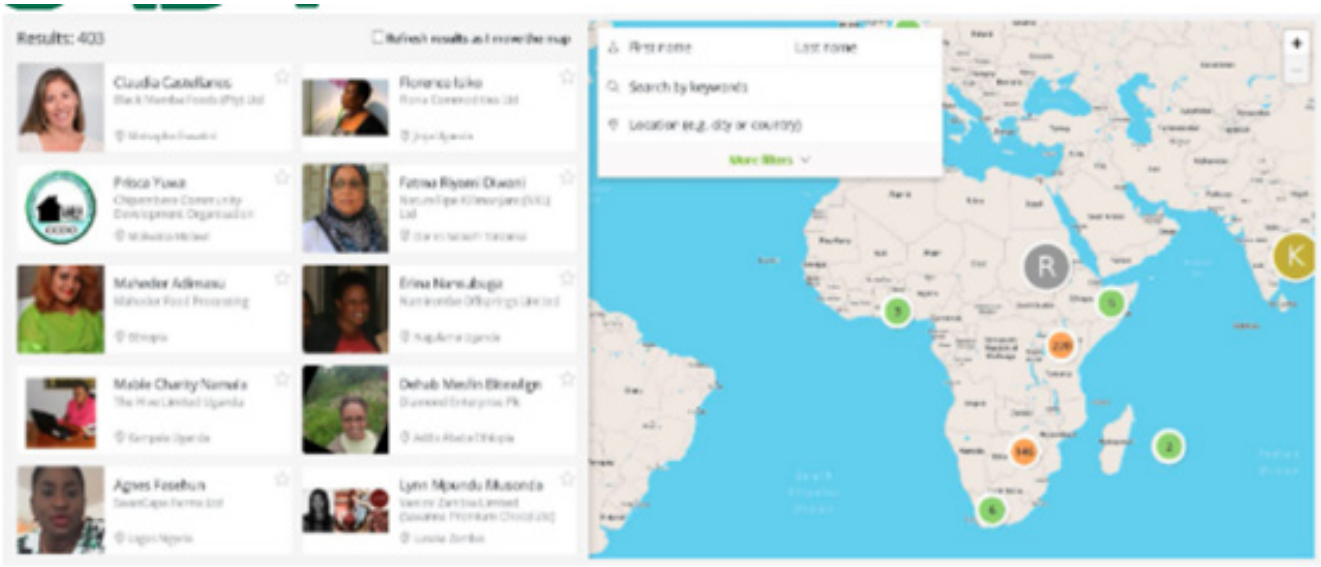



*Figure 3: Platform features, including an interactive directory that displays the agribusiness community by location, plus messaging functionality*

Gudie Leisure Farm (GLF) is a family-owned Ugandan social enterprise. Its vision is to become a centre of excellence for African sustainable agribusinesses. GLF works towards transforming young smallholder farmers into eco-entrepreneurs, helping them to develop proactive, planned, productive and profitable rural enterprises.

Since 2009, GLF has had the following aim: to help 500,000 youths at the 'base of the pyramid' to become self-reliant and lift their families out of poverty. At the farm centre in Najjera, Wakiso, young people enrol on five-week or 16-week courses, depending on their needs. Focusing on 'white meat' production, they participate in a business simulation, training and education, with each candidate required to run a full business cycle up to point of sale. They then return home to start enterprises of their own and pass their learning on to others, with ongoing support from GLF. Today, GLF has 112,900 young entrepreneurs in its network across 27 districts in 500 parishes.

Gudie Leisure Farm is run by Dr Gudula Naiga Basaza, an academic and entrepreneur. In the early days, the business experienced many challenges. Having sufficient liquidity to buy animal feed ingredients at the right time and price was a major obstacle. Finding staff prepared to do work that was 'social' in nature, another. It was also especially tough to generate awareness and understanding of GLF's value proposition and purpose. Dr Gudula lacked the framework for collaborative

endeavour, and initially found herself 'leading alone'. Without the payroll budget of a private company, GLF also struggled to attract talent. Unable to collaborate or delegate, Dr Gudula had to take on multiple roles – a predicament many women experience when first running a business:

"You are the MD, you are the treasurer, you are the accountant, you are the purchasing officer," says Dr Gudula. "You are everything and it drains you, it makes you inefficient. It leads to conflicts of interest."

But above all, Dr Gudula confirms it is a lack of available information that holds women entrepreneurs back:

"One of the biggest challenges I've seen is that women lack spaces where they can gain first-hand information. Whereas men will meet in a bar to discuss things, such as a new budget or business incentive scheme, women don't have access to such spaces or opportunities. This means they often engage in business blindly – for example, without knowing the tax implications of a particular venture."

In 2021, Dr Gudula participated in an international workshop convened by VALUE4HER. It was the first time she had heard about the programme, and the dynamic of the workshop excited her:

"I met people from different areas, with different perspectives. We had people from the funding side, we had people from the implementation side; we had people at the base of the pyramid, we had people from policy. And we all came together in one room to discuss how to support women to achieve their potential. Hearing from all these different perspectives enriched my own view of things. It also gave me a connection to those women, which led me to enrol in the programme."

Since then, Dr Gudula has been an active member of VALUE4HERConnect, regularly using its many features, resources and services. And in just over a year, it has provided many benefits for her business:

**Extra arms of support**

"VALUE4HERConnect has rapidly expanded my network. I've connected with one organisation called Clean Water Trust, who do a lot of research on agriculture. Anytime I want information about the seasons or production issues, the woman there is just a call away. I can connect with her directly and ask, 'What's happening in the maize market at the moment?' It's amazing how easily I can connect with people who matter to my journey. I have extra arms of support around me."

**Profile and publicity**

S"VALUE4HERConnect shines a spotlight on your business. In just a short space of time it has raised my business profile and promoted GLF's value proposition, brand and cause. Many people contact me now saying they've read about my business on the platform. In fact, in late 2021 I was nominated for Social Entrepreneur of the Year by the African Women Entrepreneurship Innovation Forum (AWEIF). All thanks to the publicity generated through VALUE4HERConnect. To my amazement, I won, and in early 2022 I was on the front page of Uganda's leading national newspaper!"

**Benchmarking**

"The platform allows you to follow people who are in your field. You're able to see how they are doing and measure yourself against their performance. It's a really valuable benchmarking tool, showing standards you can aspire to and things you can emulate."

**Access to information**

"VALUE4HERConnect shines a spotlight on your business. In just a short space of time it has raised my business profile and promoted GLF's value proposition, brand and cause. Many people contact me now saying they've read about my business on the platform. In fact, in late 2021 I was nominated for Social Entrepreneur of the Year by the African Women Entrepreneurship Innovation Forum (AWEIF). All thanks to the publicity generated through VALUE4HERConnect. To my amazement, I won, and in early 2022 I was on the front page of Uganda's leading national newspaper!"

## Programme perspectives and beneficiary stories

Crucially, VALUE4HER has highlighted the importance of collaborative leadership for women business owners. To quote Sabdiyo Dido Bashuna: "Women are used to succeeding together because they face a common challenge. Women programming therefore works collectively, and the whole notion of women collectives is to harness the power of the group. By design, successful women leadership engagement has to be collaborative, it has to tap into the collective. Collaboration is what makes our voices heard. The more we are heard, the more women will enrol in the programme, and the more power we will have to change things." The collaborative leadership driving VALUE4HER is inspired by an understanding of women's circumstances and constraints, and how women consume services and access resources. Rather than imposing a top-down leadership model, VALUE4HER is creating a unique collaborative leadership space that is consultative and contextualised. It is founded on the principle that to help women navigate challenges and opportunities, leadership must reflect the realities of women entrepreneurship in Africa.

According to Dr Gudula, the platform interaction has shown her that "a leader does not lead alone". Connecting with other women entrepreneurs has helped her focus on her own strengths and weaknesses as a leader. It has also taught her that leadership is not about doing everything yourself, but about letting other people support you by sharing lessons and insights. As Dr Gudula observes: "You need to have other leaders around you to become a good leader yourself. You need to feed yourself as a leader so that you can give to the people who depend on you and the people you work with."

The lesson at the heart of VALUE-4HERConnect is that it doesn't have to be 'lonely at the top'. For women business leaders, collaboration, community and connection are key ingredients for successful enterprise growth and career progression.

## Impacts and outcomes

Since its 2018 launch, VALUE4HER has had a major positive impact on women-owned and women-run African agribusinesses. VALUE4HERConnect currently hosts over 2,700 women agripreneurs from 39 African countries, each with an annual turnover of at least US$ 20,000, and at least three years of trading history. Members of the online platform are involved in the following subsectors:

| | |
|---|---|
| Horticulture | 33% |
| Dairy and livestock | 23% |
| Cereals and legumes | 16% |
| Services | 13% |
| Aquaculture | 8% |
| Mechanisation | 7% |

Under AGRA VALUE4HER has grown, with several innovative new programmes now in place, described below.

**VALUE4HER Women Agripreneur of the Year Awards**

The VALUE4HER Women Agripreneur of the Year Awards (WAYA) recognises women agripreneurs who have excelled in different segments of the agricultural value chain and shown remarkable innovation in their businesses. The Awards aim to create visibility for successful women, while triggering innovation and spurring ambition. They also promote successful women entrepreneurs as positive role models.

**African Resilience & Investment Series for Women Executives**

The African Resilience and Investment Series for Women Executives (ARISE) is a COVID-19 recovery initiative. It is designed to assist women-owned and led agribusinesses negatively affected by the pandemic to build stronger, more resilient enterprises. The programme offers tailored modules for investment seminars, executive management training, peer-to-peer emotional support and networking.

**Women2Women Innovation Grant**

The Women2Women Innovation Grant scheme is an attempt to incubate and increase the number and diversity of women-owned agri-SMEs participating in inclusive supply chains. The matching grant creates business linkages between women-owned agribusinesses and small and micro-level women agripreneurs and producers.

VALUE4HER beneficiaries include:

**Eva Ndamono Shitaatala**

CEO of Zadeva Fisheries Namibia. After losing 80% of her revenue during the Covid-19 pandemic, Shitaatala signed up for digital training through VALUE4HERConnect.

She subsequently launched an online marketing campaign that saw her business regain its footing and increase profits by 20% a month. She also refers to the value she has unlocked through the networks and synergies enabled by VALUE4HER. to-peer emotional support and networking.

**Brigitha Faustin,**

Founder and CEO of OBRI Tanzania. Faustin says she always struggled to find a good balance between family and business, between being a "mother, wife and entrepreneur". VALUE4HER training, she says, enabled her to understand how to solve day-to-day challenges and meet the present and future needs of her enterprise. Before VALUE4HER, Faustin was "more focused on the managerial level of her business". The programme made her rethink the role of leader and entrepreneur and gave her "the knowledge needed to run a successful company". It has also led to a Master's in Business Creation, thanks to a Generation Africa scholarship.

## Leadership lessons learned

There is much to be learned from the design and implementation of VALUE4HER and VALUE-4HERConnect. The lessons below provide clear pointers for women leadership development programmes and gender equality interventions.

**Connect leaders with other leaders.**

A leader does not lead alone; only through collaboration, community and connection will women leaders access the support and information they need to succeed and grow.

**Encourage mutual dependencies and delegation.**

Women business leaders don't have to do everything themselves; letting leaders delegate responsibilities relieves pressure and promotes a collaborative leadership mindset.

**Build data on women-led businesses.**

Gathering data is essential to integrate informal women-led businesses into the larger continental trade structures. Integration will be smoother and gender equality interventions more impactful, if women's trading activities are captured and reflected in national accounting systems and regional statistical databases. Data also provides the building-blocks for collaborative leadership structures and networks, enabling women-led businesses to locate and connect with one another. .

**Maintain continuity of vision.**
When a major programme transfers from one organisation to another, only clear alignment can sustain the programme's vision and momentum. VALUE4HER was transferred successfully from the CTA to AGRA due to a good strategic fit. Continuity of leadership personnel was also key.

**Understand the needs of the people you serve.**
In crowded sectors and marketplaces, women-led businesses need to stand out. Only through a clearly articulated value proposition will a business's brand and purpose be understood.

**Invest to progress.**
Women entrepreneurs tend to borrow only very small amounts. But without risk there is seldom success. Only by borrowing higher sums or attracting external investment will women-led businesses progress to more profitable stages of their value chains.

**Offer simplified tech alternatives**
The success of programmes like VALUE4HER depends upon participants' ability to use sophisticated mobile technology. Simplified points of entry need to be made available to non-tech savvy participants.

# 5. Harnessing and scaling digital agriculture

This chapter considers the work of Farmerline, a Ghana-based agribusiness marketplace, and AgriBot, a digital platform for localised extension services in Kenya. It also focuses on the role of AGRA as a digital 'integrator' in its efforts to unify value chains and ecosystems within the agtech space.

The rapid emergence of digital programmes in African agriculture has generated a lot of 'noise'. Digital start-ups and solutions have proliferated at an unprecedented rate. Disparate interventions, often competing with one another, have created a multiplicity of disconnected actors and value chains. Consequently, efforts to drive transformation have at times been hamstrung by a lack of cohesion and consolidation.

Launched in 2013 and 2019 respectively, Farmerline and AgriBot aim to exploit a major opportunity for integration in sub-Saharan Africa. Looking to bring people, processes and technology together, these programmes are built on collaborative leadership and partnership.

This chapter will explore the role of integration within the digital landscape, showing how Farmerline, AgriBot and AGRA have leveraged multiple sector interdependencies to create successful and sustainable agtech solutions. It will also introduce the voices of programme participants and beneficiaries to articulate the impact of these endeavours.

## Africa's digital revolution

The process of agricultural transformation in Africa is happening at a time when life-changing technologies are emerging at speed. Digital innovation has the potential not only to enhance productivity and profit for smallholder farmers, but to transform the agribusiness ecosystem.

Over the centuries, agriculture has experienced several revolutions. Europe in the 18th, the US in the 19th century, and much of Asia and Latin America from the 1950s onwards, benefitted from new technologies and techniques designed to increase agricultural production. Crop rotation, mechanisation, improved seed varieties and fertilisers have all played their part, helping countries transform their agriculture sectors and drive economic growth. But the digital revolution could be the most

significant game-changer yet, ushering in a new era of disruptive innovation.

In 2019, the Global Forum for Food and Agriculture (GFFA), the European Union (EU) and the African Union (AU) all emphasised the major potential impact of digital technology on agriculture. Other commentators believe that through mobile and digital technology, Africa has the opportunity to leapfrog the transformation trajectories of the past. Mobile technologies have become integral to life across the continent, with 44% of people in sub-Saharan Africa on mobile phone subscriptions. It is projected there will be 634 million unique subscribers across the region by 2025, accounting for over 50% of the population. And the practical application of innovations such as big data, block chain, AI and drones, for example, could enable Africa to unlock the full potential of its agricultural workforce and resources.

Digital breakthroughs could certainly play a major role in meeting future demand. By 2050, it is predicted that the global population will reach 9.8 billion people, up from 7.9 billion today. According to the UN Food and Agriculture Organization (FAO), the industry will need to produce 70% more food to feed this growing population. In Africa alone, agricultural production will need to more than double over the next 30 years to meet increased demand for food and nutrition security.

As described in a recent report by CTA and Dalberg Advisors, digital agriculture innovations are already helping to boost yields among African smallholder farmers by up to 70% and incomes by up to 40%. In a continent where smallholders account for 80% of agricultural output, increased uptake of these innovations could prove transformational.

By improving efficiencies and increasing productivity; enhancing decision-making and optimising resource management; and expanding access to information, inputs, markets and finance, digital technology can support the advancement of sustainable food systems in Africa. It is a key enabler in the pursuit of a vibrant, modern and inclusive agriculture sector that generates value for all.

But digital technology is by no means a 'silver bullet'. Some agro-economists have questioned its potential to deliver wide-scale job creation, and efforts to reach smallholder farmers with technology have been slow and distribution uneven. In a noisy and crowded marketplace, much remains to be done before Africa's digital revolution can begin to deliver at scale.

As reported in 2022 by the FAO and ITU, despite Africa's high potential for digital transformation, major barriers exist. These barriers include:

**Energy access**

Only 43% of sub-Saharan Africa's total population and 25% of its rural population has access to electricity. Without electricity, people's ability to power the technologies that enable digital enfranchisement is severely compromised.

**Connectivity**

Much of sub-Saharan Africa remains unconnected. About one third of the population is out of

reach of mobile broadband signals. Across the region, only 22% of people have internet access, meaning the large majority are unable to realise the benefits of connectivity.

**Infrastructure**

The multiple undersea cables that serve sub-Saharan Africa need to be integrated to improve broadband access. National terrestrial broadband networks also need to be developed further to link urban and rural areas.

**Enabling environment**

The majority of countries face challenges in creating the enabling environment required for sustained investment in digital agriculture.

**Affordability**

400 million of Africa's 1.3 billion people live in extreme poverty. Getting by on just US$1.9 or less a day, the 'extreme poor' are unable to afford digital technologies or services.

One of the most significant barriers to progress, however, is the lack of coordination and coherence within the agtech space. Of 47 countries in sub-Saharan Africa recently surveyed by FAO, the majority do not have a national digital agriculture strategy. In addition, ICT policies are "not aligned to existing agriculture policies, which hinders the process of digitalisation in the agriculture sector".

Lack of coherence has also been exacerbated by the speed with which developments are taking place. Ironically, the speed of technological innovation, and the rapid proliferation of interventions, has in fact slowed the pace of digital agriculture transformation in Africa. The sheer volume of agtech actors and initiatives, plus the range of policies and approaches, has created disunity and dysfunction. This in turn has led to isolated service providers, loose value chains, unaligned ecosystems and disparate, duplicate programmes.

Furthermore, in the last decade Africa has witnessed a surge of agtech start-ups and solutions, and an explosion of data across country networks, systems and value chains. The African mobile and agtech markets have certainly experienced unprecedented growth in recent years. The sector has developed at a growth rate of around 45% per year since 2012, and over 33 million smallholder farmers and pastoralists are now registered with digital solutions across Africa. Between 2016 and 2018 alone, the number of start-ups operating in the agtech market increased by 110%, with over US$19 million invested in the sector during this period.

Seeing strong market potential, big business has begun developing big tech platforms offering flexibility and scale. Five of AGRA's current partners (SAP, Mastercard Farmer Network, Mezzanine, Xarvio and Farmbeats), with combined revenues of over US$200 billion, are creating digital platforms to aggregate sourcing, data and financial services.

Non-profit agtech is taking off as well, with research organisations and NGOs rolling out apps designed to enhance agricultural productivity. Such apps include IITA Seed Tracker, the World Bank's Agriculture Observatory, and FAO Digital Services. Programmes promoting digital index insurance and financial services, with a focus on e-voucher schemes, are also on the rise, adding to the multiplicity of actors and initiatives within the digital age landscape.

In support of digital innovation, people, systems, services and organisations are gathering huge volumes of data at country level. Collected from mobile networks, satellites, extension workers and multilaterals, this data can help to shape and inform agri-food systems. It can guide l eadership decisions on crop production and increase transparency and accountability.

Both nonprofit and for-profit organisations are investing in data assets to support various agriculture use-cases. For instance, the CGIAR Platform for Big Data in Agriculture uses satellite weather data to guide agricultural policies and priorities. GODAN, the Global Open Data initiative, promotes the uptake of ge-odata and market intelligence, while ISDA's consultancy services provide guidance on soil health data.

In certain countries, governments leverage data to promote evidence-based leader-ship and action. The Comprehensive Africa Agriculture Development Programme (CAADP) Biennial Review process, and the AU's Africa Agriculture Transformation Scorecard (AATS), are two of the major tools available. The AATS, for instance, uses a range of data to measure agricultural performance and drive productivity against the Malabo Declaration targets.

In the words of the late Kofi Annan, former UN Secretary-General, "without good data, we're flying blind". But just how good is the data being gathered? Speaking in 2019, Prof. Hamadi Iddi Boga, principal secretary of the State Department for Agricultural Research in Kenya's Ministry of Agriculture, Livestock, Fisheries and Irrigation, explained how data underpins efforts to solve his country's maize crisis. "But currently the data is all over the place," he said. "We have numbers that people don't believe and we're having to make decisions based on fragmented information."

Through the use of digital balance sheets and dashboards, Kenya and other countries are working to improve the accuracy of the information on crop deficits and surpluses. But overall, significant challenges remain in the leveraging of data for agricultural transformation. Principal among these is, once again, a lack of coherence and consolidation. What is needed is greater coordination in the sourcing, aggregation and use of data in agriculture. As Nixon Gecheo, AGRA's Senior Program Officer, Digital Systems and Solutions for Agriculture, observes, "the gap in the market is integration".

## Programme perspectives and beneficiary stories

Integration is emerging as a key theme for Africa. In 2021, AU Commission Chairperson, Mr Moussa Faki Mahamat, outlined the priorities for his next term in office. Number four on his list was to "successfully execute key integration projects". These projects will build on recent steps towards integration and cooperation at continental level, such as the launch of the African Continental Free Trade Area (AfCFTA) in 2019, the adoption in 2018 of the Protocol on Free Movement of Persons, and the introduction o f a Pan-African Passport in 2019. The recent launch of the Single African Air Transport Market (SAATM) has also achieved unification through the liberalisation of airspace – a major driver of economic integration for the continent.

Integration has also been identified as a priority for digitisation. The AU's Digital Transformation Strategy for Africa, for example, aims to create a digital single market by 2030. The Policy and Regulatory Initiative for Digital Africa (PRIDA), and the Pan-Africane-Network, are other such initiatives. In agriculture in particular, it has become clear that only through integration and collaboration will digital technology be successfully harnessed and scaled. As the FAO recently asserted:

"Increased collaboration among countries, international organizations and private entities is necessary to create an inclusive set of digital public goods in agriculture that are sustainable and scalable."

As part of the shift towards integration in digital agriculture, the concept of an "integrated ecosystem" has gained traction.

The integrated digital ecosystem aims to address multiple pain-points for farmers simultaneously, rather than tackling separate issues in isolation. The primary challenges faced by farmers – such as lack of access to markets, inputs, finance, information and insurance – are often interconnected. Therefore, the solutions to these challenges also need to be interwoven.

According to Nixon Gecheo, the integrated ecosystem model "creates a united vision, clarifies ROI, attracts the most capable programmes and partners, crowds in funding, and accelerates impact by eliminating noise. Plus, it builds capacity and proves the value of the technology". AGRA's recent work with agtech specialists Cropin presents a prime example of ecosystem integration. Within this model, a centralised platform hosts key agronomic content. It guides farmers to various last-mile services and crowds in other service providers, while adjusting levels of support according to their needs.

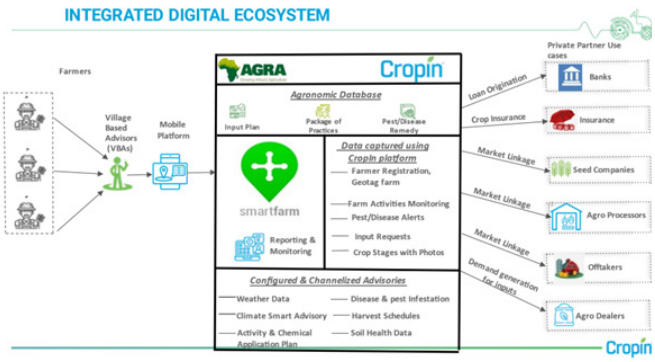



*Figure 1: The integrated digital ecosystem*

## Programme perspectives and beneficiary stories

The integrated digital ecosystem model has helped to launch a number of high-impact agtech solutions. Two such solutions, supported by AGRA, are AgriBot and Farmerline.

## Digitalising extension services with Agribot

Since the early 1990s, public sector-driven extension systems in Africa have been severely weakened through underfunding. As a result, the current extension worker-to-farmer ratio in most African countries is 1:3,500, against a recommended ratio of 1:400.

Rarely encountering an extension agent, farmers are often unaware of the improved technologies and techniques that could help to increase productivity. Village-Based Advisors (VBAs) are also overstretched and restricted in their movements. This creates major information and capacity gaps in the last mile, where help is needed most. In addition, many farmers use feature phones, which limits their ability to search for information and guidance online.

To address these challenges, in 2019, AGRA and Microsoft joined forces to cocreate AgriBot – a digital solution for localised extension and advisory services for smallholder farmers in Kenya. AgriBot works through inclusive omnichannel application experiences, such as Short Message Service (SMS) and WhatsApp, for prioritised agricultural value chains. Embracing the integration principle, it brings together a range of services and information sources to offer multiple solutions in one place. Its founding objectives are to:

- Increase access to extension services for smallholder farmers
- Improve VBA effectiveness in reaching farmers and service provision
- Increase access to information and knowledge for VBAs and smallholder farmers

The programme is predicated on the concept that digital solutions improve farmer livelihoods by creating linkages in the ecosystem that connect markets, finance, inputs and education. The idea is that, through access to agro-dealers and information, farmers can become educated in new techniques, thereby reducing the risk of incurring losses. This makes them more attractive to financial service providers, which opens up access to capital to help accelerate production.

Anna-Marie Silvester of Microsoft explains the rationale further: "Without smartphone capabilities, and with limited VBA reach, farmers don't have information at their fingertips in the same way others might. Even if they have a smartphone, they're often concerned about data costs or may be unable to download an application. Connection speeds can also be an issue. So the idea behind AgriBot is to make it super simple; to make it easier for farmers to access information with the devices they have, using SMS, USSD or WhatsApp."

Combining their agricultural and technological expertise, AGRA and Microsoft began creating curated content for promotion on a pre-existing Microsoft platform. The content cov-

ers information and agronomic guidance on issues such as planting, pests, weather, fertilisers and seeds, with the potential for farmers to post questions and request specific advice.

"After adding AGRA content to our platform," says Silvester, "we created additional features to support their deployment needs. For example, we modified the platform to support different roles, so that AGRA can add their VBAs with different privileges, as well as farmers."

The current AgriBot platform encompasses the following key features, as shown in the graphic below


*Figure 2: The AgriBot platform features*

**Registration**
Allows the farmer to register themselves on the platform to access all services and content.

**Weather advisory**
Enables the farmer to access localised weather forecasts over one, two or five-day timeframes.

**Farmer actions**
Allows the VBA to register farmers, access the total number of registered farmers and send messages to them.

**Fall armyworm**
Enables the farmer to access information on the identification and management of fall armyworm.

**Good agronomic practices**
Enables the farmer to browse through an extensive library of information. The farmer is provided with a list of options and can select from the list to receive the training content.

**Agro-dealer list**
Allows the VBA to access an AGRA-approved list of local agro-dealers.

**Maize seed variety**
Enables the VBA and the farmer to access a list of certified seed varieties in their region.

**VBA Information**
Allows the farmer to access their VBA's name and contact details.

An additional soil testing facility can be connected to the platform, while future service add-ons will create connections to insurance, credit and irrigation providers, mechanisation, subsidies and more. As the platform is expanded, farmers will also be able to access personalised crop rotation suggestions, support for livestock, pest outbreak alerts and agricultural news, among other planned developments.

Following the initial pilot rollout in Kiambu and Embu counties, AgriBot has gained traction and delivered results. Digitalising extension services has enhanced the reach and impact of the VBA network, equipped farmers with the information they need, and lightened workloads for key individuals.

"I thought this was a very good idea," says Peter Kamau, Ndeneru Ward Agriculture Officer, Kiambu County. "Currently in Kiambu we have a scarcity of staff and reaching farmers is tedious, a bit difficult, because I am all alone in representing our ward."

In Chania Ward, VBA Irene Mukuha concurs, explaining how AgriBot has transformed her role and routine. "Before, we used to go door to door looking for farmers. Since AgriBot came, we only sent one message, which is free of charge. And this message reaches all farmers. It's very easy to give them information."

Farmers themselves have also responded well to the programme. In Embu County, planting conditions are tough. Unreliable rainfall, acidic soils and pests such as fall armyworm present multiple challenges. But with regular updates and insights from AgriBot, farmers such as Ann Kamanu can manage their land and crops more strategically. "AgriBot provides information on the weather forecast," says Kamanu. "And with the weather forecast, you can begin to plan when to plant, when to weed your farm. Basically, it is a good programme."

There are now around 900 VBAs using the AgriBot platform. Some VBAs have registered up to 700 farmers, with about 50,000 farmers now registered in total across the two pilot counties. Close to 100,000 interactions have also been recorded over the platform.

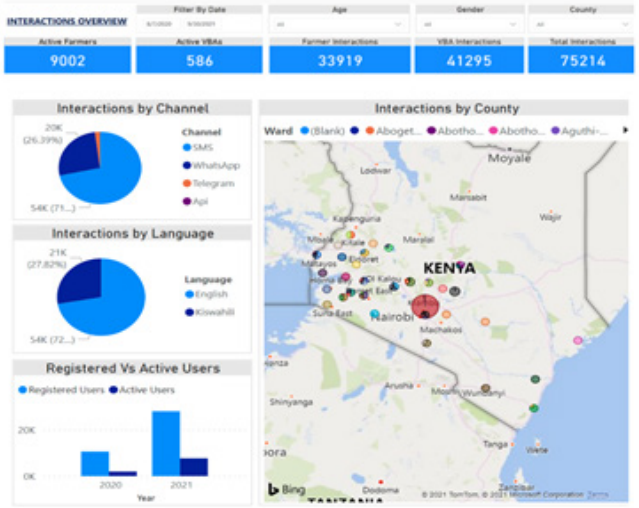



*Figure 3: The AgriBot farmer-VBA interactions by channel, language and county*

With a new MoU signed between the two organisations, AGRA and Microsoft aim to expand the reach and impact of AgriBot. New services, value chains, farmers and geographies could soon be added to the platform. As the partnership enters a new phase, there are also plans to work with

Kenya's Ministry of Agriculture, Livestock, Fisheries and Cooperatives (MoALFC). Specifically, it is hoped that AgriBot can provide a digital extension solution to complement MoALFC's e-voucher scheme, further supporting last-mile delivery.

And with the programme going from strength to strength, Anne-Marie Silvester observes how collaboration has been key throughout:

"We've seen tech teams coming together to apply their expertise to agriculture; making it valuable by crowding in services that are most useful to the farmer. Microsoft brings the tech; AGRA brings the domain expertise. It's a really powerful partnership."

## Digitalising extension services with Agribot

Farmerline is an agritech company whose mission is to "create lasting profits for farmers everywhere, using innovative financing, technology and partnership to give farmers access to quality inputs, fair credit, ongoing training, and market access. Its goal is to enable everyone in the value chain to prosper through "more food, more profit, more impact".

Farmerline was founded in 2013 to bridge critical gaps in sub-Saharan Africa's agri-food space. As is well documented, the region's agricultural productivity is thwarted through lack of access to quality farm inputs, markets, education and warehousing. Farmerline set out to build a digital marketplace where farmers can acquire the technologies, services and linkages they need to thrive.

Over the past nine years, Farmerline has experienced transformational growth. It has gone from a small start-up, working with just 800 farmers and an operational budget of US$600, to one of the fastest-growing agtech companies on the continent. Their digital marketplace now supports more than 1 million smallholder farmers. At the same time, its 1,000+ partnerships with buyers, agribusinesses, food manufacturers, governments and other organisations, including AGRA, have licensed the technology across 33 countries in support of farmers. In April 2022, the company raised US$14 million in pre-series A funding.

Considered the 'Amazon for farmers', Farmerline uses digital and physical infrastructure to power the movement of goods and services, such as quality inputs and training, to and from rural areas. It also promotes market access.

Speed of delivery is one of Farmerline's core value propositions, leveraging the power of its online platform to deliver inputs to dealers or growers often within 24 hours, and always within 72. But while it commits to conveying its goods quickly, Farmerline understands that payment can take time. Customers can therefore pay only a proportion of the cost upfront, with the balance due within two weeks (for dealers) or over the season (for growers). This financial flexibility, the company claims, can enable dealers and farmers to double their incomes.

Once the initial digital transaction is processed, a unique network of agro-input shops and a fleet of delivery vehicles ensures customers receive their orders within

the promised timescale. "No field too remote", is the company's delivery pledge. Farmerline then provides smallholder farmers with ongoing learning content, including daily weather forecasts, direct voice messages, and an active helpline for questions and guidance.

As Worlali Senyo, Head of Corporate Services at Farmerline, explains:

*"What we are trying to do is to build a marketplace with combined digital tools, logistics, field agents, farm resources, and agribusiness partnerships, because these are the ingredients that create the ecosystem and drive value. We are powering it with our platform called Mergedata, which enables us to create digital farmer profiles – bio info, contact info etc. – to support and enhance service delivery. We also license this platform to development partners, global food traders and manufacturers to support farmers in their own supply chains across the world."*

Through a partnership with AGRA, Farmerline is using its platform to complement the training that farmers receive from traditional in-person extension services. "We provide digital platform technology to back extension delivery," says Senyo. "Our aim is to provide digital tools that can help CBAs/VBAs digitise transactions, register farmers and connect them to high-quality agro-inputs and markets. This also increases the visibility of the work they are doing."

Crucially, Farmerline embodies the integrated ecosystem approach, offering a one-stop shop for farmers to address all pain points through interconnected solutions. As an article in Agfundernews.com recently asserted, it is this model that is increasingly attracting investment in the agtech space. The article explains how, "in a sector dominated by smallholder farming, poor infrastructure, limited financial services, and weak market linkages", the "whole ecosystem" approach is the only viable option for ambitious agtech companies. The article quotes Maurice Scheepens, Senior Investment Officer at FMO, who observes how "addressing all pain points is, for now, the only way to build a scalable business".

Furthermore, Farmerline regards collaborative leadership and partnership as the vital ingredients for sustainable success, as Senyo concludes:

***"With so many structural challenges, if you don't work in partnership you simply don't succeed. Without partnership and collaboration we would not be here. We need to leverage the capabilities and expertise of partners, but we also need to ensure we are aligned in terms of values, vision, mission and purpose. Our story is an example of how collaborative leadership can bring change. And by showing leadership in the role digital ag can play in solving problems, we're working to bring other actors, future collaborators, onboard."***

## Success with Sifiasi

Farmerline introduced its input credit service to enable equality of access to farm inputs like seeds and fertilisers for women.

Sifiasi is a women's farmer group from the Upper West Region of Ghana. Producing soybean, maize and groundnut, Sifiasi's 31 women farmers often pool resources to cultivate their crops, then share any profits at the end of the season.

In 2020, during a training workshop on good agronomic practices, Sifiasi met with Farmerline field agents. Following this interaction, the group signed up to Farmerline's input credit service. They received several bags of fertiliser, which they began to apply on their farms in an effort to boost productivity.

"The fertilisers were of high quality," says group leader Madam Hafisatu. "And the support we received significantly increased our yield. We are very happy with the results and would like to continue our relationship with Farmerline in the future." In 2021, Sifiasi won Best Farmer Group in the 37th Farmers' Day celebration in the Sissala East Municipal district. "We were very happy to receive the award," says Hafisatu. "The quality of fertilisers we received from Farmerline played a huge role in our win."

## #DigitalAGRA

Both AgriBot and Farmerline demonstrate the strategic value of integration and collaboration in the development of agtech solutions. Their impact underscores the importance of bringing together multiple services in one place for the benefit of smallholder farmers.

It is an ethos and approach that goes to the heart of AGRA's new digital strategy. In development since 2019, #DigitalAGRA aims to leverage AGRA's unique position and influence. Utilising its in-country knowledge and relationships with governments, commercial partners and multilaterals, the strategy seeks to bring cohesion and unity to the agtech space through the integrated digital ecosystem model. At the start of their new strategic journey, AGRA teams undertook a five-month review and consultation process, surveying the agtech landscape in sub-Saharan Africa. "It was clear that what was needed," says Nixon Gecheo, "was an integrated approach that would unite all efforts and individuals".

From this start point, the digital team conceived the notion of "AGRA as an integrator"; a change agent capable of bringing all people, processes and technologies together through collaborative leadership. AGRA's leading role in the African Green Revolution Forum (AGRF) 2019, with the theme Grow Digital, was proof of its ability to convene the continent's key tech and political stakeholders. Through the new strategy, AGRA is seeking to extend these capabilities further.

## Leadership lessons learned

There is much to be learned from the success of AgriBot and Farmerline, and from AGRA's new digital strategy. The lessons below provide clear pointers for developing future agtech solutions and programmes.

**There is no monopoly on knowledge.**
A leader does not lead alone; only through collaboration, community and connection will women leaders access the support and information they need to succeed and grow.

**Encourage mutual dependencies and delegation.**
No person, institution or organisation can claim to have all the answers. Only by leveraging the insight and expertise of others can progress be made in the agtech space.

**Address and leverage sector interdependencies.**
The digital agriculture sector is home to multiple interdependencies and interconnections. Leadership needs to encourage solutions that enable various actors – academics, tech companies, development partners – to exploit their overlapping interests, needs and capabilities.

**Take an integrated ecosystem approach.**
For agtech companies and organisations looking to develop digital solutions, the integrated model is the most likely path to success. By addressing all farmer pain points together, programmes stand a greater chance of delivering genuine impact – they are also more likely to attract external investment.

**Ensure values, purpose and principles are aligned.**
No person, institution or organisation can claim to have all the answers. Only by leveraging the insight and expertise of others can progress be made in the agtech space.

**Address and leverage sector interdependencies.**
For partnerships to succeed, they must be underpinned by shared values and ethical commitments. Through commonality of purpose and vision, partners can ensure they are closely aligned and equally dedicated to the task.

**Build trust through long-term commitment**
Farmers have seen many programmes come and go. By working to strengthen the ecosystem, organisations can demonstrate genuine long-term commitment, which in turn will generate trust and engagement among farmer communities.

## Partnership, collaboration and co-creation

The importance of collaborative leadership and partnership is the key lesson emerging from this work. According to the FAO, to achieve digital agriculture transformation in Africa, "an inclusive and collaborative process is essential so that no one is left behind". Such a process has certainly been key to the success stories of AgriBot and Farmerline, and central to AGRA's efforts to achieve integration. In fact, it is central to all of AGRA's agricultural transformation programmes. As Nixon Gecheo explains:

"No one in agriculture achieves anything alone. No one has a monopoly of knowledge. Only by working together do you achieve things. It is why we have an entire division at AGRA dedicated to partnership development. Partnerships with the public sector, private sector, government, regional actors, SMEs, NGOs, farmers. Partnerships are critical. Collaboration is how we work, how we deliver, and how we help the smallholder farmer."

Within the context of digital transformation, collaboration enables AGRA to combine its agricultural knowledge with the technological expertise of digital specialists. It facilitates the marriage of agronomy and technology. By promoting collaborative leadership, AGRA can stimulate collective dialogue at local, national and regional levels. In this way, collaborative leadership supports the coming together of development partners, academics, data experts and other stakeholders required to drive transformation. And it is this 'coming together' that has led to the cocreation of relevant, impactful and sustainable agtech solutions – such as AgriBot and Farmerline.

# 6. Seed system transformation

The transformation of African seed systems is an urgent development priority. One of Africa's primary causes of low agricultural productivity is the use of poor-quality seeds unsuited to local conditions. Seed is widely regarded as 'the foundation of agriculture, and functioning seed systems are vital to food and nutrition security. But in many countries, seed systems are dysfunctional, constrained or non-existent, and farmers have limited access to the improved seed varieties needed to enhance crop production and income

Currently, crop yields for smallholder farmers on the continent are the lowest in the world: for example, maize averages 1.5 tonnes per hectare against a global average of 4 tonnes per hectare. Nearly one-fifth of Africans suffer from acute hunger, while another fifth experience chronic undernourishment. Africa also imports up to US$55bn worth of food annually – a figure predicted to rise to US$110bn by 2030. Transforming seed systems is essential to improving rural livelihoods and eradicating poverty, hunger and malnutrition.

This chapter considers the work of Multi-Seeds Company Limited (MUSECO) in Malawi and Beula Seed Company & Consultancy Limited in Tanzania. Founded in 2014, and 2011, respectively, MUSECO and Beula Seed Company are improving access to quality seed by taking a collaborative, integrative and holistic approach to seed system transformation. This case study will explore the role of collaborative leadership in achieving alignment and coordination among seed system stakeholders, showing how MUSECO and Beula have leveraged value chain interdependencies to enhance and expand their operations. It will also explore the role of AGRA as convener, coordinator and funder within the Seeds for Impact (SIP) programme, and introduce the voices of beneficiaries to articulate the impact of these endeavours.

## Seeds and seeds systems

Although Africa contains more than 25% of the world's arable land, crop productivity levels are well below the global average, with yield deficits particularly acute in sub-Saharan Africa (SSA). In contrast to other developing regions, agriculture in SSA has been underperforming since the 1960s. According to the UN FAO, the general trend for SSA between 1961 and 2005 (with measurements conducted since independence in many countries) was one

of decline punctuated by occasional periods of growth.

Since the early 2000s, however, agricultural production growth in sub-Saharan Africa has increased. Today, agriculture accounts for 32% of GDP and employs 65% of the region's workforce. Yet, agricultural yields are nearly two-thirds less than those in commercially oriented markets, leading to comparatively high food insecurity and malnourishment levels.

Sub-Saharan Africa is the region of the world most at risk of food insecurity, and is home to 239 million (or 93.4%) of the 256 million Africans currently classed as 'undernourished'. According to the FAO, 57% of the population cannot afford a healthy diet, while dependency on imported cereals remains high. In 2019, SSA's annual food import bill was US$43bn, and in 2022 EU exported volumes of cereals to SSA were 80% higher compared to the previous three-year average. It is expected that the region's reliance on imports to "close the gap between dometic production and consumption" is set to increase in the coming years.

Several factors contribute to SSA's low crop yields and food production shortfalls. Climate shocks such as flooding and drought, locust infestations, conflict, disease, and disruptions linked to Covid-19, have all conspired to impact agricultural output in recent years. Long-term systemic constraints also act as productivity inhibitors, including restrictive landholdings, illiteracy, lack of access to credit, markets, fertilisers, technology and information, and poor post-harvest infrastructure.

But in the words of the late Kofi Annan, former UN Secretary-General, "seeds have been the main problem". In 2012 already, Annan was describing how Sub-Saharan Africa's yields had barely changed in 30 years, remaining roughly a quarter of those recorded in other developing regions. The primary reason for this stasis, and the enduring cause of low yields today, is the use of poor-quality seeds among SSA's smallholder farmers. "[They] are using seeds that are 20 years old," said Annan. "They have been locked out of science."

Seeds have long formed a core part of the indigenous rural cultures and traditions of African farmers. Since 3,000 BCE, when plant domestication first began in West Africa, seeds have been the foundation of food sovereignty and survival on the continent.

Seeds are still central to African farming and agriculture in the twenty-first century. Across the sector, there is consensus that seed is one of the most crucial elements for increasing productivity and, in turn, achieving food and nutrition security. Today, the activities, institutions and policies contributing to developing and distributing seeds of improved varieties are collectively known as 'seed systems'.

Seed systems encompass every stage of the journey from variety development, breeding and harvesting to testing, multiplication, dissemination and storage, through to crop cultivation, marketing and consumption. However, while seed technology has been revolutionised in recent times, many farmers remain wedded to ancient traditions and techniques, as they distrust the

commercialisation of the seed sector and are resistant to change. A lack of information and choice resulting from poor extension systems are further contributing factors.

## Informal and formal seed systems

Seed systems in which farmers follow local and ancestral practices are called 'informal systems'. In contrast, those characterised by more modern and structured approaches are known as 'formal systems'. The main differences between the two are set out below.

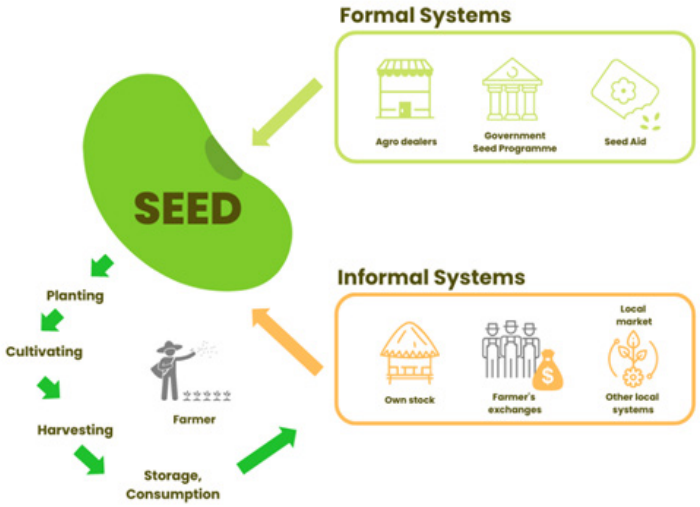



*Figure 1: Formal and informal seed systems*

In informal seed systems, seeds are produced locally and passed from farmer to farmer. Seeds are bartered or sold among family members, friends or neighbours, then saved and recycled each year. These seeds are often of different mixtures (types, colour, size), and are vulnerable to the vagaries of climate and have limited resistance to pests, drought and diseases.

Seeds are often of landrace varieties, developed over time according to community needs and preferences. Farmers operating within this system make little distinction between seed (for planting) and grain (for consuming), while varietal purity, quality and identity are low priorities. Key production steps are neither monitored nor controlled, with no external inspection or certification schemes.

The formal seed system, on the other hand, is a deliberately constructed framework encompassing a complex value chain of actors and processes. The interaction of the elements within this system produces high-quality seed products whose characteristics are carefully controlled to maximise agricultural yields. These 'improved' crop varieties are developed in research institutes in response to local contexts, agroecological niches, climate and demand. They usually have traits like high yield potential and resistance to drought, disease and pests. Their enhanced qualities help farmers adapt to climate change, boost productivity and reduce post-harvest losses. A recent study in Northern Ghana, for example, found that adopting improved seed

maize technology (ISMT) resulted in a 16.1% enhancement in technical efficiency and a 33.8% increase in maize productivity. Improved seed can further increase the nutritional value of crops and improve soil health and stability.


*Figure 2: The core components of a formal seed system*

Formal seed systems clearly distinguish between seed and grain. Breeders focus on maintaining varietal purity and identity to maximise quality, which is monitored and certified by external regulatory bodies. Distribution usually occurs via licensed seed outlets and agro-dealers. The formal seed system encompasses a range of seed categories. These include early generation seed (ESG), breeder seed, foundation or basic seed, quality declared seed (QDS) and commercial seed.

## National seed system transformation in Africa

The transformation of national seed systems is a major development priority. National seed systems comprise both formal and informal structures. Despite the productivity gains associated with 'formal seed', nearly 80% of seeds obtained by smallholders still come from informal channels. Consequently, most farmers have limited access to the improved seed varieties needed to enhance crop production and income.

Climate change has added new urgency, intensifying the need to accelerate the breeding, delivery and adoption (BDA) of seeds resistant to adverse climatic conditions. Seeds are critical to building resilience to climate change. In the World Bank's Ending Poverty and Hunger by 2030: An Agenda for the Global Food System, two of the six pillars for "ensuring a more climate-smart agriculture" focus on seeds and seed system development. 'Cultivar adjustment' (i.e. shifting to climate-resilient seed varieties) is also identified by the IPCC as the most effective strategy for on-farm adaptation.

The process of seed system transformation involves coordinated efforts in the formalisation and commercialisation of national seed

actors and operations. While approaches differ from country to country, the primary transformation agenda focuses on the expansion of formal seed system practices and products in support of increased yields and climate resilience. In this way, seed system transformation is vital to the achievement of the United Nations Sustainable Development Goals (SDGs), in particular, SDG 1 (no poverty); SDG 2 (zero hunger); SDG 3 (good health and well-being); and SDG 13 (climate action). It also supports the goals of the Malabo Declaration on Accelerated Agricultural Growth and Transformation.

Across sub-Saharan Africa, however, there are major barriers to progress, and most national seed systems remain constrained and dysfunctional. This is mainly the result of misalignment and poor coordination between the public and private sectors, and a failure to harness the power and potential of SMEs.

Seed system development depends upon private sector breeding programmes and SME expansion. But in many countries, government intervention has inadvertently thwarted private sector development. As Mr Supply Chisi, Business Development Officer at the Seed Trade Association of Malawi (STAM), explains:

*"The problem in Malawi was dependency on government. Initially, all trade association members were buying certified foundation seed from the government research institution. This was a major issue, as there were no private companies producing foundation seed, and the government's limited capabilities meant it was difficult to produce the volumes required."*

Government seed subsidies have also proved problematic, as Jane Ininda, Head of Seed Research & Systems Development at AGRA, observes:

***"Government subsidy programmes can create a poor environment for a liberalised seed industry because they sometimes distort markets. Seed is often distributed in wrong ecologies leading to poor performance of varieties and consequently low yields. There is also a tendency to cut corners in the tendering process, and the end result is a compromise on seed quality."***

Subsidies can of course have a positive impact, but this depends on the growth stage of the country in question and needs to be assessed on a case-by-case basis.

In Tanzania, the liberalisation of the seed sector came early as part of micro-economic reforms in the 1990s. However, rather than working to support public sector efforts, investment into the private sector destabilised parastatal structures, such as the Tanzania Seed Company (TANSEED). Hamstrung by inefficiency and poor management, TANSEED buckled under the weight of private sector competition, its sales dropping to 500 metric tonnes per year. And in 2001 the company collapsed, leaving the country without a sustainable local seed production and delivery system.

The situation in Tanzania was made worse by the failure of local seed companies to fill the vacuum left following the demise of TANSEED. Facing multiple constraints, these companies were unable to address the chronic shortage of improved seed across the country.

In addition to poor coordination between public and private sectors, it is also important to acknowledge the resistance to change among many smallholder farmers. On the other side of the seed political economy, farmers remain committed to indigenous seed systems mainly due to their mistrust of formal seed sector actors and institutions. These farmers believe the commercialisation of the seed industry threatens their agency and ownership within locally run systems, giving all the power to private entities. This concern is shared by many civil society organisations, such as GRAIN, who advocate for community-controlled seed systems. According to GRAIN, *"the corporate seed sector is reaching unprecedented levels of control … limiting the possibilities of small farmers to save, exchange and further develop their own varieties."* Successful seed system transformation, therefore, requires an equitable and inclusive model of change that reassures and empowers smallholer farmers over the long term.

When public and private interests are imbalanced or misaligned, or conflict and compete with one another, seed sector growth is hampered. While countries like Rwanda, Zambia, Uganda and Kenya currently lead the way when it comes to public-private sector collaboration and harmonisation, other countries are also now making progress. Malawi and Tanzania, for example, are beginning to improve access to quality seed by taking a collaborative, integrative and systemic approach to seed system development. As explored in the next section, MUSECO in Malawi and Beula in Tanzania are two of the private seed companies helping to drive these efforts forward.

## National seed system transformation in Africa

Founded in 2014, Multi-Seeds Company Limited (MUSECO) specialises in the production, distribution and marketing of high-quality basic and certified seed. It works with government-bred groundnut varieties, soya beans, pigeon peas, maize, rice and sorghum for use by Malawian smallholder farmers.

When MUSECO first opened for business, the primary challenge in the Malawi seed sector was the shortage of early-generation seed, especially foundation seed, and a lack of certified seed for legumes. There was also a paucity of 'orphan crops', such as sorghum, rice, chickpea and sunflower, which as Dr Ibrahim Benesi, CEO of MUSECO, explains was a major problem for Malawian agriculture:

*"Many of these crops are early maturing and drought tolerant, which means they are really important for food security and climate adaptation. Legumes are also high value and good for income generation. Before MUSECO, people had started milling and selling in shops, but there was no proper seed for these crops in the country."*

Looking to fill a vital gap in the market, MUSECO began operating as a small start-up with just three members of staff. Using a system of out-growers and community seed multipliers, the company began producing and distributing seed for its target crops. But as an SME market entrant

with limited capacity and infrastructure, MUSECO's output was inevitably constrained. Initially, it averaged around 300 metric tonnes a year and reached roughly 2,000 farmers. If it was going to make a meaningful impact, the company urgently needed to expand its operations.

Seeing potential in MUSECO's plans and approach, AGRA provided capacity-building support to test the model and enrolled the company on a business development programme. Staff received training at the University of Nairobi in business management, marketing and disease and pest management, with a view to deepening knowledge and professionalising operations. AGRA also provided financial support in the form of matching grants, while brokering an arrangement with the Government of Malawi to provide irrigated land assets. In addition, MUSECO received funding from AGRA and the Africa Enterprise Challenge Fund (AECF) through the Seeds for Impact (SIP) programme. The SIP funding, amounting to US$500,000, enabled MUSECO to expand its seed offering and construct a warehouse, a processing facility and an office.

Since 2018, as a result of the support provided by AECF, AGRA and other bodies, MUSECO has scaled its business and significantly extended its reach. It has increased annual seed production to over 1,000 metric tonnes, with plans to double its output in the coming years. It has added sunflower, chickpea, sesame, sweet potato and cassava to its portfolio, and now reaches 75,685 farmers across several districts. The company has also grown and now employs 29 full-time staff members.

MUSECO's scaled operations has increased the availability of improved seed to local companies and smallholder farmers. As set out in 'The African Seed Access Index (TASAI) Malawi Country Report 2020', seed companies are now "very satisfied" with the availability of basic seed for maize, bean, groundnut and soya bean – Malawi's four 'focus crops'. As the report states, "the seed companies' ratings in 2019 (between 69% and 91%) are notably higher than their ratings in 2016 for all crops (between 49% and 65%)." It also lists MUSECO as a "significant source of basic seed … the quality of which is rated very highly".

Crucially, MUSECO's growth has helped to strengthen the private sector as part of the country's ongoing seed system transformation. As Mr Chisi from STAM reflects: *"The benefit of supporting MUSECO has been the building of private sector capacity and creating consistency in the supply of early generation seed (EGS). Farmers are less reliant on government now, and there is better quantity and quality of EGS in the country."*

Jane Ininda from AGRA concurs: *"MUSECO is a real success story because of its ability to go to scale, rather than remain a small seed company. It has gone from being a start-up to a professional and sustainable seed company producing greater volumes of seed, which is helping to formalise and commercialise the seed sector in Malawi."*

In addition to the financial and technical assistance provided through SIP and other

programmes, one of the major factors behind MUSECO's success has been its commitment to collaborative leadership and partnership. Realising that expansion depends on collaboration and integration, MUSECO, from the outset, formed alliances with key sector bodies and development institutions. These partnerships reflect the multiple stages and value chain interdependencies that are essential to functioning seed systems, as follows:

| Seed System Stages | Partners |
|---|---|
| Research and breeding | Ministry of Agriculture and the Department of Agricultural Research Services (DARS) |
| Variety release and regulation | Seed Services Unit (SSU)<br>International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)<br>IITA GoSeed |
| Seed production and processing | Seed Services Unit (SSU)<br>International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)<br>IITA GoSeed |
| Education, training and extension | RUMARK<br>Agro-dealers |
| Distribution and sales | RUMARK<br>Agro-dealers |

*Figure 3: Seed system stages and relevant MUSECO partners in Malawi*

As Ibrahim Benesi, MUSECO's CEO, explains, ***"Many different stakeholders and components need to work together to create a well-functioning seed system. These individuals and organisations need to collaborate. There is strength in partnership and things work much better and faster when we work as one."***

MUSECO's approach aligns with TASAI's theory of change for seed system development. This theory proposes that an interconnected cycle of activities and actors (encompassing R&D, seed policy, industry competitiveness, institutional support and services to farmers), leads to increased quality, availability, accessibility and affordability of improved seed.

Following this model, collaboration within the Malawi seed sector has dramatically improved in recent years. As Mr Chisi reflects:

*"Now we have very good working relationships within the CGIAR centres and [our teams at STAM] can participate in seed variety evaluation. It's important because we are all serving the farmer, and if we work together, we'll produce varieties that farmers need and respond to what the market needs. But if we work in isolation, it will be very difficult to assist the farmer."*

## Cassava and sweet potato – a lifeline during Covid-19

Cassava has many nutritional benefits. Its leaves have antioxidant and digestive properties and are rich in protein, minerals and vitamins that deter opportunistic diseases. As a crop it is drought-tolerant, can be stored underground, and is rich in zinc and iron.

During Covid-19, MUSECO's expansion into cassava seed production provided a lifeline to smallholder farmers in Malawi. Across Thyolo, Mulanje and Zomba districts in the Southern Region and Dedza and Lilongwe in the Central Region, MUSECO distributed bundles of cassava to farmers to help them mitigate the impact of the pandemic. The company also connected farmers to Mgwirizano Cassava Processing Group, which has links to markets in Blantyre.

MUSECO worked with the Department of Agricultural Research Services to identify beneficiaries. The intervention aimed to increase farmers' productivity and income, protect them from drastic shocks and stresses, and ultimately enable them to survive and bounce back. Other key objectives were to establish community markets, diversify local diets and promote health and nutrition.

Maxwell Mbewe, a farmer in Mpenda village, was one of the cassava recipients. "We received five bundles each," says Mbewe. "We also got trained in pest and disease management … so that we could manage our [crop]. In the past, we used to grow cassava, but we did not have the knowledge and skills. We also learned about value addition … and through this partnership with MUSECO we have been linked to a reliable market."

As part of their Covid-19 response project, MUSECO distributed sweet potato vines to 265 smallholder farmers in Khonjeni, Thyolo district. Orange-fleshed sweet potato is a highly nutritious root crop rich in vitamins A, C and B6, which is especially good for children under five and pregnant women. It is also an early maturing crop that is key to reducing hunger and boosting income.

Evelyn Savala, a local mother of four, describes the impact of the project: "I harvested about 31 bags of sweet potatoes…and sold 13 bags at MK85,000 (US$ 82.50) and kept the remaining for food. I bought a goat (now there are three!) and a radio set and I renovated my house. Apart from these assets, my children's diet has improved because I was able to make snacks for them like futali (sweet potatoes mixed with groundnuts) and mandazi (fritters)."

*Figure 4: Evelyn Savala, MUSECO beneficiary, courtesy of Pauline Mbukwa*

Justin Mpinga is another beneficiary of MUSECO's sweet potato programme. Planting seeds from the donated vines, Mpinga harvested 25 bags of sweet potatoes, which he sold for MK71,000 (US$68.91). With this money, he bought a pig and repaid a loan to the One Acre Fund.

*Figure 5: Justin Mpinga, MUSECO beneficiary, courtesy of Pauline Mbukwa*

"I now have peace in my heart after returning the loan and I also have food in my household," says Mpinga. "I am able to meet the needs of my family and I will not stop growing sweet potatoes because there is good nutrition and profit."

## Beula's boost for improved seed in Tanzania

Beula Seed Company and Consultancy Ltd was established in 2011 to increase the availability of quality seed for smallholder farmers in Tanzania. The company is headquartered in Arusha, with a branch office in Mbeya in the Southern Highlands. It specialises in seed production for both hybrid and open pollinated maize varieties, sorghum, vegetable seeds, Irish potato, common beans and sunflower, among other crops.

Historically, there has been a chronic shortage of improved seed in Tanzania, with the majority of farmers buying and recycling local seed varieties from the informal market. And while maize has seen advancements in recent years, seed recycling is still a big problem for beans seed potatoes.

*"These crops are important for the country," says Zabron Mbwaga, Managing Director of Beula. "Maize is a staple crop and beans are eaten everywhere. But when Beula started, farmers were simply buying bean grain, regardless of seed-borne diseases, and planting them as seeds."*

Recycling seeds and grain leads to the transmission of viruses and bacteria, resulting in small tubers, varietal degeneration and low yields. For example, for seed potato, farmers using recycled seeds and grain typically achieve five tonnes per hectare, against potential yields of 40 tonnes per hectare.

At the time of Beula's formation, the other major challenges facing the seed system in Tanzania can be summarised as follows:

- Lack of local seed production and distribution enterprises with the requisite technical capacity, financial muscle or facilities.
- Insufficient quantities of foundation seed to facilitate certified seed production in response to demand.
- Absence of contract seed growers to ensure certified seed production was conducted in accordance with established seed laws.
- Lack of coordinated networks of agro-dealers to meet the demands of rural farming communities for improved seed and other agro-inputs.

Determined to address these challenges head-on, Beula Seed Company set out to pioneer bean seed multiplication as a guarantee of quality for food and nutrition security. It also targeted the production of early generation seed potatoes.

Like MUSECO, at first Beula's impact was limited due to the financial and operational constraints it faced as a newly launched SME. But slowly, with external support and guidance, the company began to evolve. With catalytic financial assistance through the SIP programme, coordinated by AGRA, AECF and Syngenta Foundation, Beula was able to construct a warehouse and purchase vital farm machinery, such as tractors, disc ploughs and harrows, a boom sprayer and vehicles for seed distribution and monitoring.

Members of the Beula team (which has grown from two to twelve) also took part in Seed Enterprise Management Institute (SEMIS) courses coordinated by AGRA, undergoing formal training in management, seed production, processing and marketing. As a result of these developments, the company has been able to oversee and facilitate the following developments:

- The training of out-grower farmers to ensure certified seed production is carried out in accordance with legal requirements
- Agro-dealer network coordination
- The licensing of climate-resilient and water-use efficient maize (WEMA) varieties
- The launch of a seed potato production system using clean materials from tissue culture (plantlets)
- The production of tubers to certified seed standard for supply to farmers

Within two-and-a-half years of its participation in SIP, Beula extended its reach to more than 4,000 farmers, enhancing improved seed availability and accessibility via its new distribution facilities. Through the use of clean seed materials, it has created the conditions to increase yields from 5 metric tonnes per hectare per year to 40 metric tonnes per hectare, and from 1.5 metric tonnes of maize per hectare to 2.32 metric tonnes.

It has also pioneered the distribution of certified chemical dressed bean seed in small packets (1kg, 2kgs and 5kgs) through agro-dealer shops. This has enabled farmers to increase yields from three bags per acre to six-to-eight bags per acre (each bag equalling 100kg of produce).

Crucially, through its growing influence in the Tanzanian seed sector, Beula has licensed two maize varieties and one common bean public variety. It can also access early generation seed directly from national research bodies. As Zabron Mbwaga explains:

***"Previously, we depended on getting seeds from the government's Agriculture Seed Agency (ASA). Now, since our growth as a company, we can get seed directly from research stations and breeders. This means we can access pre-basic seeds and produce early generation seed ourselves."***

The early involvement of companies like Beula in national seed system value chains is essential, helping to create a vibrant private seed sector as a catalyst for transformation. As Mbwaga concludes:

"If we can involve the private sector in

developing seeds in collaboration with the government and other institutions, I know the seed system will run. If we can put quality control mechanisms in place and improve the development of seeds ourselves, we can help to improve the whole system."

## The ingredients for success

In both Tanzania and Malawi, changes in policy and regulation have been key to facilitating private sector involvement in seed system transformation. And through collaboration and consultation, both Beula Seed Company and MUSECO have played key roles in these developments.

In Tanzania, through close dialogue with government, Beula was able to advise on amendments to the country's Seed Act to help create a more enabling environment. *"There were certain elements of the Act which were not business friendly for the private sector," says Mbwaga. "But we pressured on these points and now we have achieved registration and accreditation, which means we can export maize and rice to other countries."*

In addition, Beula's ongoing conversations with government have opened the way for the production of certified seed potato in the Southern Highlands of Tanzania. Government subsidies, and other issues that were constraining the liberal seed market and private sector growth, have also been resolved. *"Now we share ideas together," says Mbwaga. "We help to identify weaknesses in the system and improve things for the end-user."*

In Malawi, MUSECO has also collaborated with government to help tackle counterfeit seed (among other issues) through the country's new Seed Bill, effective 2022. Recent assessments suggest that between 40% to 60% of certified seed on the market in Malawi is fake (i.e. grain not seed), with unscrupulous vendors making a profit while farmers' yields suffer. The new law introduces scratch-card verification for seed authenticity, guaranteeing increased access to quality seed and improved service delivery to the private sector. However, ongoing support is required to drive awareness and implementation of the new bill.

As Jane Ininda from AGRA observes, seed system transformation depends upon the inclusive and collaborative conversations that are beginning to happen in countries in s ub-Saharan Africa. *"The involvement of regulatory bodies, the government and the private sector, all working and talking together, is essential for national coordination," she explains. "But above all, the farmer has to be at the centre of these decisions and policies. This is why in the work AGRA is doing with various stakeholders under the Center of Excellence for Seed Systems in Africa (CESSA), the farmer is King."*

According to ICRISAT, the key focus for seed policy should be wholesale integration of seed sectors and systems for faster, sustainable impact. Urging for the cohabitation of public and private sector bodies within national seed systems, ICRISAT also advocates for increased cooperation between the formal and informal sub-sectors.

It is worth remembering that while formal and informal seed systems are distinct, the boundaries between them can be porous.

Seeds developed in the formal system can be derived from informal genetic sources. These seeds also often flow back into the informal system. For this reason, ICRISAT emphasises the need for a conducive seed policy environment to facilitate the development of complementary seed channels. These channels should include both local, community based and more formal seed organisations, so that the industry is inclusive and

## Leadership lessons learned

There is much to be learned from the success of MUSECO and Beula Seed Company. The lessons below provide clear pointers for future seed system interventions, programmes and developments.

**Promote coordination and complementarity**

Efforts to transform seed systems need to adopt balance and harmonisation as guiding principles. An imbalance of interests and influence can distort national seed systems and markets. Government subsidy programmes and monopolies, for example, have in some instances bred dependency and thwarted private sector development.

**Take an integrated assessment.**

It is essential that countries consider the uniqueness of each farming market to create functioning seed systems that enable increased access to quality seed.

**Incorporate all views and voices.**

National seed policies and laws should reflect the views of all those who have an interest and involvement in seed system development. With 80% of seeds still coming through informal channels, it is important to acknowledge farmers' resistance to change and devise an inclusive and representative transformation agenda.

**Take an integrated ecosystem approach.**

For agtech companies and organisations looking to develop digital solutions, the integrated model is the most likely path to success. By addressing all farmer pain points together, programmes stand a greater chance of delivering genuine impact – they are also more likely to attract external investment.

**Take a holistic system approach.**

In many countries, parts of the national seed system are functional, but the sum of these parts does not create a well-functioning whole. Countries need to focus on building holistic seed systems that function in their entirety. They also need good available public data to enable investments to flow into the sector.

**Education and implementation are key.**
Policies and regulations can help to create enabling environments for seed system development. However, only through focused education and implementation will farmers become aware of relevant changes and encouraged to adopt new seed varieties.

**Address and exploit sector interdependencies.**
National seed systems are home to multiple interdependencies and interconnections. Leadership needs to encourage solutions that enable various actors – research institutions, SMEs, development partners – to exploit their overlapping interests, needs and capabilities.

**Develop national planning units.**
Countries need to look ahead and plan for future needs and priorities in crop development. By taking a strategic approach through national planning units, countries can begin to anticipate and respond to seed system gaps and inefficiencies.

# 7. Financing agricultural development: the Programme for Rural Outreach of Financial Innovations and Technologies (PROFIT)

This chapter considers the work of the Programme for Rural Outreach of Financial Innovations and Technologies (PROFIT) – one of sub-Saharan Africa's first major de-risking mechanisms for financial investment in agriculture..

Operational from 2010 to 2019, PROFIT was a US$83.2m project that drove major innovations and advancements in inclusive rural finance. In total, it made loan disbursements of US$32.86m, reaching over 300,000 borrowers and beneficiaries and leveraging commercial funds at 4.75 times the original investment. It also had a significant institutional impact, providing a replicable risk-sharing model. PROFIT led to the creation of the Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL), the Ghana Incentive-Based Risk Sharing System for Agricultural Lending (GIRSAL), and the National Credit Guarantee Scheme in Kenya, among other programmes.

But PROFIT very nearly didn't happen at all. Just a few years into development, the programme almost collapsed under the weight of bureaucratic constraints, structural complexities and resistance to the new ideas it proposed. And although it was eventually revived, there was a significant time lag between programme design and implementation, with lengthy delays eroding the confidence of key participants.

This chapter focuses on the adaptive and collaborative leadership interventions that kept the programme on track, aligned diverse stakeholder interests, and enabled positive systemic change in agriculture finance.

## Rural finance in Africa

Across Africa, limited access to financial services is a major constraint to efficiency in smallholder enterprises. A lack of working capital for agriculture value chain players inhibits rural transactions, limiting the produce farmers can market, which in turn disincentivises production. Lack of credit, insurance and savings mobilisation further restricts smallholders' output, activity and income potential.

The demand for agricultural finance in Africa is estimated at US$32–40 billion, but only an estimated US$7 billion is currently met. This shortfall could have serious consequences. According to the African Development Bank, the financing needed to deliver food system transformation and realise the vision of the Sustainable Development Goals (SDGs) has grown from billions to trillions.

Historically, banks have been reluctant to lend to agriculture, despite having considerable liquidity, due to high risk perceptions. This has been especially true for enterprises owned by women and youth, who tend to lack collateral. Despite forming the backbone of many developing economies, agriculture has been routinely overlooked by commercial lenders, investors and service providers.

For example, between 2010 and 2017 the share of total credit to agriculture in Kenya fell from 5.4% to 3.7% – and this is a sector that currently contributes 35% of GDP and accounts for around 70% of employment in rural areas. The number of agricultural loans made by commercial banks went up just marginally from 117,371 in 2010 to 127,518 in 2014. In 2015, the number rose steeply to 180,533, but by 2017 had fallen by almost 50% to 91,940, with around 100,000 agricultural loan beneficiaries thought to have dropped out of borrowing.

Before PROFIT's inception, the financial products that reached rural areas in Kenya failed to address key value chain constraints. The percentage of non-performing agricultural loans was also high, while lending models for microfinance institutions (MFIs) were outdated and inadequate. Overall, the institutional arrangements for rural finance in Kenya, as elsewhere in Africa, have always been deeply flawed, providing little if any stimulus to employment, productivity or poverty reduction.

## Expanding smallholder profit potential

PROFIT, or the Kenya Incentive-Based Risk Sharing System for Agricultural Lending (KIRSAL), as it was first known, was conceived in response to the chronic shortcomings within rural finance. Its primary aim was to reduce poverty in rural Kenya, with the underlying development goal of increasing incomes for smallholder farmers, pastoralists, fisherfolk, rural entrepreneurs, women and youth.

To achieve these objectives, PROFIT sought to encourage and enable increased lending to agriculture and expand access to finance for the target beneficiaries. It took a systemic approach to financial inclusion, looking to transform the sector by helping rural enterprises become profitable businesses capable of attracting private finance.

Through concessionary financing from its three principal architects – IFAD, the Government of Kenya and AGRA – PROFIT set out to leverage commercial funds for rural investment, using blended finance to reduce costs and mitigate risk. It also aimed to provide liquidity to microfinance institutions to address their funding constraints and lower the cost of rural portfolio expansion. Specifically, the programme devised two

blended finance instruments: a risk-sharing facility and a credit facility, combined with a supply and demand-side technical assistance scheme. The idea was to enhance the risk appetite of participating financial service providers, such as the Agriculture Finance Corporation (AFC) and Barclays Bank of Kenya (BBK), while creating incentives for lenders to extend their reach to rural communities.

Today, the concept of de-risking agricultural investment through blended finance is fairly well established. But in 2009, when Nigerian economist Akinwumi Adesina (then at AGRA) first engaged the Government of Kenya with this idea, it was a relatively novel proposition.

At the time, it was widely acknowledged that direct government lending to agriculture was ineffective, invariably leading to non-performing rural loan portfolios. Existing financial products were known to be insufficient, unable to reduce the cost of rural lending.

The challenge facing Adesina and AGRA was to convince the Minister of Finance that this new model would be more successful, sustainable and secure than the old. The benefits were laid out very clearly. Instead of government using its own money to finance loans and subsidise inputs, it would put funds into commercial banks. This would enable significant financial leverage and rotation, while also protecting against losses. Through blended finance mechanisms, the banks could then lend the funds at a low rate, making the programme cost-effective and affordable, with the investment risks shared equally.

The Minister of Finance and Permanent Secretary embraced the idea enthusiastically. Yet questions remained around exactly how it would work. So AGRA conducted a study, jointly with the Ministry of Finance, to provide the government with the clear view it needed. The study identified the shortfalls in agricultural financing and demonstrated the value of the incentive-based, risk-sharing approach.

Conceptually, therefore, this innovative investment model was compelling. But operationally it was problematic. Enabling government to borrow cheaply to stimulate agriculture development, it was predicated on the use of public funds to de-risk private money – something that had never been done before in Kenya. Its guaranteed risk-sharing facility was also uncharted territory. On top of this, PROFIT was accompanied by unique implementation arrangements, which called for multiple parties to come together to address the issue of financial inclusion.

As with many radical proposals, PROFIT was met with uncertainty, followed by a series of seemingly insurmountable setbacks and complications. And during the first few years of design and development, the programme's very existence hung in the balance.

Between 2010 and 2014, before it had even got off the ground, PROFIT almost collapsed under the weight of bureaucratic constraints, structural complexities and resistance to the new ideas it proposed. Some of the principal challenges that nearly derailed the programme, and led to delays in implementation, were:

**Multiple unknowns**

Many aspects of PROFIT were new, untested and untried. Specifically: Embedding the programme into existing government structures and systems, rather than creating an independent Project Management Unit (PMU), was unlike anything that had gone before. This approach created confusion, with ministry staff and external partners unsure who should take responsibility for the programme.

The government and the private sector had never worked together in this way. At the time, Kenya's Public Finance Management Act was being revised, and the National Treasury's Public Private Partnership Unit (PPU) had only just been set up. This meant there was no clear framework or direction for investing public money in private entities.

**Poor resourcing and remuneration**

The Project Coordinating Unit (PCU), created to help manage the programme within government, was lean. It comprised just two programme staff with the rest drawn from government personnel, with no additional remuneration to incentivise engagement with PROFIT.

**Slow-moving machinery**

Government procurement processes are notoriously slow. As a single, low-priority programme within a vast bureaucratic system, PROFIT's external procurement took exceptionally long. In some cases, several years elapsed between engaging a partner and onboarding them. Delays resulted in some partners who had been preselected, like Cooperative Bank, K-Rep Bank and Equity Bank, dropping out altogether.

**Lack of trust and understanding**

With no framework for engagement, the government and the private sector were wary of each other's intentions and out of step with each other's methods. The government questioned why it should give public funds to commercial banks, whose primary focus was profit generation. The banks didn't trust the government to manage a risk-sharing facility, fearing the funds might become subject to political influence. And the agility of the private sector came up against the rigidity of the government's process mindset, causing frustration and misalignment.

**Late-arriving technical service provision**

PROFIT's technical service provision should have preceded the programme's launch. Yet it didn't arrive until the fifth or sixth year. This meant that key issues, particularly those around government control, were not resolved until very late into PROFIT's journey.

That these and other challenges didn't sink PROFIT by year three, and that PROFIT not only made it to implementation but went on

to achieve major financial and development impact, is testament to the strength of leadership involved in the programme's evolution. But what were the leadership qualities and interventions that rescued this game-changing rural investment programme?

Adaptive leadership – the ability to lead change and mobilise others to embrace change – was critical to PROFIT's overall success. From day one, PROFIT, engaged large numbers of people and institutions with new concepts, systems and structures. It sought to innovate and experiment, overturning outdated models and moving away from more traditional problem-solving approaches.

For example, the proponents of PROFIT engineered a shift away from direct government agricultural lending and subsidies. The de-risking model they devised was a radical break from the past, designed to overcome the central constraints to agricultural productivity in the present.

With PROFIT's central 'location' within existing government structures proving problematic, the leadership team saw that the programme had to be reorganised and restructured. Rather than stick rigidly to the original programme model, they enhanced AGRA's role and ceded many of the core government functions to a dedicated unit within AGRA. This move directly addressed the challenge around uncertainty of roles and responsibilities within the original programme structure. It also enabled a smoother interaction between the government and the private sector, with AGRA experienced in dealing with both.

Effectively delegating government authority to a separate entity to manage implementation, AGRA's expanded role set the direction of travel for future lending models and institutions (such as creating NIRSAL and GIRSAL as independent bodies). It also paved the way for enhanced technical assistance within PROFIT and expedited the development of new lending methods, products and processes. By pivoting to a new programme structure and strategy, PROFIT demonstrated its ability to adapt to evolving circumstances, again embracing the principles of adaptive leadership.

Collaborative leadership was a core programme component from the beginning. Firstly, PROFIT was jointly founded and developed by IFAD, AGRA and the Government of Kenya. It engaged multiple external partners, such as AFC and BBK, who were supported to devise new lending models. The programme also enlisted a range of technical service providers.

In this way, PROFIT deployed collaborative leadership to manage the complexity and diversity of agriculture value chains. Composed of numerous interconnected components, these value chains depend upon strong coordination and collaboration, with all constituent parts required to work together in order to function. PROFIT's approach ensured they did exactly that.

PROFIT also applied the principles of collaborative leadership to its lending models. For example, creating blended and value chain finance vehicles is a complicated process, requiring a lot of negotiation to get

all parties, interests and agendas aligned. Similarly, by its very nature, the concept of risk-sharing, embedded within PROFIT, requires collective effort and engagement. By encouraging multiple stakeholders to share the burdens as well as the fruits of financial investment, PROFIT tackled key issues that had constrained rural lending for decades.

Senior leadership advocacy was vital to the survival and eventual success of PROFIT. From Akinwumi Adesina (now President of the African Development Bank) to Dr Agnes Kalibata, President of AGRA, to the Cabinet Secretary (CS) of the 10 National Treasury, PROFIT had dedicated top-level leaders pushing its case and promoting its cause.

These interventions were critical, demonstrating to government officials the importance of bringing the private sector in to leverage additional finance for agriculture. The credentials of these senior leaders also meant they could demand an audience at the highest level, helping to secure senior ministerial buy-in and endorsement. In particular, Dr Kalibata and the National Treasury CS acted as ardent ambassadors for PROFIT, lobbying IFAD and other bodies not to cancel the programme during its difficult early years.

IFAD's primary concern was the programme's slow rate of fund absorption (less than 20% at the mid-term period). With operational delays and debates within government resulting in low levels of disbursement, IFAD classed PROFIT a 'problem programme' and threatened to withdraw funding. In response, PROFIT's high-level supporters made a strong case for its continuation. AGRA had already tested this approach and knew that results would pick up as the programme was rolled out. Once the operational issues were resolved, they argued, funds would be disbursed and proof of concept would be achieved. Above all, they urged IFAD and others to think about the long-term, positive systemic change this transformational model would generate, not only in Kenya but in other countries and regions.

The breakthrough with PROFIT came following its structural reorganisation. Engaged as an external entity, AGRA's Innovative Finance Unit took on the operational dimensions of the programme that had proved so problematic for government. The Unit, already experienced in blended and value chain finance, was bolstered with new appointments: a fulltime manager, a programme officer, an M&E officer and an oversight officer.

In government, programme staffing also improved. These measures proved critical, directly addressing PROFIT's structural and operational deficiencies. Within six months, all recruitment was complete and technical assistance was being onboarded, prompting IFAD to remove PROFIT from its 'problem programme' list. Within nine months, it was cleared to run; and within a year, it was deemed a 'performing programme'.

Playing a more central role, AGRA was also able to act as a convener and intermediary that could speak to and bring together all parties – government, IFAD, the private sector and technical service providers. This helped to address many of the core challenges the programme faced around lack of trust and understanding.

For example, AGRA's relationship with the government alleviated the banks' fears of misuse of political influence, while its experience in dealing with the private sector reassured senior ministers. And the appointment of key figures with experience of diverse sectors and institutions ensured PROFIT could achieve alignment of conflicting priorities and agendas. Overall, the programme demonstrated how having staff on board who understand how different partners work greatly facilitates implementation.

Guided by the principle of 'letting the markets work for the poor', PROFIT successfully catalysed the private sector to adopt cost-effective, scalable financial innovations. In turn, it transformed livelihoods and lives by increasing access to rural finance, tackling one of the major barriers to progress among smallholder communities in Kenya.

During its two-year implementation period, 2017-2019, PROFIT made total loan disbursements of US$32.86m, reaching over 300,000 borrowers and beneficiaries and leveraging commercial funds at 4.75 times the original investment:

| Sampling frame | Beneficiaries | Achieved | |
|---|---|---|---|
| Banks | 116,800 | 153, 214 | 131% |
| MFIs | 135,000 | 179,643 | 133% |
| TSPs | 33,000 | 24,999 | 76% |
| | **284,800** | **333, 160** | **117%** |

*Figure 1: PROFIT's impact during implementation*

## 179, 643

smallholder farmers and SMEs were cumulatively reached over the PROFIT timeframe, most of them reportedly new clients, exceeding the target of 135,000 beneficiaries (133%)

**Credit facility:**

## 153,214

an estimated 153,214 borrowers were reached in the form of a financial product through 1) AFC Anchors, CRAW and MRAW and 2) ABSA Anchors (133% of target)

**Risk-sharing facility:**

| | AFC | BBK | Total |
|---|---|---|---|
| Loan Disbursement | $23.7 million | $9.15 Million | $32. 86 million |
| Number of borrowers | 1,029 | 19 | 1048 |
| Beneficiary outreach | 111,563 | 41,631 | 153194 |
| Leverage | **6.4 Times** | **2.9** | **4.75** |
| PAR | **9%** | **0%** | |

*Figure 2: Overall programme achievements*

PROFIT also provided vital support to key financial partners, who in turn delivered impressive results. The Agricultural Finance Corporation, for example, through its involvement in the risk-sharing facility, loaned out US$23.7 million between 2017 and 2019 and brought down the percentage of its portfolio at risk from over 60% to 9%. Meanwhile, Barclays Bank of Kenya was able to lend over US$9 million in a sector in which it had previously made little impact. Microfinance institutions also increased their rural presence, reaching more than 234,000 smallholder farmers against a target of 135,000 over the same period.

In addition to loans disbursed and beneficiaries reached, PROFIT had a significant institutional impact. Offering vital lessons in programme development, its replicable risk-sharing model led to the creation of NIRSAL in Nigeria, GIRSAL in Ghana, and the National Credit Guarantee Scheme in Kenya, among others.

Similar institutional models are now being discussed in Rwanda and Malawi, with many programmes learning from PROFIT's early years to leapfrog challenges and expedite implementation.

Thanks to the work of PROFIT, the need for a more systemic approach to promoting financial inclusion is gaining traction, with the concept of de-risking agricultural value chains seen to be critically important. And with interest and consensus around the value of these facilities now established, studies are underway to help improve and inform future models.

## Boosting milk production through PROFIT: Kipsonoi FCS

Kipsonoi FCS is a registered dairy farmer cooperative society in Chebole market, Bomet County. It has been operational since February 2016 and officially registered as a cooperative society in July 2017. Its current registered membership is 950, composed of 500 men and 450 women with an average age of about 40.

In 2017, the society received a milk chilling plant from the County Government of Bomet. It also received technical support on dairy production from the Smallholder Dairy Commercialisation Project, an IFAD-funded initiative.

As a result of this support, milk production among society members increased. But given delays in payment from the milk processors, the society faced numerous challenges, with member commitment waning.

In September 2017, the society received capacity building support under PROFIT, through which it built a relationship with a financial institution. The financial institution extended a working capital facility, in the form of an overdraft limit up to KES 3.5 million. This enabled the society to issue prompt payments to its dairy farmers. Under the financing arrangement, the milk processor provides the bank with monthly milk delivery data and the bank funds the society account. The society then prepares a payroll using a payment system installed at its premises by the bank, forwarding this for onward disbursement to individual farmers' accounts.

The society encourages its members to have bank accounts and, to date, over 200 members of the society have opened individual accounts through which payments are made. As a result of these developments, the society has continued to grow. Its active member base has risen from less than 200 in 2016 to over 1,000 in 2019, while daily milk delivery has increased from 500 litres to over 4,500 litres.

This continued success has attracted more partners, including donors. Recently, the society received its second milk chilling plant from the National Government through the Ministry of Agriculture. The additional equipment has enhanced the society's chilling capacity to over 6,000 litres per day, helping to boost production and transform livelihoods and lives.

## Leadership lessons learned

There is much to be learned from PROFIT's nine-year journey from conception to completion, and vital insights to be gleaned from the harsh realities of project design, development and implementation. The leadership lessons below provide clear pointers for agricultural finance actors looking to lead and sustain meaningful change in this crucial development sector.

**Engage top officials and key decision-makers.**
The success of a programme such as PROFIT depends on establishing buy-in at the highest levels of government and other institutions. But to achieve endorsement among key decision-makers, a programme's underlying concepts need to be clearly explained and understood. Only in this way can a programme achieve ownership from the top and ensure continuity of vision.

**Keep stakeholders regularly updated.**
To keep senior leaders and other stakeholders onside, regular information updates are critical. Particularly when programme methods are new, and when participating partners are wary, it is essential to keep all parties informed and abreast of developments.

Indeed, regular, open and honest communication leads to convergence of vision and effort. To this end, convening stakeholder workshops, planning sessions, joint reviews and meetings ensure that key participants are regularly brought together. On the supply side, PROFIT stakeholder workshops were held with banks, MFIs, Savings and Credit Co-operatives (SACCOs), government representatives and technical service providers. On the demand side, there were regular workshops for agricultural SMEs and smallholder farmers. Combined, these efforts ensured alignment and commitment towards the programme's common goal.

**Explain the principles, share the experience.**
When looking to expand the rollout of a successful model, it is crucial to invite others to share in the core programme learnings. During the adaptation of PROFIT in other countries, exposure visits and peer-to-peer exchanges enabled representatives of key institutions to see and understand how the programme worked. By sharing its central principles and experience, PROFIT paved the way for regional endorsement of the de-risking concept as a basis for financial inclusion. This led to the creation of associations of rural finance institutions, which continue to share knowledge and information across regional networks of banks and MFIs.

**Bring in people who can speak to different sectors.**
Alignment of interests and agendas is critical for successful programme implementation. By bringing in individuals and organisations with cross-sector experience and insight, programmes can demonstrate balance and impartiality – alleviating fears and building trust among key partners.

**Collaborate through co-ownership.**
Rather than try to assert sole ownership over a particular subject, space or field, organisations should collaborate in studies or publications designed to shape future activities. Not only do collaborative thought leadership efforts and research projects spread the workload, but they also allow for a fruitful cross-pollination of ideas and expertise.

**Be open to change, be ready to lead.**
Organisational design matters. Designated roles and allocated structures sometimes need to change to achieve project goals. As PROFIT demonstrated, being ready, willing and able to pivot to new ways of doing things can act as a catalyst for impact. Empowering people to lead change, and understanding why others might resist it, are critical considerations.

**Use data to make decisions and influence others.**
Access to accurate, timely and relevant data is key to effective decision making. A value chain data framework should be developed to support financial institutions to scale their operations in the agricultural sector. Data also enables programme ambassadors to underpin concepts with evidence when promoting new models. In the case of PROFIT, value chain studies generated a wealth of valuable data.
This data was used by the participating financial institutions to develop new products, determine entry points within specific value chains, and improve efficiency in the delivery of financial services.

**Introduce technical assistance early in the process.**
On a more technical note, programme leaders need to remember that technical assistance should precede the implementation of de-risking/incentivising mechanisms. During PROFIT's design stages, the programme did not have a technical assistance component on the supply side. Early technical assistance will enable supply to understand the needs of demand in product development and delivery.

# Stakeholder perspectives

"Collaborative leadership is crucial. It's essential. Because in agriculture, one actor cannot succeed without the success of others. If the farmer isn't producing, the processor has no produce, and the supermarket has no stock. Everything is linked to everything. So you need to collaborate; and that's what we see more and more in finance. Everybody who benefits from the agricultural value chain should be prepared to take part of the risk. It's a form of collaboration.

***Hedwig Siewertsen, Head of Inclusive Finance, AGRA***"

"By end of September 2018, the default rate for the AFC portfolio was 7%. This is a continuation of the good progress on the portfolio quality…In rural areas in Kenya, AFC, as a public policy lender providing financial services, is now the only agricultural finance lender with little competition

***AFC Senior Management***"

"Rural finance is fundamental to rural development, building trust in a sustainable socio-economic system. And investing in creating and capturing value at local levels for the rural poor can induce a virtuous cycle of development… But the biggest elements that disturb this cycle are risk factors, and this is why de-risking [is so important]… Once you have rural finance flowing in, you need to have de-risking measures and risk-sharing mechanisms that will help to sustain that creation of value

***Mr Mawira Chitima, OiC, Sustainable Production, Markets and Institutions Division (PMI), IFAD***"

"Trust was a core component of the success of the whole programme. If any party was not trusting at all, the whole system would have broken down – that would have been the weakest link. It had to be based on trust. Trust was the key to bringing all these value chain players together and making sure each one of them played their role in leveraging the resources that were required

***Ronald Ajengo, Country Programme Officer, IFAD***"

# 8. Delivery mechanisms for agricultural transformation

For For the majority of African countries, agricultural transformation remains a distant ambition. According to the African Union's Comprehensive Africa Agricultural Development Programme (CAADP), as of 2021 only one country, Rwanda, is currently 'on track' to achieve its agricultural targets by 2025.

Across Africa, agriculture is constrained by low productivity and performance deficits. Agri-food systems are fragile, acute hunger and malnutrition are prevalent, and the continent remains dependent on foreign imports. How do African countries achieve the monumental task of transforming their agriculture sectors to drive economic growth, or replicate the successful transformation journeys and green revolutions undertaken by China, India, Vietnam and Israel?

This chapter considers the role of 'delivery mechanisms' in achieving agricultural transformation, particularly the work of the Rwanda Development Board (RDB) and the Ethiopian Agricultural Transformation Agency (ATA). Established in 2008 (RDB) and 2010 (ATA), both agencies are central to their countries' transformation agendas and visions. This case study will explore how collaborative leadership and cross-sector coordination underpin the form and function of these mechanisms, helping to drive agricultural productivity and structural economic shifts.

## Agricultural transformation in Africa

In the last 20 years, Africa has advanced economically and achieved the world's fastest agricultural GDP growth. Forty-four per cent of African countries are currently considered 'middle income'. The continent is predicted to outperform the rest of the world in economic growth over the next two years, with GDP likely to average around 4% in 2023 and 2024. According to the World Bank, with the right support, agriculture and agribusiness in Africa could become a US$1 trillion industry by the end of the decade, up from US$300 billion today.

But despite recent progress and positive forecasts, agriculture is still constrained by low productivity and performance deficits in many African countries. Poor crop yields, hunger and malnutrition remain widespread. And in 2023, in the Horn of Africa, 22 million people were acutely food insecure as the

region faced its worst drought in many years.

Clearly, the continent has a long way to go before it can realise its potential of feeding itself and the rest of the world. According to the African Union's Comprehensive Africa Agricultural Development Programme (CAADP), which serves as the main framework for action on agricultural growth in Africa, as of 2021 only one country, Rwanda, is currently 'on track' to achieve its agricultural targets, down from four in 2019.

Transforming Africa's agriculture is, therefore, an urgent development priority. But for many countries, such transformation remains a distant ambition.

According to Professor Peter Timmer of Harvard University, agricultural transformation "is the process by which an agri-food system transforms over time from being subsistence-oriented and farm-centred into one that is more commercialised, productive, and off-farm centred".

Elsewhere, it has been described as a process intended to transform farming from "a solitary struggle to survive to a business that thrives". Or, in the words of the International Food Policy Research Institute (IFPRI), a shift from "high prevalence of subsistence farming to high productivity, so that poverty falls and food security increases".

Agricultural transformation is essential to achieving food and nutrition security, import substitution and economic growth, which, in turn, stimulate job creation, poverty alleviation and youth and gender empowerment. The case for transformation is supported by studies showing that, on average, GDP growth from agriculture benefits the income of the poor two to four times more than growth from other sectors.

In the past, most countries that have transitioned from the lower to middle-income bracket have done so by driving economic growth through agriculture sector transformation. Between 1975 and 2010, for example, Brazil progressed from being a net food importer to a net food exporter, achieving a 110% productivity increase. Following substantial government intervention and investment in agriculture, Brazil is now a middle-income country with a robust export-oriented agribusiness industry. It is the third-largest economy in the Americas.

China has followed a similar trajectory, with a homegrown green revolution driving remarkable economic growth over the past 50 years. Following heavy government investment in soil quality and fertility research, cereal yields in China went from 1 tonne per hectare in 1961 to 6 tonnes per hectare in 2015. Commercialisation, subsidies, and access to markets and inputs have laid the foundations for China's agricultural success, which has put the country on a path to upper-middle-income status. Since 1978, more than 800 million people in China have lifted themselves out of poverty, and the country is now a global economic powerhouse.

Other countries that successfully transformed their agricultural sectors in the mid-to-late

twentieth century include Israel, Vietnam and India.

In their co-produced document, Implementing Delivery Mechanisms for Agri-Food Transformation, The Tony Blair Institute (TBI) and AGRA make the strong link between agricultural transformation and "broader economic transformation". They explain that the positive impacts of agricultural transformation begin with creating "powerful engines of rural economic growth". Two main pillars support this process:

- **Modernising farming** by boosting productivity and running farms as modern businesses.
- **Strengthening links between agriculture and other sectors** in a mutually beneficial process, whereby farm output supports manufacturing (through agro-processing), and other sectors support farming by providing modern manufactured inputs and services.

As the agriculture sector modernises, it becomes more efficient and less labour intensive. When rural incomes increase, some farmers remain focused on agriculture, adopt new technologies and expand their operations. Others move away from agriculture altogether, looking for more productive, higher-paying roles in other areas. According to TBI/AGRA, "at the same time, non-agriculture sectors in the economy (for example, manufacturing and services sectors) grow and absorb more labour. These transitions are seen as the share of GDP and labour in agriculture declines while GDP per capita steadily increases".

As agriculture becomes more productive, the positive knock-on effect for other sectors means it begins, paradoxically, to occupy a less central position within the national economy. An example of this trend can be seen in India, where structural transformation led to agriculture's contribution to GDP decreasing from 51% in 1950 to 15% in 2017.

Other key indicators of agriculturally driven economic transformation include:

- Increased urbanisation
- A drop in the percentage of economically active people engaged in agriculture as a share of the total workforce
- A narrowing of the gap between agricultural productivity and non-agricultural productivity
- Farms becoming larger and more commercialised
- Increased rural wages and reduced rural poverty
- Improvements in farming household diets and consumption patterns, often linked to the emergence of a middle class and increased available money for food

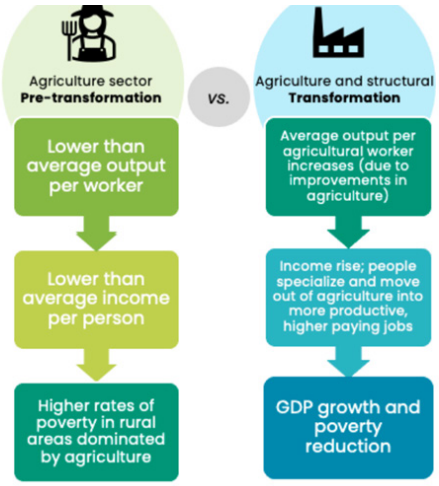



*Figure 1: Agricultural sector dynamics pre and post-transformation*

The argument for agricultural transformation is compelling and clear. What is less certain is how. How do African countries engage in the monumental task of transforming their agriculture sectors to drive economic growth? How do they replicate the s uccessful transformation journeys undertaken by China, Brazil and Israel?

Naturally, different countries take different approaches. But without exception, governments have emerged as the key enablers of the green revolution. Through policy, vision, support and coordination, governments can influence and stimulate agri-food systems and mobilise key stakeholders. But to do this, they must overcome the inefficiencies and constraints that have traditionally hindered progress. They have to free themselves from the 'burden of bureaucracy'.

As Thierry Ngoga, Former Head of Support to State Capability at AGRA, and Founder and Director at human capital social enterprise, GanzAfrica, observes:

"One of the reasons for Israel's success in its transformation programmes is the lack of bureaucratic constraints within its institutions. Compared to the African public sector, where requests to meet with senior officials often need to be sent and approved by letter, Israel's civil service enjoys a level of informality that is immensely liberating. Everyone is addressed by their name, not their title. Open-door policies create an environment that encourages new ideas and innovation, enabling programme objectives to be achieved quickly and efficiently."

In many African countries, cumbersome, siloed and slow-moving structures, entrenched in bureaucratic procedure, have presented insurmountable barriers to progress. Rigid hierarchies and protocols have created restrictive environments where decision making is slow and delivery ineffective.

Recognising the need for change, and following CAADP framework recommendations for institutional optimisation, some African governments have begun to reform their internal structures and systems. This process often involves creating specialist agencies and dedicated delivery mechanisms within or outside government ministries. And in the context of agricultural transformation programmes, these mechanisms can mean the difference between success and failure.

## Delivery mechanisms for agricultural transformation

In agriculture, a 'delivery mechanism' refers to the systems and agencies created by gov-ernments to implement their transformation programmes. Within the sector, a range of established delivery mechanisms and models exist, including:

### Agricultural Transformation Agency

An Agricultural Transformation Agency (ATA) is an independent institution within government that works alongside (but is separate from) the Ministry of Agriculture. The aim of an ATA is to strengthen government capacity for delivery, while also delivering some programmes directly.

### Central Delivery Unit

A Delivery Unit (DU) is a tool of the Head of State

or another leader; its job is to monitor and ensure the successful delivery of a government's vision in a particular area, such as agriculture. A DU is often located within a central government office, such as the Office of the Vice President.

**Ministerial-level Delivery Unit**

Deployed at the level of Ministry, such as the Ministry of Agriculture, DUs can be used to strengthen coordination across the multiple devolved functions and stakeholders working towards agricultural transformation.

**Economic Board or Development Board**

An Economic Board or Development Board focuses on economic development beyond the agriculture sector. It centralises the core functions required for the delivery of agri-food transformation.

**Cross-Government Taskforce, Committee or Working Group**

A Taskforce, Committee or Working Group is often deployed by government to support delivery, coordination and collaboration across the agri-food sector.

**Commodities Board**

A Commodities Board is a value chain focused entity designed to drive progress in the production, development and export of specific commodities, such as tea, coffee, cocoa and spices.

Across Africa, many countries have adopted one or more of these mechanisms to support their agricultural transformation agendas. Ethiopia, for example, is regarded as the pioneer of the Agricultural Transformation Agency model (to be discussed in detail shortly), which takes inspiration from 'special agencies' in South Korea, Taiwan and Malaysia.

Meanwhile, Rwanda has created the Rwanda Development Board (also below) and a Single Project Implementation Unit (SPIU) to deliver its transformation programmes. Ghana, Cote D'Ivoire, South Africa and Zimbabwe have all adopted variations of the value-chain/ Commodities Board model. And in Nigeria, transformation plans are implemented through the alignment of state and federal leadership.

To succeed, delivery mechanisms need to be shaped by a compelling vision, and underpinned by strong leadership commitment from the Head of State and other senior political figures. But above all, they need to enable a coordinated and collaborative approach, developing joined-up strategies and partnerships to embrace the diverse sectors and actors required to drive systemic change.

There is no one-size-fits-all solution to African agriculture's challenges; there is no universal template or blueprint for agricultural delivery mechanisms. On the contrary, delivery mechanisms must be nuanced and tailored specifically to the country context. This approach stands in marked contrast to the externally imposed models of the past. As Thierry Ngoga reflects:

*"Back in the 1980s, Structural Adjustment Programs (SAPs) paved the way for debt relief in Africa, conditional upon economic liberalisation and privatisation. These solutions, imposed from the outside, had scant regard for the national economies and cul-*

*tural systems within which African societies function. As a result, local ownership of political and economic decision-making, and commitment to implementation, were diminished. This, in turn, led to non-prioritised, poorly customised and sequenced strategies that have failed to deliver."*

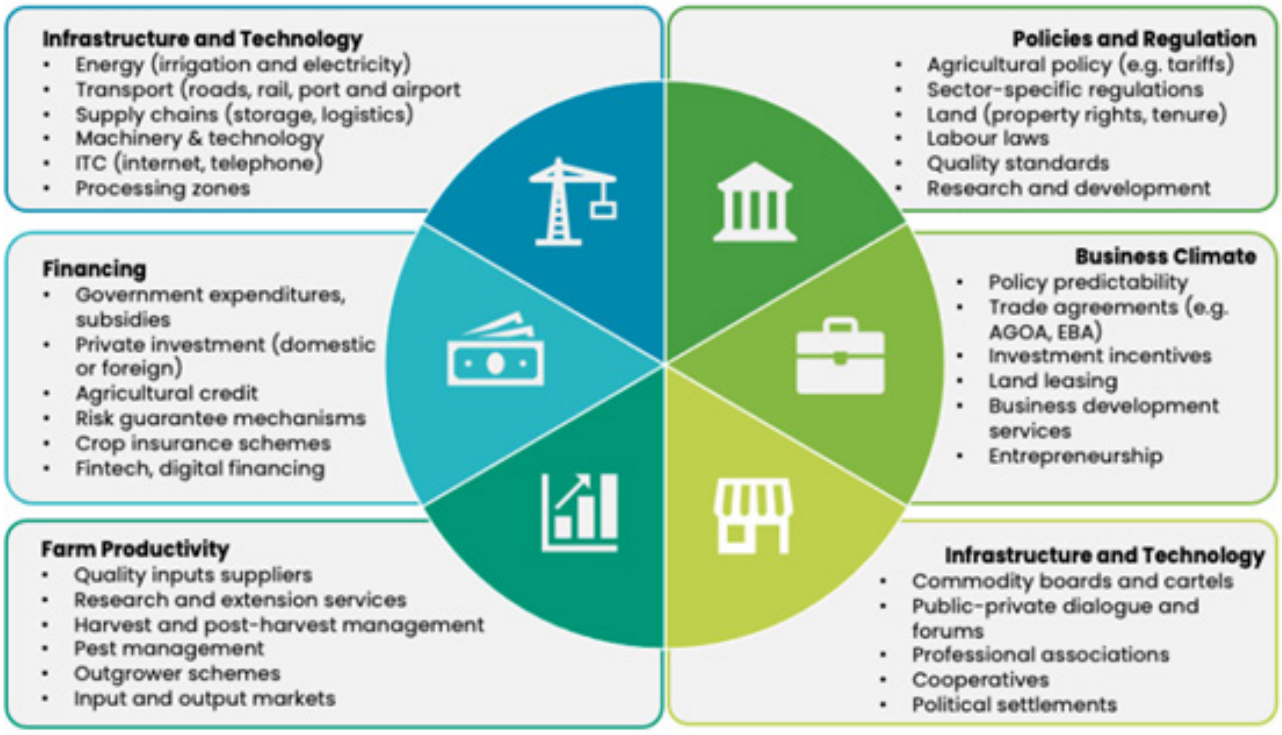
According to Ngoga, locally designed delivery mechanisms now allow national governments to own their transformation agendas:

*"You have to begin from a point of understanding achieved through rigorous diagnostics and dialogue. Because only through informed, customised, context-relevant responses will we begin to make genuine strides towards agricultural transformation in Africa."*

Most importantly, delivery mechanisms must account for the constellation of people and processes involved in agricultural production and food consumption. Agrifood systems comprise a range of activities, from input supply and crop production to animal husbandry, fisheries, transportation, retailing, wholesaling, preparation and marketing. They also encompass the policy environments and regulatory frameworks that facilitate these myriad actors and activities.

As such, the delivery of agricultural transformation does not rest with the Ministry of Agriculture alone, but with government bodies responsible for land, water resources, infrastructure, industry, commerce and more. The private sector, development partners and farmer organisations, among others, are also key stakeholders in this process.

According to TBI and AGRA, there are six core components that encompass the multitude of individuals, organisations and institutions involved in agricultural transformation. For countries to successfully transform their agriculture sector and deliver broader economic growth, the following elements are key.



Delivery mechanisms for agricultural transformation need to engage with these components and pre-conditions and recognise their interdependence. They must cut across traditional boundaries, sectoral divisions and departmental siloes. They need, in short, to reflect the 'food systems approach' that has recently been adopted by key players in the agricultural space. This approach is predicated on multistakeholder consultation and collaboration, and on the idea that the interconnected challenges facing the agrifood sector require interconnected solutions.

Two countries that have attempted to embrace these principles are Ethiopia and Rwanda. In the foundation of their delivery mechanisms for agricultural transformation – the Ethiopian Agricultural Transformation Agency and the Rwanda Development Board respectively – they have shown strong commitment to cross-sector coordination. And while efficiency and momentum have been difficult to sustain in each case, both countries' efforts to transform their agriculture sectors provide excellent examples of collaborative leadership in action.

## Delivery mechanisms for agricultural transformation

The Ethiopian Agricultural Transformation Agency (ATA)* was established in 2010, at the behest of former Prime Minister, Meles Zenawi, with financial backing from the Bill & Melinda Gates Foundation and technical support from McKinsey and IFPRI. It was designed to support Ethiopia's Agriculture Transformation Agenda, introduced in 2006 under the country's first Growth and Transformation Plan (GTP I).

** In 2022, the Ethiopian Agricultural Transformation Agency (ATA) was renamed the Ethiopian Transformation Institute (ATI); it will be referred to as ATA for the purposes of this case study, which deals mainly with its foundation and early years.*

Specifically, the agency was conceived in response to major capacity gaps constraining agricultural development. In 2009, a diagnostic assessment by McKinsey and IFPRI confirmed that while the country's agricultural policies and strategies were sound, the execution of these policies, particularly within the extension system, was poor. As Nega Wubeneh, former Senior Director of the Ethiopian ATA's Systems Programs, explains:

***"The government had been investing a lot of resources in the country's extension system. But it wasn't delivering the expected results. Largely, this was due to poor capacity in the public agricultural system."***

The Ethiopian ATA's mandate was to tackle these capacity issues, identify and address systemic bottlenecks, and enhance delivery within the agriculture sector. In its original incarnation, the agency was modelled on the Malaysian Government's Performance Management & Delivery Unit, PEMANDU. A highly successful unit, PEMANDU was set up to lead change in Malaysia and ensure the country's national transformation programmes were delivered. It focused on bringing the private sector, public sector and development partners together to align around a 'deliverable agenda', with clear lines of accountability for achieving key targets.

***"We took the PEMANDU model and adapted it to our situation," says Wubeneh. "The Ethiopian ATA was a much larger entity, but the accountability mechanism was the***

*same, with key deliverables owned by State Ministers or other senior individuals. Our policy was to develop solutions in line with the transformation agenda; mature them; pilot them, then hand them over to the public sector."*

In its early days, the Ethiopian ATA attracted high-calibre personnel, including agricultural, environmental and business experts from the Ethiopian diaspora. Crucially, it reported to the Agricultural Transformation Council (ATC), chaired by the Prime Minister himself. According to Wubeneh, the ATC set the tone and tempo for the ATA and encouraged collaboration between different departments and institutions:

*"The ATC was really effective in addressing some of the challenges that go beyond the agriculture sector. For example, it recognised that high fertiliser costs for farmers are linked to inefficiencies in the transportation and logistics system. It worked across sectors, with the Ministry of Transport and others, to address these issues. Coordination and collaboration were key; and this approach filtered down to the ATA."*

As a multi-ministerial council within a federal state, the ATC brought together every regional head in the country. It also included the Ministries of Trade and Industry, Finance, and Irrigation and Water, the Ethiopian Institute of Agricultural Research (EIAR) and heads of Regional Agriculture Bureaus. This setup provided a unique level of oversight and ensured a collective, coordinated response to ATA reports and proposals. The ATC's direct line to the Prime Minister also meant the highest office in the land backed the ATA.

Together, the ATC and the ATA promoted collaborative and integrative solutions through various programmes. One is the Agricultural Commercialization Clusters (ACC) Initiative, which aims to integrate interventions within specific geographies targeting high-value commodities (see below). In particular, the 'clustering approach' encourages farmers to work together and form SMEs, boosting their capacity and productivity.

AGRA's support further enhanced the ATA's work. Before the ATA, AGRA's focus in Ethiopia was on seed systems, soil health, markets and capacity building for private sector companies and public research institutes. From 2017, AGRA provided funding for specific ATA projects and began developing an integrated country strategy to address systemic agricultural constraints. As Wubeneh reflects:

*"Through the ATA, Ethiopia was already taking an integrated approach. AGRA's support complemented the ATA's work, helping to further its systemic assessment and understanding of key bottlenecks. Rather than looking at single issues in isolation, AGRA talked to multiple stakeholders across multiple sectors and subsystems. They worked with government institutions, the private sector, farmer organisations and civil society, and provided targeted catalytic investments to deliver change. It was a very collaborative process."*

## Impacts and outcomes

In many cases, agricultural delivery mechanisms are restricted to specific timeframes. For example, a delivery unit within the Office of the President will only last as long as that President's term, often becoming superseded by new leadership priorities. Uniquely, the Ethiopian ATA was given a 20-year mandate, with a clear organisational lifespan encompassing four distinct phases: Inception (2011-2015), GTP II Impact (2016-2020), GTP III Impact (2021-2025), and Transition (2026-2030).

As a long-term delivery mechanism, the Ethiopian ATA has been able to evolve. It has grown from 70 people in 2012 to over 300 today, navigating various administrative changes and building momentum to deliver results. Key ATA projects and outcomes include:

- Unprecedented large-scale soil mapping, with over 80,000 soil samples taken around the country sent to laboratories and analysed for nutrient content. The study found that blanket use of DAP and urea fertiliser was causing low crop productivity due to a lack of consistency with the country's soil profile.
- Expansion of blended fertiliser use.
- Major household irrigation programme, including groundwater mapping and supply chain development for mechanical and motorised water pumps.
- Development of crops that can be grown under irrigation to help farmers diversify away from cereals.
- Farming input credit programme, enabling farmers to access credit for purchasing seed and fertilisers, with 6.3 million farmers reached to date.
- Expansion of human resources and facilities for seed quality inspection and regulation.
- Introduction of private sector distribution model, significantly increasing private agro-dealers operating in the country.

Since 2015, the Ethiopian agriculture sector has been growing by 4.7% on average. In 2018/19, cereal production increased by 5.3%, while the livestock subsector grew at an average of 3.5% per year. In 2019, total grain production reached 315.6 million quintals, of which cereal production accounted for 88%, pulses 9.5% and oil seeds 2.5%. As the ATA's 2021 Annual Report explains:

*"The agriculture sector has experienced significant growth in recent years, with GDP contribution increasing from 531.7 billion ETB in 2014/15 to 650.3 billion ETB in 2019/20. The share of agriculture to GDP went down from 39% in 2014/15 to 32% in 2019/20, which indicates a gradual structural shift of the economy towards industry and service sectors."*

The aim is that by the ATA's Transition phase, the Ministry of Agriculture will be able to assume many of the ATA's functions through a capacity transfer mechanism. However, with ongoing capacity issues within the public sector, questions remain about the future viability of the handover. As Nega Wubeneh concludes:

"The ATA has been very successful. But maintaining its original levels of expertise, innovation and accountability has been a struggle. When the ATC was dissolved, that collaborative element was diluted a little. Perhaps mission creep is inevitable in such a long programme, but hopefully the ATA is now regaining its high levels of innovation."

## Collaboration through clustering

One of the major positive legacies of the Ethiopian ATA is the Agricultural Commercialization Clusters (ACC) Initiative. The ACC helps smallholder farmers boost their yields and leverage economies of scale by combining their smallholdings into crop-specific geographic 'clusters'. In each cluster, around 150 contiguous farms work together to create large-scale operations focusing on a particular crop or livestock.

Prioritising high-potential geographies, commodities and value chains, the ACC concept centres on circumventing key market issues. As Hezekiel Tasse, former Program Manager, Senior Director and International Consultant at ATA, explains:

*"ACC is about how to bring smallholder farmers to the market. It involves thinking differently to understand how the market works and what the market needs in terms of priority crops, quality and volume. Farmers can guarantee a market for their produce by planting strategically to meet specific demand. It's a shift from a food security mindset to a market mentality."*

The ACC platform is also all about collaboration. Uniting individual farmers who have traditionally operated in isolation, it encourages them to work together and coordinate their planting and on-farm activities. Farmers use the same seed varieties, fertilisers, and agronomic practices to maximise crop uniformity and productivity. Further, it brings together government, the private sector, seed research centres, ago-dealers and financial institutions. These key stakeholders ensure farmers have the resources and technologies they need to deliver the right raw materials for the agro-processing industry. As Tasse observes:

*"It's a great example of collaboration in agricultural delivery. Fragmented farmers coming together, contributing their land and pooling their efforts to boost yields and incomes. It gives them confidence that working more collaboratively will enhance their livelihoods and create a more sustainable production system. Now, they can effectively sell before they plant. It's a new era of collaboration for Ethiopian agriculture."*

Since its launch in 2015, the ACC initiative has driven a 20%-50% increase in key commodities such as maize, wheat and sesame, leading to a 20%-30% increase in farmers' incomes. In 2020-21 alone, about 3.7 million smallholder farmers planted nearly 2.8 million hectares of land with five priority commodities (wheat, maize, tef, malt barley and sesame). About 590,800 quintals of seed and 5.4 million quintals of fertilisers were distributed to ACC farmers, and about 368,300 farmers accessed input credit services.

## The Rwanda Development Board

Established in 2008, the Rwanda Development Board (RDB) is a specialist government agency mandated to accelerate Rwanda's economic development by enabling private sector growth.

RDB was formed following the political reforms that took place in the country 15 years ago to address "service delivery failures, public sector inertia and duplication across ministries and agencies". These reforms were deemed critical to the achievement of Vision 2020 – the national plan calling for "Rwanda's fundamental transformation from an agrarian economy to a knowledge-based society with high levels of savings and private investment".

One of President Paul Kagame's key objectives was to improve coordination within and across sectors by making government structures more streamlined and agile. RDB, for example, was created through the merger of eight different government bodies involved in investment promotion in areas such as tourism, energy and infrastructure. Bringing these diverse interests and institutions together, since its formation RDB has provided a one-stop shop for all business and investment activities in Rwanda.

In the same way that the Ethiopian ATA is based on a Malaysian model, Rwanda also looked East for inspiration. Jean Jacques Muhinda, former Director General of the Rwanda Agriculture Development Board (RAB), and now AGRA's Regional Head for East Africa, explains:

*"The idea of consolidating institutions and creating a streamlined investment agency was inspired by the Singapore experience. Singapore pioneered the development 'board model', with a dedicated investment-promotion institution. And there were clear similarities: both Rwanda and Singapore are small countries, without the luxury of multiple institutions. We came to understand that this particular delivery mechanism had helped Singapore attract investment and move ahead in a short period of time."*

Emulating the Singaporean model, RDB reports directly to the Office of the President without alignment to any specific ministry. Its CEO holds a cabinet position and the rank of minister. Acting as the first entry point for investment into Rwanda, RDB handles all discussions around investment facilitation mechanisms and tax regime implications. And while more sector-specific agencies conduct technical and feasibility studies, all final documentation and deals are reviewed and signed off by RDB. Most importantly, RDB cuts across sectors, enabling a fully joined-up approach to investment and development.

Successful delivery of agricultural transformation depends upon good coordination. And as Muhinda explains, RDB acts as a vital coordination mechanism:

"In Rwanda today, you can be assured that if RDB needs information from the Ministry of Trade or the Ministry of Energy, they will get it. In fact, sector ministries have a dedicated desk officer responsible for quickly and efficiently providing technical information. This means that any investor entering the country has everything in one place, increasing the ease of doing business and reducing the time

needed for investment decisions. That level of collaborative leadership has been so helpful."

As for the agriculture sector, RDB has also been supported by the formation of the Rwanda Agriculture Development Board (RAB) and the National Agricultural Export Development Board (NAEB).

At a high level, the Government Coordination Unit (GACU), located within the Prime Minister's Office, brings sector plans together to ensure alignment. RAB and NAEB are execution and implementation agencies of the Ministry of Agriculture, carrying out the design and execution of major projects for which RDB secures investment. GACU, meanwhile, is mandated to ensure all ministries and departments talk to one another and collaborate; it also interrogates development proposals to ensure they are complementary and sustainable. As Muhinda describes:

*"If someone wants to build an irrigation scheme in a particular area, GACU will ask: 'Is someone planning to take an electricity line there?' 'Are feeder roads being planned?' 'Is the private sector ready to provide mechanisation, internet connection, markets?' 'Are warehouses being built?' Because without these things, the project is unsustainable. Investments from one ministry need to speak directly to investments from others. Without that coordination, projects will fail and development will stall."*

Ultimately, delivery mechanisms are only successful with accountability. In Rwanda, delivery has been enhanced by applying cultural practices to transformation projects. Imihigo is the traditional Rwandan custom of setting and achieving objectives, whereby leaders or warriors make a public vow to achieve specified goals or face public humiliation.

Deeply rooted in Rwandan culture, the imihigo model is leveraged today to encourage culture-based performance and accountability in agricultural service delivery. By mainstreaming this tradition through 'i mihigo performance contracts', the Rwandan government is working to promote accountability and transparency and ensure stakeholder ownership of the development agenda. It is a prime example of locally grown solutions and traditional interventions adding significant value to modern development programmes.

## Impacts and outcomes

While the RDB today struggles to sustain efficiency levels achieved in its early years, it has maintained its proximity to the Office of the President, unlike the ATA in Ethiopia. This arrangement ensures that connectivity and coordination continue to be prioritised. Ultimately, says Muhinda:

*"RDB is about bridging gaps. Gaps between institutions; gaps between the public and private sector; gaps between research and development. Service delivery is compromised when there are gaps and people don't talk. Through its centrality within government, RDB is making sure this doesn't happen."*

The wheels of agricultural and economic transformation have been in motion for the past two decades. Rwanda is the

## Leadership lessons learned

There is much to be learned from the Ethiopian ATA and the RDB as delivery mechanisms for agricultural transformation. The lessons below provide clear pointers for future efforts in this area.

**Secure and maintain commitment from the top.**
For delivery mechanisms to succeed, they must be underpinned by senior leadership vision and commitment. And maintaining this commitment is critical; while the ATA's link to the Prime Minister's Office was curtailed, the RDB's remains in place, helping to maintain prioritisation across RDB initiatives.

**Focus on the future.**
Leaders are often looking for 'quick wins'; but to deliver truly meaningful progress, they need to look to the future. Long-term change, rather than short-term hits, should be their focus. Delivery mechanisms not timebound by Presidential mandates will more likely deliver long-term impact.

**Identify and integrate effective change agents.**
The delivery of agricultural transformation depends upon effective frontline change agents – people on the ground whom farmers trust can act as a vital interface and help implement new practices and technologies.

**Establish clarity and accountability.**
Ensure key stakeholders are clear about their role in the delivery process and held to account for achieving set objectives. Rwanda's imihigo performance contracts are an excellent example of effective accountability mechanisms. Clarity of responsibilities, meanwhile, makes coordination easier and delivery faster.

**Ensure delivery objectives are integrated.**
Leaders need oversight to ensure key deliverables are being pursued in a joined-up way: a dam built in isolation, without additional infrastructure support or private sector linkages will achieve only suboptimal results.

**Develop a pipeline of skilled professionals.**
Effective human capital development is key to agricultural transformation. Training and succession planning are vital, and delivery bodies must ensure younger professionals have the skills and knowledge to fill future capacity gaps.

This chapter considers the work of the Food System Transformative Integrated Policy (FS-TIP) initiative – a new, game-changing mechanism designed to leverage the momentum of the UN Food Systems Summit and support African governments to deliver food system transformation.

In the early stages of implementation across three focus countries (Rwanda, Ghana and Malawi), FS-TIP helps governments gain a clear understanding of their national food systems. It identifies key challenges and constraints with a view to developing transformative interventions and food systems policy. Crucially, FS-TIP takes a broad multistakeholder approach, breaking down siloes, integrating sectors, efforts and ideas. This case study focuses on the integrative, co-creative aspects of FS-TIP, whose inclusive methods offer valuable lessons in coordination and collaborative leadership.

## Setting the pace of change in African food systems: FS-TIP

The Food System Transformative Integrated Policy (FS-TIP) initiative supports African governments that demonstrate the leadership, vision and commitment required to deliver food system transformation. Grounded in the principles of collaborative leadership, FS-TIP promotes an inclusive, multistakeholder approach as it advances the food systems agenda. And although still in its infancy, vital leadership lessons are to be learned from its design and early rollout. It also provides a dynamic framework for others to follow – a framework that will set the pace of change in African food systems for years to come.

A new, game-changing mechanism, FS-TIP uses rigorous diagnostic analysis to develop transformative and integrated food system policy. It is designed to help countries achieve the objectives of the Malabo Declaration, and build a platform for innovation and investment in support of the UN SDGs.

FS-TIP's ultimate ambition is to enable African governments to shape and implement food system strategies that will pave the way for:


*Figure 1: FS-TIP's guiding ambition*

Africa's food systems currently face multiple challenges. Urbanisation, demographic shifts, climate shocks and conflicts continue to undermine food and nutrition security. Limited uptake of key technologies and inputs restricts agricultural productivity, while the devastating impact of Covid-19 has further exposed food system fragility.

Without intervention, food system challenges will continue to exacerbate hunger, malnutrition and ill-health, amplify poverty and inequality, and negatively impact biodiversity. Action, in the form of urgent and intentional food system transformation, is needed to reverse this situation and build a nourishing, equitable, sustainable and resilient future.

Sound policy, based on robust evidence, is a key enabler of food system transformation. Indeed, policy plays a central role in catalysing the country-led innovations required to initiate and sustain a food system transformation journey.

But for food system policy to be effective, it has to be integrated and coherent. While CAADP and other structures have made commendable efforts to achieve cross-sector policy coherence, their implementation has been inadequate and results unsatisfactory. A lack of multisectoral collaborative leadership has led to siloed approaches, with insufficient integration creating policy gaps and incoherencies in many African countries.

The need for radically improved food system policy has been highlighted in the United Nations Food Systems Summit (FSS) lead-up, with functional gaps and aspirational outcomes articulated during the FSS Dialogues. Increasingly, African governments are realising the importance of integrated policy and governance structures. And with Covid-19 propelling food systems to the forefront of global discourse, leaders are under pressure to act.

- Secondary literature, including government policy documents
- National food databases
- Country performance against supra indicators aligned to the FSS Action Tracks, plus over 200 other indicators drawn from components of food systems and existing resources, such as CAADP, the Food Systems Dashboard, Biennial Review reports and national polices

The diagnostic and landscaping team also assesses how external structures, such as Agenda 2063, feed into implementation plans and delivery through ministries and local assemblies. Interviews with key stakeholders, including directors and technical officials from government, the private sector and donor bodies, are another key component.

Next, FS-TIP presents its findings on the national food system to representatives from government and other central bodies. It then leverages the data and insights from Phase 1 to devise a new and improved food system policy (Phase 2), helping leadership to integrate existing initiatives and resources, establish national ambitions and priorities, and build local capacity. Over time, FS-TIP will then assist the implementation of the newly designed evidence-based policy (Phase 3), supporting governments to deliver on the vision of sustainable healthy diets for all.

From the outset, the process is coordinated nationally through a government-led taskforce. It is overseen by an appointed national convenor (e.g. a key minister) and technical directors, who vet and validate the work of FS-TIP. These leaders, working alongside FS-TIP, articulate national food system transformation commitments and actions. They also ensure the voices of multiple stakeholders, from national to subnational level, are heard. Stakeholders are drawn from a range of institutions and organisations, from government ministries (e.g. agriculture, health, environment) and universities to farmers' unions, seed associations and UN agencies, among others. It is an inclusive, multistakeholder approach that promotes local coordination and ownership, with mobilization achieved through local government councils, decentralized district structures, local leaders and chiefs.

Launched in April 2021, FS-TIP has completed Phase 1 diagnostic and landscaping activities in three focus countries: Rwanda, Ghana and Malawi – countries that were selected on account of their leadership credentials, vision, courage and commitment to food systems transformation, as well as favourable local conditions. Building a fact base that can interact with the FSS Dialogues process, FS-TIP is helping to inform each countries' pathway and position at the UN Summit. Leveraging the momentum of the Summit, and taking a long-term, intergenerational perspective, it then aims to drive lasting progress in food system transformation.

## Coalition and collaboration

FS-TIP is grounded in collaboration that pivots around the coordinating work of government. Based on the premise that the complexity of food systems requires a concerted and coordinated response, from day one FS-TIP

has embraced the concept of collaborative leadership.

Food systems are certainly highly complex and diverse, comprised of multiple interconnected components: the processes and infrastructure involved in feeding a population, and the frameworks, data sources, targets and strategies with which governments must align. Acknowledging the trade-offs, synergies and co-dependencies at work within national food systems, FS-TIP was founded on the belief that people have to work together to deliver progress in this area.

Naturally, the FS-TIP initiative is founded and run by a coalition of partners. With an impressive breadth and depth of capability, this coalition ranges from AGRA, FAO and the World Food Programme, to The Rockefeller Foundation, Boston Consulting Group and Tony Blair Institute for Global Change, among others. In this way, FS-TIP blends technical, political and strategic know-how to reflect the range of needs and interests involved in food system transformation.

As discussed above, these external experts work alongside local partners, with governments coordinating the application of the FS-TIP analytical framework to inform their own food system transformation. It is a collective, collaborative and co-creative model, combining international, national and local expertise to deliver meaningful change.

FS-TIP recognises that food system leadership has to be collaborative and has to take a holistic perspective. Objectives and policies across ministries have to be aligned. Different sectors, organisations and individuals must coordinate. Only in this way will governments ensure that agriculture, food, nutrition and health are fully integrated. And only in this way will countries achieve the much-needed shift from simply feeding to nourishing their populations. In short, collaborative leadership is essential to ensuring Africa realizes its potential to feed itself and achieve food and nutrition security.

One of the key game-changing components of FS-TIP is its diagnostic, fact-based approach to food system policymaking. As demonstrated, the diagnostic process enables governments to understand existing challenges, gaps and constraints. It also provides a granular view of outcomes, opportunities and drivers of food system transformation.

Critically, FS-TIP combines its diagnostics with dialogue – specifically, the FSS Dialogues shaping the UN Summit agenda through stakeholder consultation. In fact, the FS-TIP diagnostics and FSS Dialogues have operated in a synergistic two-way exchange, supporting and informing one another.

Diagnostics are only as strong as the data and assumptions behind them. And the FSS Dialogues have provided an opportunity to scrutinize FS-TIP data and test its assumptions, delivering crucial validation of the science underpinning the diagnostic process. In turn, the diagnostics have created a scientific basis for discussion during the FSS Dialogues, shifting the focus from opinion to fact. This combination of data and debate, an-

alytics and politics, is one of the unique and core defining strengths of FS-TIP.

## Diagnostic impacts and outcomes

Following the diagnostic and landscaping analysis conducted in Rwanda, Ghana and Malawi, FS-TIP has produced clear pictures of the local food systems that are accurate and actionable. In each country, it sets out the main food system challenges and potential interventions, all of which have been validated and approved by the governments and stakeholders involved.

Below are examples of identified priority challenges (one from each country), and the proposed interventions:

| Country | Challenge: | Intervention: |
|---|---|---|
| **Rwanda**  | ***Environmental resilience*** High vulnerability to climate change and growing challenges from crop disease, insects and changing biodiversity profile will lead to lower productivity and food availability. | Develop and promote climate-resilient crop restore degraded systems for sustainab food production; develop early warning systems to improve forecasting and monitoring. |
| **Ghana**  | ***Consumption of unhealthy foods*** Urbanization at ~57% and rising incomes, as well as poor food environments, are leading to increased consumption of unhealthy foods, resulting in higher obesity and NCD prevalence. | Improve the food environment through consumer-focused campaigns, marketin restrictions and updated labelling rule incentivize productior of nutritious healthy foods, e.g., via subsidized inputs; ensure 'true/fair' prici of foods (including taxation). |
| **Malawi**  | ***Agricultural productivity*** Current crop yield is as low as ~20% of potential yield, with 75% of crop production coming from smallholder farmers who use outdated techniques and have limited credit and insurance access. | Increase commercial farming and put measures in place to reduce disease vulnerability; invest in community food storage facilities and structured markets to limit food loss and waste; improve effectiveness of anchor farming and farming cooperatives via training. |

*Figure 2: Identified challenges and interventions for Rwanda, Ghana and Malawi*

## Leadership lessons learned

There is much to be learned from FS-TIP's early design and diagnostic processes, and vital insights to be gleaned from the realities of project launch and implementation. From the learnings set out below, food system actors can consider what to replicate and what to avoid. General lessons include:

**Take a user-centric approach.**
Continuous refinement of inputs and integration of insights leads to improved diagnostic analysis; constant engagement with stakeholders promotes local buy-in and shared understanding of a country's current food systems. Engaging with policymakers, for example, helps to validate the content, structure, and presentation of information, and ensures interventions are bespoke.

**Work with existing structures.**
Engaging with existing initiatives and structures enables faster progress and leverages local knowledge from the start. Setting up two-way exchanges between the FS-TIP diagnostic and existing structures (such as the FSS Dialogues) can enrich both sides and build common understanding of the local food system.

**Form partnerships and alliances.**
Working with a diverse coalition, comprising local and global experts, promotes the exchange of insights and tailoring of global knowledge to country contexts and priorities. Leveraging different backgrounds, from academia to social to public sector, leads to unique insights and opportunities.

**Engage the private sector early.**
Due to time constraints, FS-TIP did not engage the private sector as much as it would have liked during Phase 1. At the policy formulation stage, private sector participation is key to balancing interests, such as equity and livelihoods. It is also essential for generating investment, which helps to increase food system efficiency. Remember: the private sector is the food systems engine. It needs to be deeply engaged to drive transformation.

**Leadership lessons include:**

**Collaborate and cocreate.**
Leaders do not have a monopoly on knowledge; they need to listen to others to build an informed and holistic view of their national food systems. Collaborative leadership enhances insight and understanding, which in turn enables transformative leadership, whereby an evidence-based vision can be leveraged to shape food system policies and agendas.

**Ensure government plays a central and coordinating role.**
Government should play a key role in coordinating all partners and facilitate and lead all policy and strategy reforms. By convening and coordinating, government can help to stimulate local ownership and agency within national programs, expanding opportunities for co-creation with local partners and stakeholders.

**Connect local, national and regional stakeholders.**
Ensure all voices are heard and siloes are broken; enable coordination between stakeholders, bringing subnational, national, regional and global stakeholders together in an inclusive and meaningful way enriched by feedback.

**Provide a space at the table for youth and women.**
Governments need to engage today with the leaders of tomorrow. With more than half of the world's population under the age of 30, the voice of young people and women must be heard and incorporated within the food systems agenda.

In the lead-up to UN FSS, young people have been engaged and empowered in leadership roles, with a Youth Constituency at the Pre-Summit in Rome; and a young person appointed Vice Chair for each of the FSS Action Tracks. In this way, the Pre-Summit has created an inclusive co-leadership model that should be replicated at national level.

**Take a facilitative and innovative approach.**
Facilitative leadership aligns people to a common goal and enables collective decision-making. By taking a facilitative approach, leaders respect each team's contributions and accept their specialist input. Under FS-TIP, this approach has enabled local ownership of Phase 1 processes supported by a high-level panel of experts, helping to build clarity, cohesion and commitment among participants.

**Check your ego at the door.**
Ego is the root cause of failure and dysfunction within national programmes. As FS-TIP Phase 1 has highlighted, 'servant leadership' needs to become the common attribute at senior level in initiatives such as this. Leaders need to be content to drive from behind, rather than always leading from the front. Indeed, in countries where servant leadership has been embraced, FS-TIP processes have been smoother and outcomes more successful.

## Taking the next step: collaborative leadership checklist

FS-TIP presents a valuable study in programme design and implementation. As a phased program that will be rolled out over several years, its full impact has yet to be fully realized or measured. Nevertheless, Phase 1 has provided key lessons and insights on collaborative leadership.

By way of conclusion, the following checklist, drawn from the FS-TIP experience to date, could help to put collaborative and transformative leadership at the heart of future initiatives:

Is leadership working in a vacuum or in concert with others?

- Are multiple voices and interests being incorporated into decision-making?
- Is a holistic systems perspective being taken?
- Are nutrition, health and environmental sustainability being considered equally alongside agriculture and food production?
- Are government objectives and policies aligned across ministries?
- Are leaders advancing their personal agenda or acting for the common good?
- To what extent are national efforts linking with Regional Economic Communities?
- Is local ownership being encouraged and enabled?
- Are leadership decisions and policy developments being informed by science and data?
- Are diverse stakeholders being consulted and engaged?

# 10. Food systems leadership

Food systems in Africa are among the most fragile in the world. Improving these systems' strength and sustainability is key to achieving food and nutrition security on the continent.

Food systems are composed of multiple components and interconnections. As such, they require integrated solutions and policies. Yet, key players in the food systems space often operate in silos, failing to take the coordinated and integrated approach necessary to deliver progress.

This chapter considers the collaborative leadership and courageous conversations at the heart of the United Nations Food Systems Summit. It looks closely at the Summit process of multistakeholder engagement, which cuts across traditional boundaries and unites diverse actors around the world. It also considers collaborative experiences in food systems transformation from a global, national and sectoral perspective, with commentary from a range of individuals and organisations. These include Food Action Alliance, Dr David Nabarro and the 4SD team, a Rwandan food systems consultant, Sahel Consulting in Nigeria, and The Commonwealth Secretariat.

## The global food systems landscape

'Food systems' is a relatively new concept that describes the constellation of people and processes involved in food production and consumption – from input supply and crop production to animal husbandry, fisheries, transportation, retailing, wholesaling, preparation and marketing. Food systems also encompass the policy environments and regulatory frameworks that facilitate these myriad actors and activities.

Food systems play a vital role in shaping human diets, health and nutrition. They support the livelihoods of everyone involved in agrifood value chains and are a key driver of socioeconomic development. According to the 'Africa Agriculture Status Report (AASR) 2022', food systems are central to tackling many of the major global challenges of our time.

Despite their importance, food systems worldwide are often fragile and prone to collapse. This fragility has been exposed and exacerbated in recent years. Covid-19, for example, caused supply shortages and disruptions globally, leading to increased

hunger and malnutrition. In 2020, at the start of the Decade of Action to achieve the UN Sustainable Development Goals (SDGs), up to 811 million people were facing hunger globally, a 20% increase in just one year, while 3 billion people were unable to afford a healthy diet. More recently, the conflict in Ukraine has further disrupted supply chains and precipitated food crises in many regions. Pests, diseases and price volatility also continue to threaten food systems globally.

And then there is climate change, which brings drought, flooding, unpredictable rainfall and other extreme weather events, significantly impacting agricultural productivity. In a message to the COP27 Climate Conference in November 2022, UN Secretary-General Antonio Guterres warned the world "is fast approaching tipping points that will make climate chaos irreversible", with the developing world at the forefront of the crisis. Yet food systems have been found to contribute up to one-third of greenhouse gas emissions, up to 80% of biodiversity loss and 70% of freshwater usage, further destabilising agrifood value chains. Food systems are, therefore, weak and have become woefully unsustainable.

Food systems are particularly fragile in Africa, where climate change, extreme weather events, urbanisation and demographic pressures impact agricultural productivity and food production. Nearly 20% of Africans suffer from acute hunger; another 20% faces undernourishment, while Africa is home to eight of the 20 countries with the fastest rising obesity rates.

Addressing the bottlenecks and pressures constraining African food systems is essential to eradicating poverty, hunger and malnutrition and protecting the natural environment. Action, in the form of urgent and intentional food system transformation, is needed to build an equitable and sustainable future. As AASR 2022 asserts:

*"If Africa does not transform its food systems towards greater sustainability and resilience and improved ability to achieve zero hunger and provide good nutrition for all, the continent is unlikely to achieve many of the goals on the 2030 Agenda, which is aimed at ensuring better livelihoods, inclusion, and prosperity..."*

Until recently, one of the major barriers to progress in the food systems space has been the lack of awareness and understanding of the concept of 'food systems' itself. As Adam Gerstenmier, former member of the UN Food System Summit (UNFSS) Secretariat and Executive Director of the Food Action Alliance, explains:

*"Food systems is a fairly new idea requiring new mindsets and new ways of working. And initially, people didn't really know what it meant. What became clear was that it involved breaking down silos and bringing together different constituencies that don't often interact. For example, the climate and environment community and the agriculture and nutrition community. Or indigenous people and the private sector. Food systems require these groups to form relationships they didn't know existed."*

Food systems are composed of multiple components shaped by interconnected issues,

actors and challenges. And interconnected challenges require interconnected solutions. But all too often, food systems policies and programmes have been created unilaterally, with key players taking siloed approaches that *"ignore the potential for leveraging… interconnections to accelerate transformative change"*.

The lack of collaboration within food systems has resulted in duplication of effort and a plethora of uncoordinated interventions. Cutting across traditional boundaries, the idea of food systems initially met with resistance from those who worried about the balance of power, agency and ownership. Distrust of the private sector was a key stumbling block, with entrenched fears about the 'corporate capture' of agrifood value chains being widely articulated. Early discussions were characterised by tensions between those advocating for a rights-based approach (invoking the 'right to food' under the UN Declaration of Human Rights) and those who deem the private sector essential to transformation.

Another bottleneck has been disinformation campaigns and negative advocacy efforts. Leveraging misinformation to advance their cause and mobilise their base, these campaigns have sown seeds of division in recent years, segmenting and fragmenting the agrifood community. Meanwhile, competing visions for the future of African agriculture and there-emergence of geopolitics have also created disunity and misalignment. For instance, a recent committee on world food security in Rome broke down due to conflicting positions on the Russia-Ukraine crisis, with participants unable to reach any agreement.

To overcome such divisions and bring governments, institutions and organisations together, unifying discourse is needed to foster understanding and cooperation. This need for multistakeholder engagement and dialogue gave rise to the landmark UN Food Systems Summit (UNFSS) in 2021.

## Collaboration, coordination and 'courageous conversations' – the UN Food Systems Summit

In 2019, UN Secretary-General António Guterres called for a Food Systems Summit as part of the UN's Decade of Action. The Summit, underpinned by a 12-month engagement process, took place in September 2021 in New York, with a pre-Summit event in Italy two months earlier. The Summit aimed to launch bold new actions to deliver progress on all 17 SDGs. Its stated objective was to "generate momentum, expand knowledge and share experiences and approaches worldwide to help countries and stakeholders unleash the benefits of food systems for all people".

In December 2019, AGRA President Dr Agnes Kalibata was appointed as the Secretary-General's Special Envoy for the Summit. Reporting directly to Mr Guterres and his deputy, Amina Muhammed, Dr Kalibata was tasked with providing leadership and strategic direction. She would shape and run the Summit process and keep stakeholders engaged.

As the pre-Summit planning got underway, the Secretariat team began designing a

process that could engage constituencies at all levels around the world. It was a deliberate decision to reach as many people as possible, and to achieve commitments to action before the Summit began. In the run-up to UNFSS, UN member states and agencies, the private sector, civil society, smallholder farmers, producers, activists, youth, indigenous peoples and women's groups all needed to be engaged, their voices and ambitions heard.

From the very beginning, therefore, the Food Systems Summit was shaped by the principles of multistakeholder inclusivity and collaboration. Drawing on the African proverb, "if you want to go fast, go alone; if you want to go far, go together", it sought to convene a multiplicity of parties. And through this convening, the aim was to leverage interconnections to address the interconnected challenges facing global food systems.

Given the depth of division and disagreement that has previously hampered progress, the Secretariat knew that 'courageous conversations' would be needed to find a way forward. These conversations would take place across the pre-Summit events in Italy and the US, starting in late 2020, with the launch of a year-long series of multistakeholder consultations, known as the Food Systems Dialogues.

The Food Systems Dialogues were designed to provide opportunities for everyone with a stake in food systems – from producers to consumers to regulators – to get involved in shaping a vision for 2030. To date, 150 countries have nominated a Convenor, with over 600 national Dialogues announced on the Summit Dialogues Gateway. More than 1,000 independent Dialogues have also taken place around the world.

Billed as a "powerful opportunity to engage meaningfully, explore collectively and emerge resiliently for sustainable food systems", the Dialogues have brought together over 109,000 people. As part of the process, 117 countries have published National Food Systems Transformation Pathways. These Pathways set out what needs to happen, who needs to be involved, and when results are to be expected.

As a mechanism, the Dialogues opened the space for collaborative thinking and leadership on the ground. They ensured participants arrived at the Summit armed with clear visions and commitments for action. And they built the case for a 'culture of dialogue' to advance food systems transformation.

## Food systems transformation: UNFSS legacy and perspectives

The main Food System Summit, held on 23 September 2021, had to be extended by a day due to the number of leaders wanting to attend. In total, there were leader statements from 163 member states, including 77 from Heads of State and government setting out national commitments to 2030. At the end of the event, the UN Secretary-General's Chair produced a Summary and Statement of Action, including five Action Areas:

- Nourishing all people
- Boosting nature-based solutions
- Advancing equitable livelihoods, decent work and empowered communities

- Building resilience to vulnerabilities, shocks and stresses
- Accelerating the means of implementation

Since the conclusion of UNFSS, action has been unfolding at country level to implement the transformation pathways identified during the Summit process. And around the world, the 'courageous conversations' and collaborations continue. As Adam Gerstenmier concludes:

*"A lot of those people who came together to work in new ways have continued to work together. They continue to work towards coalitions or to run new multistakeholder platforms themselves. This is one of the Summit's major legacies."*

The Summit has certainly reshaped action and debate across the agrifood landscape. In September 2022, the Africa Green Revolution Forum (AGRF) in Kigali, Rwanda, was rebranded 'Africa's Food Systems Forum', reflecting the ambition to accelerate progress in this area. AGRF 2022 certainly looked to build on the momentum of UNFSS. As part of this process, CALA convened a Leadership Forum, where a series of roundtable events revealed that multistakeholder engagement at subnational, national, continental and even global level have accelerated in the period since UNFSS.

Here are some of the perspectives and experiences shared during and after the CALA roundtables at AGRF 2022. These include Food Action Alliance, Dr David Nabarro and the 4SD team, a Rwandan food systems consultant, Sahel Consulting in Nigeria, and The Commonwealth Secretariat.

## Impacts and outcomes

At the global level, the principles of collaboration are enshrined in institutions such as the United Nations and the World Health Organization (WHO). The latter, for example, founded in 1948, has an international legal mandate anchored in the need for countries to work together to tackle infectious diseases and other public health matters.

Working within and beyond these global frameworks, 4SD is a social enterprise promoting Skills, Systems & Synergies for Sustainable Development. 4SD was founded by Dr David Nabarro, who has worked for many years across the international civil service, supporting Secretary-Generals and Director Generals of the UN and WHO respectively. He is currently co-lead of the UN Secretary-General's Global Crisis Response Group, WHO's Special Envoy on Covid-19 and Co-Director and Chair of Global Health at Imperial College London.

4SD played a key role in designing the inclusive and diverse multistakeholder Food Systems Dialogues that shaped the UNFSS engagement process. With its focus on 'living systems leadership' 4SD was a vital Summit partner. Its ethos resonates closely with the spirit and vision of UNFSS, as Dr Nabarro observes:

***"Our basic thesis is that food systems need to be recognised as touching all 17 SDGs. They have dimensions to do with consumers, producers, nutrition, health, the environment***

***mate. If you weave in gender, youth and other key elements, you have a pretty good starting point [for action]… Because food systems transformation depends upon collaborative leadership, upon bringing together multiple actors and agents of change. The current multi-crisis really underlines the need for this approach. You don't address food without also addressing [other interrelated issues]."***

4SD accompanies people who have been trained to adopt linear or siloed mindsets to navigate the difference between the way the world works and the way organisations tend to work. Their approach involves encouraging and enabling stakeholders to work across traditional boundaries and to unite around a common purpose. This process usually involves bringing together a diverse group of individuals. By working together in a respectful manner, they explore with curiosity and coalesce their thoughts and intentions in ways that are collaborative and innovative. This is powerful. As Dr Nabarro explains:

***"It's about everybody coming together and leaving their rucksacks with their egos and their logos and their separate identities behind and coalescing around the identity of solving the problem."***

4SD refers to this as "embrace the full system, connect its parts, explore and share". It is a model Dr Nabarro has employed as member of the UN Secretary-General's Global Crisis Response Group, and in positions he held during both the Ebola epidemic in West Africa and the Covid-19 pandemic. In each case, key lessons in collaboration were learned, as Dr Nabarro has previously written:

*"Those of us who have been responsible for outbreak responses have learned that we have to make a point of working together in ways that recognize our interdependence and reflect our respect for each other … We have learned that we do best if we are willing to share what we know (and do not know) openly with each other and do all we can to ensure that no person, no community and no nation is left behind."*

The rapid cross-border spread and collective health risks of SARS-CoV-2 underscored the need for global coordination between governments and public health experts. The sharing of information, experiences and best practice proved vital to containment and mitigation. At the same time, the damaging impact of so-called vaccine nationalism highlighted the dangers of a unilateral approach.

4SD refers to the present food systems challenges as "mammoth and multifaceted, crossing many different systems". Only by working between and within sectors, organisations, and institutions, will actors be able to find a workable systemic solution.

Another of 4SD's guiding principles is being comfortable with mess and complexity. Fear of complexity is often what prevents people from connecting and coming together. But any living system is complex and diverse by nature. 4SD helps people to work with complexity, rather than trying to resolve or escape it, showing them that change

happens by embracing the 'mess' of multiplicity.

According to John Atkinson, 4SD's Systems Change Mentor, there is a global shift in thought, particularly in Africa, towards dialogue, collaboration and cooperation as a means of dealing with the challenges we face. ***"We don't exist free from the environment around us," says Atkinson. "We are in symbiosis with our neighbours, with the planet, with the organisations that exist. And unless we're prepared to engage in this sort of way of working, we'll forever be generating unintended consequences that we have to fix."***

## National perspective

At the national level, food systems transformation depends upon consultative policymaking that brings diverse stakeholders together. Structures such as inter-ministerial committees and sector working groups help to cut across institutional silos and bureaucratic constraints. Strong leadership and vision are also essential.

## Rwanda

In Rwanda, high-level support for participation in UNFSS has helped to expedite action and coordination nationally, with the country's top leadership, including the President Paul Kagame, championing the Summit agenda. In recent years, Rwanda has been quick to grasp the interdependence of issues and actors within the food systems space. For example, it was one of the first countries to include food and agriculture in its Nationally Determined Contributions (NDC) for climate, recognising the causal link between these sectors and greenhouse gas emissions. It also saw the importance of taking an integrated and collaborative pre-Summit approach. No sooner was Rwanda's participation in UNFSS confirmed, the government appointed a ministerial steering committee to oversee the pre-Summit process. This committee brought together personnel from different ministries dealing with food systems and assistance. To support the country's Dialogues Convenor, it also appointed a National Technical Team Coordinator and co-convenor, Dr Telesphore Ndabamenye, to ensure compliance with the UN guidelines and reporting process and to mobilise key stakeholders.

Specifically, as it developed its national pathways, Rwanda focused on six 'game-changer' focus areas:

1. Nutrition
2. Food loss and waste management
3. Inclusive market and food value chains
4. Sustainable and resilient food systems
5. Innovative financing & investment
6. Effective integration of youth & women in food systems

*To help drive action on the ground, each focus area includes several flagship programmes, run in partnership with the World Economic Forum and Food Action Alliance. As Ndabamenye explains, inclusivity and diversity were major criteria:*

***"We wanted to understand how we could bring people together to tackle a key issue, like malnutrition. We need our food systems to be inclusive, so we wanted to mobilise diverse partners and stakeholders around***

*these key areas and discuss division of labour, accountability, investment opportunities and available resources, which is where the flagships come in."*

As seen with Planting for Food and Jobs (PFJ) in Ghana, flagship programmes enable governments to unite resources, activities and organisations under a single banner. They provide a cause for local offices, operations and initiatives to rally around and a compelling and cohesive narrative that mobilises nationwide engagement. In Rwanda, pre-Summit flagships (which are still running today) include the School Feeding Programme, Social Safety Net and Nutritionally Dense Crops. These programmes tie in with pre-existing initiatives, such as One Cup of Milk per Child, One Cow per Poor Family, Crop Intensification and Livestock Intensification. In this way, they help to focus action around food and nutrition security and livelihood enhancement.

As a result of these efforts, extreme poverty has reduced in Rwanda from 35.8% in 2005/06 to 16% in 2016/17, and food security has improved from 46% in 2007 to 81.3% in 2018. Meanwhile, the prevalence of chronic malnutrition (stunting) among children under five has reduced from 51.1% in 2005 to 38% in 2016/17.

Overall, Rwanda's journey to UNFSS and beyond has been characterised by "smooth horizontal collaboration, with no barriers to dialogue or consultation". Strong and coordinated accountability mechanisms have also played a key role, as Ndabamenye concludes:

*"To support food systems transformation, we have clear performance indicators and evaluation processes for accountability. This was already at the heart of our governance systems, but now we apply it to the agrifood space. Our reporting systems mean we can hold people to account across the value chain."*

## Nigeria

In Nigeria, around 95% of the population cannot afford a healthy diet. Malnutrition has been recognised in the country as a multifaceted issue, requiring multidisciplinary and multi-sectoral endeavours to solve it. Health, agriculture, science and technology, education, finance and industry all have a role to play. And efforts are underway to unite and integrate these elements to deliver positive change.

*"In the past," says Muhammad Momoh, Senior Analyst at Sahel Consulting Agriculture and Nutrition, "we've really struggled in Nigeria to bring nutrition into one space at federal level. Nutrition needs to sit with those who have the power to make decisions and achieve more widescale impact."*

This situation changed in 2017, with the inauguration of the National Council on Nutrition, which is domiciled within the Office of the Vice President. The Council's proximity to the highest power in the country ensures that nutrition receives maximum attention and political commitment. It also has an operational mandate to promote cross-functional coordination and collaborative leadership, as Momoh explains:

*"The Council cuts across different ministries*

***and agencies. It includes representatives from the federal ministries of agriculture, health, investments and trade, among others. Having them come together and being so close to the President's office is a great way to elevate nutrition and address all those areas that are relevant to achieving nutrition security."***

With all nutrition-focused interventions passing through the central hub of the Council, Nigeria has been able to harmonise decision-making and deliver a cohesive vision for the national agrifood space. It's an approach that aims to reduce programme duplication, increase coordination, save funds and increase focus.

In 2021, these efforts led to the approval of a five-year nutrition action plan to address hunger and malnutrition across all sectors of Nigeria. The National Multi-Sectoral Plan of Action for Food and Nutrition 2021-2025 aims to reduce the proportion of people who suffer malnutrition by 50% and increase the exclusive breastfeeding rate to 65%. It also aims to reduce the rate of stunting among the under-fives to 18%.

The 'multi-sectoral' nature of the plan and the collaborative, cross-functional make-up of the Council have set a precedent for action in Nigeria. African Food Changemakers (a merger between Nourishing Africa and Changing Narratives Africa) has adopted this model, which provides an online platform for agripreneurs.

African Food Changemakers enables business owners to partner with different organisations and institutions as they look to scale. As Fisayo Kayode, Productivity Improvement Manager at Sahel Consulting, explains, the platform reflects the increased shift towards collaboration within the food systems space: *"It's an opportunity for business owners to come together and learn about what's happening in the landscape, to access training and grants, share information and resources, and put African food and agriculture on the global map."*

By creating a virtual space where diverse stakeholders can convene, African Food Changemakers leverages collective endeavour and dialogue to increase participants' impact. It's another example of enterprises, organisations and individuals working together, through a centralised hub, to improve food and nutrition outcomes for Africa.

## Sector perspective

The digital transformation of food systems is the key to a more sustainable, food-secure future. Speaking at the CALA Leadership Forum at AGRF 2022, Dr Benjamin Kwasi Addom, Adviser at the Commonwealth Secretariat, described how using digital advisory services could lead to a 23% increase in productivity and a 30% increase in income for smallholder farmers. Digital market linkages, meanwhile, can boost productivity and income by 73% and 37%, respectively.

Innovations in digital agriculture have enabled unique programmes and solutions, many of which enhance market connections and coordination for smallholder farmers and fishers. A prime example is ABALOBI, a South Africa-based social enterprise that works with small-scale fishing communities to co-design and implement digital technology. The

ABALOBI platform enables fishers to leverage data and tech to boost their organisational capacity and engage in transparent and traceable supply chains. As Dr Addom explains:

***"ABALOBI and other digital fishery solutions, like OceansMall in Ghana, connect the boats at sea to markets, restaurants and hotels on land, helping them to target their catch and maximise income. They also promote safety through weather forecasting tools, while helping fishers legitimise their livelihoods through data and technology."***

Despite these brilliant innovations, there is a general lack of coordination and coherence within the ag-tech space, especially within country-level data systems. According to Dr Addom, what is needed is increased ecosystem coordination and greater collaboration between the public and private sectors. "Without policies or rules on digital ag," says Addom, "the private sector innovators are duplicating efforts and expanding capacity without any alignment or coordination. What we need is an impartial body to pull this all together; someone who is not interested in selling a product, but who wants to create an enabling environment to drive benefit for smallholder farmers."

This view is echoed at continental level, where integration has been identified as a priority for digitalisation. The AU's Digital Transformation Strategy for Africa, for example, aims to create a digital single market by 2030. The Policy and Regulatory Initiative for Digital Africa (PRIDA), and the Pan-African e-Network, are other such initiatives. In agriculture in particular, it has become clear that only through integration will digitalisation be successfully harnessed and scaled.

A recent report from the Commonwealth Secretariat makes a compelling case for a holistic approach to digital agriculture. And as the FAO recently asserted: "Increased collaboration among countries, international organisations and private entities is necessary to create an inclusive set of digital public goods in agriculture that are sustainable and scalable." In digital agriculture, as in food systems generally, collaboration is the key to transformation, progress and a sustainable future for Africa.

## Leadership lessons learned

There is much to be learned from the UNFSS process and the many programmes and projects designed to advance food systems transformation. The lessons below provide clear pointers for future efforts in this area.

**Beware 'food systems fatigue'.**
Much has been written and spoken about food systems in the last couple of years. To ensure people do not become tired of the arguments and deaf to the urgency with which this issue must be addressed, we need to keep the debate lively, fresh and interesting.

**Bring all parties to the table**
UNFSS was a masterclass in multistakeholder engagement, consultation and collaboration. To tackle a multifaceted issue like food systems transformation, we need to enlist as many opinions, voices and pairs of hands as possible. Food systems policies and programmes should reflect the interests of all those who have a stake in food and nutrition security.

**Form partnerships and alliances.**
Working with a diverse coalition, comprising local and global experts, promotes the exchange of insights and tailoring of global knowledge to country contexts and priorities. Leveraging different backgrounds, from academia to social to public sector, leads to unique insights and opportunities.

**Be prepared for difficult debate and courageous conversations.**
When multiple parties come together, there are bound to be differences of opinion – even at times antipathy and fierce exchanges. This is a natural part of the process and not something to be feared.

**Remember the 'four A's'. Be Ambitious:**
"There's no point trying to deal with food systems in Africa without recognising that this is a continent that's been buffeted by climate shocks, by conflict, by pests and diseases. To get on top of these issues we need to be ambitious." **Be Audacious:** "There are leaders in Africa now who are not scared of saying 'we're working for Africa, and we're going to get great results, even if it seems like we're up against challenges from the rest of the world'; audacity comes from humility and self-confidence mingled up together". **Be Authentic:** "There's no point doing this work, then just talking a lot of rhetoric that has no basis in reality; we need to genuinely connect with the small-scale farmers and fishers, to connect with the livestock keepers and forest dwellers." **Be Accountable.** "One of the great things about the leadership we've seen in Africa on this subject is that people are not afraid of being transparent and saying, 'I'm working for the people, and I'm going to level with them." (Dr David Nabarro).

**Address and exploit interdependencies.**

Food systems are home to multiple interdependencies and interconnections. Leadership needs to encourage solutions that enable multiple actors – ministries, research institutions, SMEs, development partners, farmers, women, youth, the private sector – to exploit their overlapping interests, needs and capabilities.

# 11. South-South Cooperation

At the halfway point to the 2030 Sustainable Development Goals (SDGs) deadline, there is growing concern among member states that many of the UN targets remain unattainable. With progress derailed by COVID-19 and the war in Ukraine, the world has witnessed major reversals in key areas, including health, education, and food and nutrition security. Without urgent intervention, the Agenda 2030 project is at risk of failing to deliver on its commitments to the world's most vulnerable.

To address this critical issue and other ongoing and emerging challenges, increased collaboration is needed between developing countries – particularly in the Global South. Enhanced coordination between countries in Africa, Asia and Latin America can help to bridge gaps in policy, technology, resources and knowledge, and to accelerate agricultural development, food systems transformation and poverty alleviation. Many believe this approach could be the key to revitalising progress towards the SDGs.

This final chapter considers the renewed focus on South-South Cooperation (SSC) as an alternative to the traditional north-south development model. It looks at recent convenings of major institutions from across the Global South, and showcases progress in SSC programmes designed to boost agricultural productivity and trade, stimulate job creation and support rural livelihood recovery. It also considers the collaborative leadership, driven by organisations such as AGRA, IICA and Grow Asia, that lies at the heart of SSC.

## The Road to 2030

On 25 September 2015, the UN General Assembly adopted resolution 70/1, Transforming our world: the 2030 Agenda for Sustainable Development. Underpinned by 17 Sustainable Development Goals (SDGs) and 169 targets, the Agenda was established as "a plan of action for people, planet and prosperity" intended to "free the human race from the tyranny of poverty and want". Within the 2030 Agenda framework, the SDGs build on the Millennium Development Goals (MDGs), providing an opportunity to "take the transformative steps which are urgently needed to shift the world onto a sustainable and resilient path."

The UN, and the 193 member states that signed up to the Agenda, are now just past the halfway point to the SDG 2030 deadline. However, there is consensus among glob-

al actors that many of the goals "remain out of reach", with a range of new and emerging challenges reversing progress in key areas.

According to a 2022 report from the UN, Covid-19 and the war in Ukraine have severely hindered countries' efforts to reach the 2030 targets, causing widespread disruption to global health services, food systems and supply chains. Specifically, the report asserts that the pandemic has:

- Created major health threats
- Undermined years of progress fighting other deadly diseases
- Led to an additional 75 to 95 million people falling into extreme poverty compared to pre-pandemic levels
- Caused over 100 million more children to drop below the minimum reading proficiency level and other areas of academic learning

Elsewhere, the report highlights the major food crisis that has been triggered by the Russia-Ukraine conflict. These two countries account for 30% of the world's supply of wheat, among other key crops and commodities. Nearly 50 countries import at least 30% of their wheat from Ukraine or Russia, and 36 are importing at least 50%, most of which are African and least-developed countries (LDCs).

Indeed, Africa has been hit hard by the events of the past few years, with the agricultural price index 19% higher in 2022 compared to 2021, and maize and wheat prices up 16% and 22% respectively. Drought, floods and other climate-related events are decimating crops and livelihoods for smallholder communities, leaving millions food insecure, hungry and undernourished.

With these complex, interconnected issues threatening to derail the 2030 vision, the UN issued a rallying cry to the international community in 2022:

***"Either we fail to deliver on our commitments to support the world's most vulnerable or together we turbo-charge our efforts to rescue the SDGs and deliver meaningful progress for people and the planet by 2030."***

Among those involved in 'turbo-charging' efforts to achieve the SDGs, there is growing recognition that increased coordination and collaboration is required between countries – particularly those in the Global South.

In the words of the International Fund for Agricultural Development (IFAD), revitalising progress towards the SDGs while addressing ongoing and emerging challenges requires developing countries to work together "to address gaps in policy, knowledge, technology and resources". This approach, known as South-South Cooperation (SSC), is designed to "deliver relevant, targeted and cost-effective development solutions and foster inclusive partnerships." Many believe it holds the key to realigning global endeavours to meet the 2030 deadline.

## South-South Cooperation Past, Present and Future

As defined by the UN, South-South Cooperation refers to the technical, financial and policy-based cooperation among developing countries in the Global South. It is a tool used by states, international organisations, aca-

demics, civil society, and the private sector "to collaborate and share knowledge, skills and successful initiatives in specific areas such as agricultural development, human rights, urbanisation, health and climate change."

As a model for collaboration, SSC is predicated on the commonality of challenges, opportunities, experiences and sympathies between developing countries in Latin America and the Caribban, Africa, Asia and the Middle East.

As Jean Jaques Muhinda, Regional Head for East Africa and Head of State Capability Unit at AGRA, observes: ***"If you look from a geographical point of view, we're all part of the tropical regions. Our agroecological conditions are pretty much the same and our farming systems are similar. The challenges we face in terms of environmental management are also much the same. So, the case for cooperation and knowledge sharing is clear."***

According to Adam Gerstenmier, Executive Director of Food Action Alliance, countries in the Global South see a big opportunity to learn from others who are closer to their own development trajectory or set of priorities. There can be "a big divide", says Gerstenmier, "on certain topics between countries in Africa and, say, countries in Europe and North America, where priorities, resourcing and financial models simply aren't the same".

As a result, it's much easier for these countries to learn from a South-South perspective across Latin America, Africa, and Asia. And by borrowing technologies and innovations known to work in comparable agroecological contexts, countries can achieve major time and cost savings.

Cheng Cheng, Head of China Partnership at AGRA, concurs with this assessment: ***"While China, Thailand, and India are ahead of Africa, they're not that far ahead. Africa can catch up with them, but it can't hope to emulate the agricultural operations of the North. That's why we need to bring technology, know-how, equipment and solutions from South to South".***

There are other compelling drivers of SSC. For example

- The Global South now constitutes over half of the global GDP and is a major force in the world economy.
- New emerging donors, such as China, India, and Brazil, are providing significant resources through SSC channels, laying the foundations for increased South-South solidarity and support.
- SSC is proving vital in helping developing countries maintain flows of trade and food during supply shocks and disruptions.

But when did SSC emerge as a development model, and why is there such renewed interest in it today?

The first official flows of development assistance to Africa came in the 1920s and 1940s, as the allied nations sought to repay African countries for their support during the First and Second World Wars.

The foundations of traditional aid were then established in the 1960s, through the signing of the US Foreign Assistance Act and the cre-

ation of USAID. The aid models that evolved from this period were couched in terms of equality and joint ownership. But the reality was a subordinate donor-recipient relationship.

*"Historically," reflects Adam Gerstenmier, " development assistance and philanthropy from Northern countries was quite directive in terms of what developing countries should be doing and what technologies they should be adopting."*

In the 1970s, following the independence movements in Africa and the establishment of the Non-Aligned Movement, developing countries began to seek alternatives to the vertical North-South assistance model. It was during this time that the seeds of SSC were sown, leading to the formulation, in 1978, of the Buenos Aires Plan of Action for Promoting and Implementing Technical Cooperation among Developing Countries (BAPA).

Adopted by 138 UN member states, BAPA reflected the desire of countries from the Global South to chart their own development journey. It signalled a shift away from the traditional aid format towards a new model shaped by collaboration between developing countries. And it established a framework for cooperation based on "the principles of respect for national sovereignty and ownership, free from any conditionalities."

Over the past four decades, countries of the Global South have made remarkable progress, as the UN Secretary-General, António Guterres, observed in 2018:

*"Innovative forms of knowledge exchange, technology transfer, emergency response and recovery of livelihoods led by the South are transforming lives… Intra-South trade… account[s] for more than a quarter of all world trade… and remittances from migrant workers to low and middle-income countries reached 466 billion dollars last year, which helped lift millions of families out of poverty."*

To celebrate and learn from these achievements, the UN held the Second High-level Conference on South-South Cooperation in 2019. Or, as it became known, 'BAPA+40'. Also held in Buenos Aires, the Conference focused on leveraging voices from the South and promoting SSC to drive innovation towards the 2030 targets.

What no one at BAPA+40 could have predicted is the degree to which events since 2019 have accelerated collaboration across the Global South, and intensified the focus on SSC as a mechanism for development

## The new era of multistakeholder engagement, consultation and collaboration

Around the world, the experience of COVID-19 has amplified the case for transnational cooperation. The rapid cross-border spread and collective health risks of SARS-CoV-2 underscored the need for coordination between countries, governments and public health experts.

Covid-19 also served to reinforce the value of SSC. During the pandemic, many developed countries adopted protectionist positions and retreated into 'vaccine nationalism', reaffirming the need for developing countries to manage their own health and food security issues. At this time, the UN welcomed what it called "an

upswing in South-South Cooperation, which… enabled many LDCs to obtain urgently needed medications, vaccines and medical supplies".

Since the COVID-19 pandemic, institutional convenings, dialogues, and developments have also helped to advance SSC.

In September 2021, the UN Food Systems Summit (UNFSS) took place in New York. Underpinned by a 12-month engagement process, the Summit aimed to launch bold new actions to deliver progress against the SDGs.

From the outset, the UNFSS was shaped by the principles of inclusivity and collaboration. It was informed by a year-long series of multistakeholder consultations, known as the Food Systems Dialogues, which were designed to capture the voice and ambitions of everyone with a stake in food systems globally, both across countries and within them.

According to Adam Gerstenmier, the spirit and structure of the Summit provided a robust platform from which to promote the benefits of cooperation between developing countries:

*"The way the Dialogues were organised and the way the Summit meetings were curated, we were able to say to those involved, 'you're all wrestling with these experiences, you should be learning from each other'. We also explored how, through the very concept of food systems and the nature of these mass convenings, we can leverage regional institutions to promote South-South learning and build common positions across countries and continents."*

For AGRA in particular, UNFSS and the food systems approach has catalysed a major re-engagement with SSC as a lever of change. During the pre-Summit process, AGRA began working with an organisation based in Costa Rica called the Inter-American Institute for Cooperation on Agriculture (IICA), as Jean Jacques Muhinda explains:

*"As representatives from Latin America and the Caribbean began showcasing their food systems pathways and priorities, it became clear they faced similar challenges and opportunities to those we experience in Africa. So, a Common Position on food systems was articulated and ratified under the leadership of IICA and the African Union Development Agency (AUDA-NEPAD), with facilitation by AGRA. And as we moved the common areas of interest forward, the conversation for activating SSC between the two regions started to take shape."*

In July 2022, following these initial interactions, AGRA, IICA and AUDA-NEPAD convened the Africa-Americas Ministerial Summit on Agriculture and Food Systems. The Summit was the first event of its kind between the two regions and had SSC at its core. It aimed to facilitate bilateral dialogue and explore opportunities for collaboration under the theme 'Building Bridges for Cooperation in the Transformation of Agri-Food Systems'.

Held in Costa Rica, the Summit sought an alignment of priorities "in accordance with the ecological, cultural and historical similarities between the two continents". During the event, discussions were focused on many key areas, including:

- Science, technology and innovation
- Climate change and resilience
- Opportunities in digital agriculture
- Institutional and policy innovations

The Summit brought together more than 181 participants, including Ministers, Vice Ministers, and high authorities of agriculture and environment from 40 countries, as well as representatives of international organisations, the private sector and academia. Following three days of dialogue, delegates emerged confident they had established the "foundation[s] for mutual learning and cooperation in the future".

The Costa Rica Summit recommendations helped shape SSC engagements at the 2022 Africa Food Systems Forum (AGRF), held in Rwanda a few months later. For the first time ever, a strong delegation from Latin America and the Caribbean attended an African agribusiness summit. And according to Jean Jaques Muhinda, the experience was "*a big eye-opening moment for both sides*".

*"This is where AGRA's interest lies in SSC," says Muhinda. "It's part of our broader government support and institutional strengthening agenda. Our ultimate aim is to broker strategic partnerships between bilateral countries, national research institutions and regional blocks to really advance the sharing of knowledge, technologies and experiences."*

AGRA also used AGRF 2022 to engage with South Asia, welcoming a delegation from India, China and Grow Asia (the equivalent of AGRA and IICA in the ASEAN region). Then, in April 2023, AGRA participated in One Planet Network's Sustainable Food Systems Programme conference in Hanoi, Vietnam. This was a landmark tripartite event between Africa, Latin America, and South Asia.

A core part of the UNFSS follow-up process, the Hanoi conference, allowed countries from across the three regions to share knowledge and best practice. Aiming "to promote and strengthen South-South Cooperation", the event included two days of field visits to showcase local innovations. These included the production of low-carbon rice and logistics for last-mile delivery.

In a joint post-conference statement, AGRA President Dr Agnes Kalibata highlighted the importance of collaboration as the primary driver of change:

*"To transform our food systems to make them more inclusive, resilient and sustainable, we must collaborate across regions… AGRA is committed to leveraging partnerships such as these to help our food systems overcome existing and future crises."*

Beverley Postma, Executive Director of Grow Asia, observed that "SSC represents a significant opportunity to promote sustainable, inclusive and resilient food systems across the developing world. By working together, and sharing best practice across three continents, we can scale up solutions to common challenges."

Meanwhile, Dr Manuel Otero, Director General of IICA, observed that *"the deeper the crisis… the more cooperation we need. It is a cooperation among equals, and that is what we are. That is the essence of South-South Cooperation, in which we strongly believe, because it means building bridges so we can use our potential together, in all areas. That is the reason we prioritise this intercontinental dialogue".*

## The new era of multistakeholder engagement, consultation and

In the post-UNFSS landscape, the renewed focus on South-South Cooperation drives progress in agricultural development and food systems transformation. As multistakeholder summits set the agenda for SSC, on-the-ground programmes continue to deliver tangible impacts.

## SSC in action

In the post-UNFSS landscape, the renewed focus on South-South Cooperation drives progress in agricultural development and food systems transformation. As multistakeholder summits set the agenda for SSC, on-the-ground programmes continue to deliver tangible impacts.

## Green lanes: Africa, AGRA and China

Over the past two decades, China has become the largest agricultural importer in human history. During this time, China's agricultural import market has grown 14.6% annually, and in 2021 China imported over 160 million MT of agricultural products. This shift has created a unique opportunity for Africa. Previously, infrastructure was the primary sector for China-Africa cooperation. Now agriculture provides the key platform for partnership.

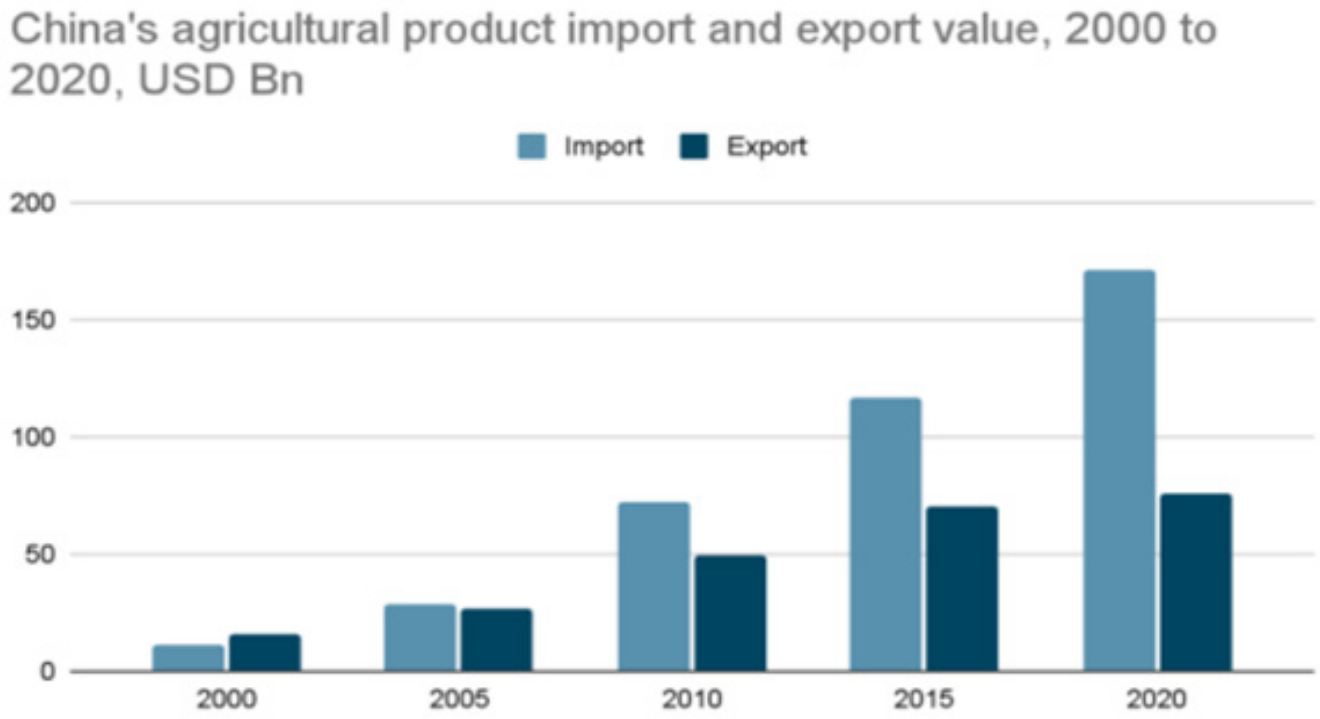



*Figure 1: China's agricultural import growth*

To help Africa grasp this opportunity, AGRA has accelerated its cooperation with China's public and private sectors. And it has developed a robust SSC model as the basis for engagement. To oversee this process, in 2020 Professor Cheng Cheng joined AGRA from UNDP Asia Pacific.

"For years the trade balance between Africa and China was bad," says Cheng. "But recently things have changed. The Forum on China Africa Cooperation (FOCAC) has opened a window to facilitate easier access to the Chinese market for African producers."

Under the FOCAC framework, in 2021, China removed tariffs on 98% of taxable items from LDCs in Africa, including Rwanda, Tanzania, Uganda, and Malawi. It then introduced what it calls 'green lanes' to make registering import crops and products quicker and easier.

"These changes can potentially transform the livelihoods of African smallholders," says Cheng. "There's a range of horticultural products that were previously hard to make money from that can now fetch a much higher price on China's open market. And demand for these products is strong."

As part of its vision for the new Africa-China partnership, AGRA aims to:

- Help create over 5,000 direct employment opportunities in East Africa in 2023
- Bring value-added processing to local horticultural production, generating more value for the region
- Attract additional investment from China

Encouragingly, the programme has made rapid progress. In 2021, an agreement was struck to expedite exports of Kenyan avocados to China. The following year, China imported 400 million renminbi (about US$55 million) worth of Kenyan avocados during a seven-month period. And in 2023 it is set to import 40% of its avocados from Kenya.

*"This is a major boost for the whole horticulture sector," says Cheng. "It's critical for the country and for Africa. Most of the jobs created will be for women and young people in local factories. This is magnificent because AGRA has been trying to bring women and young people into the agriculture sector."*

Similarly, at AGRF 2022 AGRA brokered a deal between Rwanda and China. Under the terms of the deal, Rwanda will supply China with 3,000 metric tonnes of dried chilli pepper worth US$11 million.

*"Every year China imports US$1 billion of dry chilli pepper from India," says Cheng. "Through the South-South lens, we've seen that East Africa also has a good geography and climate for chilli cultivation. Now we're able to exploit these conditions. China satisfies consumer demand, while Africa generates much-needed income. It's an example of how SSC provides mutuality and collaboration in ways linear assistance models don't."*

## Emergency seed supply in the Caribbean

On 9 April 2021, a volcanic eruption on the Caribbean island of Saint Vincent and the Grenadines caused widespread damage and destruction. Approximately 20,000 people, the majority of whom are farmers, were evacuated from their homes. The eruption devastated agricultural production and left food security hanging in the balance.

The response, coordinated through IICA, was a textbook example of South-South Cooperation in action. As farmers were relocated, IICA mobilised a coalition of regional actors to deliver much-need agricultural inputs. The principal actors included:

- Global life sciences company Bayer AG
- The Argentinian Seed Producers' Association (ASA)
- Plantec de Chile
- The White Helmets

Together, they organised a donation of seeds estimated to be worth around US$300,000. In-

tended to support agricultural rehabilitation, the seeds (an assortment of lettuce, broccoli, Swiss chard, carrot, cucumber, corn and tomato) helped to fuel the country's recovery in the aftermath of the disaster.

Jorge Werthein, Special Advisor to the Director General at IICA, reflects on the success of the operation:

*"Through South-South Cooperation, Saint Vincent was able to recover very quickly as they received all the seeds they needed to restart agricultural production. South-South Cooperation should be an integration of the public sector, private sector, multilateral agencies, technical and financial support. By working together, these actors can share efforts to help those in need. And that's what happened in Saint Vincent and the Grenadines."*

According to Saboto Caesar, Minister of Agriculture, Forestry, Fisheries, Rural Transformation, Industry and Labor of Saint Vincent and the Grenadines, the donated seed arrived "just at the right time to enable our family farmers to reap significant benefits, thus reducing our food imports".

Meanwhile, Alejandra Castro, Head of Legal, Patents and Compliance at Bayer AG, acknowledged the solidarity and support mobilised through IICA. The institute, he said, "served as a bridge to facilitate…the donations and…contributed to agriculture and rural development in the Americas."

According to Jorge Werthein, this 'bridge building', enabled through multilateral regional engagement, defines the true value and impact of SSC:

*"You cannot deliver South-South Cooperation thinking about bilateral relations. What we have at IICA are multilateral regional groups, the countries of Brazil, Argentina, Uruguay, Paraguay and Chile. Representatives from these countries meet maybe three or four times a year to discuss issues, such as the 2030 goals or COP 28. But at the same time, they ask 'how can we help each other'? A water management problem in the Andean region could be solved by an innovation from Brazil. And we look further, to the Central American region, to Africa, where common problems can be solved by replicating and adapting pre-existing solutions. This is South-South Cooperation."*

As the above examples demonstrate, SSC can help to boost agricultural trade and job creation and support emergency response and rural livelihood recovery. It also enables governments, institutions, NGOs and private enterprises to drive progress in other areas. Here are some additional examples in brief:

**Promoting and sharing rural development solutions**

IFAD and AGRA have partnered to deliver a grant, titled 'Leveraging South-South and Triangular Cooperation (SSTC) to Share Rural Development Solutions for Private Sector Engagement'. The grant aims to impact smallholder farmers, rural enterprises, women, youth, governments and development partners through systematic collaboration. Under this grant, AGRA has identified 40 innovative development solutions that address specific challenges in rural areas, uploaded on the IFAD Rural Solutions Portal (RSP).

**Advancing research innovations**

Embrapa, the state-owned Brazilian Agricultural Research Corporation, has forged key partnerships with several national research institutions in Africa. Through these partnerships, Embrapa has shared germplasm technologies and varieties. These varieties were bred and released in Brazil in similar agroecological conditions to those found in Africa. They are now being grown in several African countries, enhancing the cultivation of forage crops, beans, cassava and soya beans. They are climate-resilient, nutritious and early maturing, helping improve smallholder communities' livelihoods and lives.

*"These germplasm technologies were shared by Embrapa either through bilateral or multilateral cooperation, initially facilitated by the CGIAR system," explains Jean Jaques Muhinda. "When you put these mechanisms for technology exchange in place, you can do adaptation tests quickly and start transferring the same to farmers without wasting too much time and money. This accelerates the impact."*

**Enhancing extension services and last-mile delivery**

There is much to be learned from Vietnam's extension service model. From national to district to village level, Vietnam boasts effective technology transfer to smallholder farmers, all the way through to last-mile delivery.

AGRA is currently working to leverage key learnings from Vietnam's farmer support systems, starting with the rice value chain. Vietnam's Sustainable Rice Intensification (SRI) model has proved to be an environmentally friendly approach to rice production. With SRI, farmers maximise yields while optimising water use, seeds, organic fertilisers from fishponds and poultry. The major benefits of this system include:

- Increased yields (7-10 tons/hectare)
- Reduced water usage (up to 30%)
- Reduced inputs usage (~30%)
- Lower greenhouse gas emissions
- Improved soil health
- Decreased reliance on agrochemicals
-

Its adoption in Africa could help to create more productive and sustainable rice development programmes.

**Reducing postharvest losses**

Approximately 40% of food in Africa is wasted through postharvest losses. In China, 20 years ago this figure was 25%. Today, it is 11%. By learning from the equipment, technology and policies that helped China reduce its postharvest losses, Africa can make huge strides towards solving its food

security issues.
As part of its partnership with China, AGRA is working to address the issue of food waste in Africa. Through the Second International Conference on Food Loss and Management, to be held in China in 2023, AGRA aims to support new plans for shaingr post-harvest management technology across the Global South.

As Cheng Cheng observes, "SSC, like the food systems approach, needs to break down silos and boundaries to ensure all folks work together to drive down waste along the postharvest management process".

**Boosting rice production capabilities**

Africa is leveraging lessons from the Global South and beyond to enhance its rice production capabilities. In 2008, the Japan International Cooperation Agency (JICA), in partnership with AGRA, launched The Coalition for African Rice Development (CARD). This platform is central to rice value chain development across all African rice-growing regions. Between 2012 and 2022, the Coalition's efforts led to the doubling of rice production in sub-Saharan Africa (SSA).

With a strong focus on rice value chain transformation, AGRA has a JICA/CARD office at its Nairobi headquarters to facilitate knowledge and technology transfer. In 2023, this partnership supported the East African Community (EAC) to formulate and launch its first-ever EAC Rice Development Strategy (EARDS). This strategy guides production, value addition and trade across the region. JICA also has a strong presence in West Africa, where conditions for rice cultivation are good and consumption levels are the highest across the continent.

## The Road to 2030

SSC is an excellent example of collaborative leadership in action, predicated on convenings, co-creation and cooperation across different countries and regions. The recent summits and conventions in Costa Rica and Vietnam underscore the uniquely collaborative leadership model that underpins SSC, with three leading regional institutions – AGRA, IICA and Grow Asia – all working together to shape the food systems agenda. These events have enabled bilateral and multilateral cooperation across the Global South by bringing together member states, continental leadership, public and private sector bodies, and development agencies.

The spirit of collaborative leadership has also been demonstrated in individual country engagement with SSC. The Rwanda Cooperation Initiative (RCI), for example, has mainstreamed SSC within the national development strategy. In pursuit of Rwanda's target to become a high-income country by 2050, the RCI builds partnerships with countries that have followed similar growth trajectories in the past. It is responsible for receiving and hosting foreign delegations, and providing short and long-term advisory services to other countries (such as supporting Benin to reform the links between its public and private sectors).

Ultimately, SSC's success depends upon individual leaders' vision. In terms of collaborative regional leadership, Dr Agnes Kalibata at AGRA, Manuel Otero at IICA, and Beverley Postma at Grow Asia have been instrumental in driving SSC forward in recent years. These figures can convene ministers and actors from multiple countries and unite them around a single objective. They are able to 'build bridges' between their respective regions to facilitate the exchange of ideas, technologies and assistance that defines South-South Cooperation.

# Stakeholder perspectives

"The SDG will be difficult to achieve because the framework that supports them was built around silos – separate goals, presented and approached separately. Until we're able to link nutrition to production and the wider food environment, we will not succeed. That is why we need platforms and ecosystems that enable cooperation and bring together all food system components through technical, institutional and policy innovations."

***Fadel Ndiame, CEO, Food Systems Transformation Solutions***

"There are still major cost barriers for developing countries to engage in SSC. It requires a lot of expenditure to finance travel for ministers and technical experts, to facilitate tech transfer, per diems, that kind of thing. This is an issue that is difficult to face for many countries that want to be involved in SSC."

***Jorge Werthein, Special Advisor to the Director General at IICA***

"Human resource and capacity is a challenge. Today, if you go into an office of the African Union Commission, a continental organisation, they don't have an office for SSC. We need dedicated in-house personnel who can sit and work on funding proposals and advance this agenda

***Jean Jaques Muhinda, Regional Head for East Africa and Head of State Capability Unit, AGRA***

"Prioritisation is key. Countries like Vietnam, Bangladesh, Indonesia, countries that were where Africa is today – they focused on specific commodities and they prioritised. And their prioritisation didn't change. They spent a lot of time understanding their comparative advantages compared to other countries, and focused on that. This is what African countries need to do: consistent prioritisation, with agriculture as the national priority

***Thierry Ngoga, Founder & Director, GanzAfrica***

"There is too much dialogue and conversation about South-South Cooperation. We need less meetings and discussions and narratives and more action. And in order to have action, we need to have political decisions."

***Thierry Ngoga, Founder & Director, GanzAfrica***

# Notes

"

**For Africa to realize its food security agenda by 2030, there is need to adequately address the leadership gap in the implementation of agricultural and food systems transformation across Africa;**

*Dr. Apollos Nwafor*

"

**CALA practically addresses this leadership gap by capacitating leaders in Africa with adequate leadership skills that will facilitate them to successfully implement transformative food systems solutions across the continent;**

*Daniel Momanyi,*
*Interim CALA Program Lead, AGRA*

CALA

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