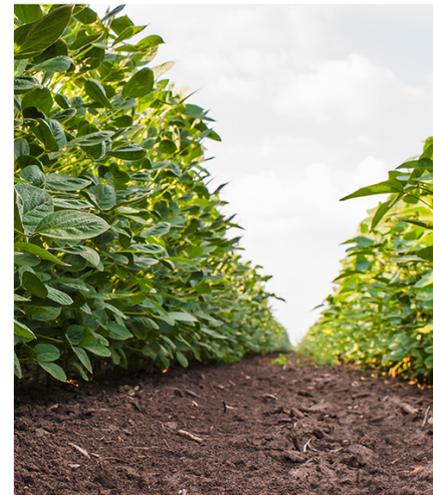




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AGRA

LIFE OF STRATEGY REPORT

COVERING PERIOD: 2017 – 2022

SEPTEMBER 2022

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Abbreviations and Acronyms

AGRA	Alliance for a Green Revolution in Africa
BMGF	Bill & Melinda Gates Foundation
BMZ	German Federal Ministry for Economic Cooperation and Development
CAADP	Comprehensive Africa Agriculture Development Programmed
EGS	Early Generation Seed
FCDO	UK Foreign & Commonwealth Development Office
ISFM	Integrated Soil and Fertility Management
MEL	Monitoring, Evaluation, and Learning
NAIP	National Agricultural Investment Plan
PIATA	Partnership for an Inclusive Agricultural Transformation in Africa
RFBS	Regional Food Balance Sheet
SACCOs	Savings and Credit Cooperative Societies
SDGs	United Nations Sustainable Development Goals
SME	Small & Medium-sized Enterprises
USAID	United States Agency for International Development
VBA	Village-Based Advisors

Executive Summary

This report covers the results achieved by AGRA in its strategic period 2017-21, as part of the Partnership for Inclusive Agriculture Transformation in Africa (PIATA).

AGRA was established by and for Africans to put the building blocks in place for sustainable, inclusive food systems on the continent.

Africa's food systems need transformation. Both food security and diverse, nutritious choices remain out of reach for many communities across the continent – for tens or even hundreds of millions of people. Farmer productivity is increasing as improved inputs and practices are adopted, but the progress is gradual, and many smallholders are vulnerable to unpredictable rains and exhausted soils. Supply chains and markets bring food from farms to table, but inefficiencies are costly to farmers, traders, processors, and consumers. Meanwhile, macro factors – including the war in Ukraine, climate change, and environmental degradation – compound these risks. Challenges and shocks are our reality; we must build our food systems to work better – and to work resiliently.

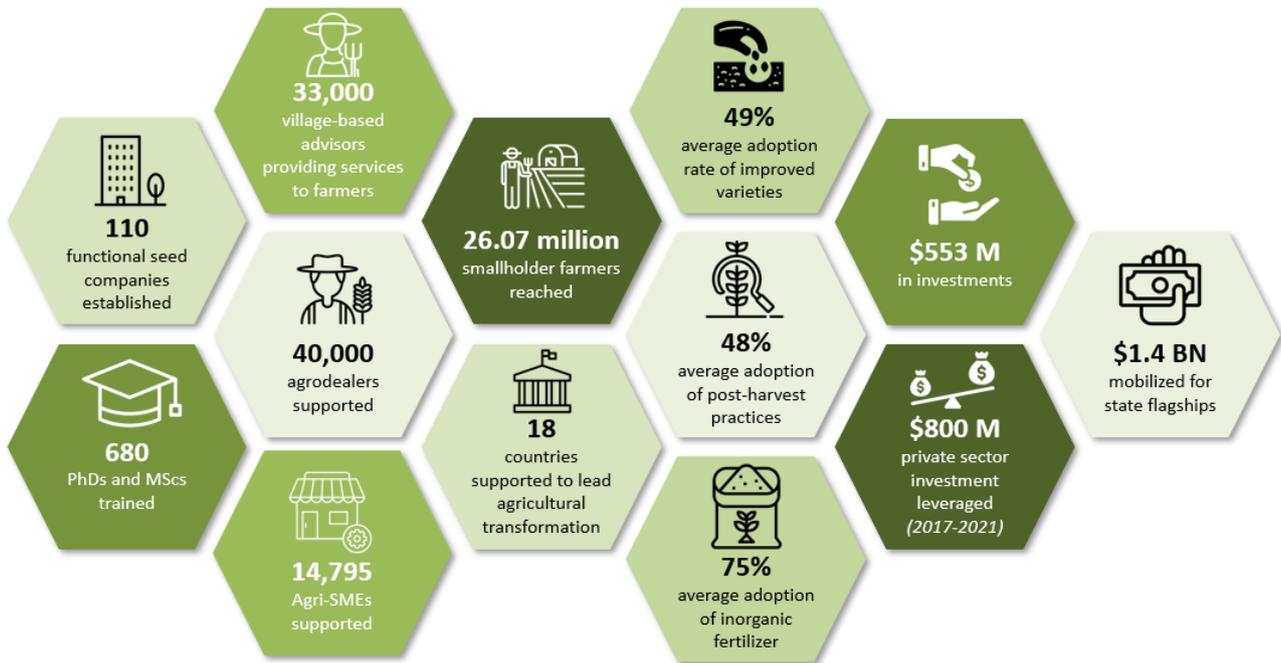
A sustainable, inclusive food system needs the right foundation. Unfortunately, what exists today across much of the continent is built on shaky foundations. Agricultural policies may not be well-designed and implementation capacity is not always in place. Good agronomic practices may be well understood, yet the private sector cannot always get the right inputs -- appropriate, affordable, and accessible – to farmers in a way that makes business sense. Output markets sometimes function – more or less – but growth is stymied by high search and transaction costs, trade barriers, lack of finance, and more. In short, there are cracks in the system.

AGRA exists to help build this foundation – ‘fixing the cracks’ where possible and installing ‘new building blocks’ where necessary. Our goal is to foster a food system that functions better at every point in the value chain, able to withstand the increasing frequency and magnitude of global crises. With the right foundation, this becomes possible. Multinationals and SMEs can invest and build on this foundation with greater confidence. Governments can set national priorities and design programs and policies for sustainability, rather than short-term patches. Farmers can become increasingly commercial and profitable. None of this work is done independently. Rather, we collaborate with government, private sector, and civil society to evaluate the food system, identify the cracks and gaps to fix, and determine the building blocks to put in place.

In our first 10 years, we focused on a few key building blocks, including direct investments in agronomic capacity, improved seeds, and agricultural SME development. Between 2006 and 2016, we strengthened sector leadership by training 680 PhD and MSc graduates in crop breeding, crop science, and agronomy. We increased availability of improved seed by facilitating the release of 562 new varieties and supporting the production of nearly 600,000 Mt of seed. We enhanced farmer awareness of good agronomic practices, training 5.3 million farmers on integrated soil fertility management (ISFM) practices. We also strengthened production, post-harvest practices, and marketing, leading to nearly 700,000 Mt of commodities being sold to SMEs at a value of US\$364 million.

Over the last 5 years, we expanded how we work in the food system, partnering more strategically and mobilizing other actors to join us in the building process. From 2017 to 2021, we focused on strengthening the enabling environment and government capacity, building and expanding integrated delivery systems, and establishing strategic partnerships. Our recent evaluation highlighted our success facilitating 42 policy reforms, supporting 11 national flagships, and mobilizing \$1.4 billion investment into the sector. We recruited and trained 33,000 Village-Based Advisors (VBAs) and supported 9,000 agro-dealers. As a result of our efforts, a majority of our farmers have adopted improved practices with 75% of farmers adopting fertilizer use, 48% adopting improved seed, and 60% adopting post-harvest practices. We are starting to see these outcomes translate into increased yields at the farm level.

Figure 1 Summary of AGRA's Achievements since Inception



As we have evolved our strategy, we have also recognized that AGRA is uniquely positioned to work on an expanded set of food system building blocks.

Our vantage point and positioning have allowed us to contribute to systemic change, leading where appropriate and leveraging other partners where we can. We **catalyzed** change at scale by targeting trigger points where we could unlock the greatest value for the sector. We created **connections** with partners across the sector – convening key players and coordinating them to focus on tackling binding constraints. We demonstrated our **credibility** as an African-led and Africa-centric institution which understands the realities on the ground and in the halls of power by offering bespoke, pragmatic solutions. We deployed a unique set of **cross-sectoral capabilities** which combined our depth of expertise and our breadth of strategic partners, enabling us to provide a bridge across the public, private, and development sectors. We demonstrated our **commitment** to our remit to solve the biggest issue facing the continent – the under-development of the agricultural sector – and we have been supported by a consortium of development partners who share our vision.

AGRA has strengthened other actors’ contributions to the building process by addressing structural weaknesses in food systems at continental level, national level, and within select agricultural systems.

We have strengthened governments’ ability to deliver on their regional and continental commitments. We have helped articulate a pathway to achieving continental targets. We have worked with governments across the region to structure market linkages and unlock trade opportunities to stimulate regional food trade. Complementing this work at the regional level, we have strengthened the institutional capacity of regional organizations to coordinate the development and implementation of regional agricultural commitments, promoted regional policy harmonization and supported regional efforts towards adopting common quality standards and controls.

We have demonstrated viable ways to helping African governments with their agricultural agendas. We have supported flagship agricultural programs in nearly all our focus countries, and we have helped governments to mobilize the resources for these flagships. We have facilitated policy

development, leading to quicker policy approval and the implementation of specific agricultural policies. We have shepherded a culture of national accountability by tracking progress across different agricultural systems where previously the lack of standardized tracking rendered it difficult to evaluate progress.

We have improved the building blocks for business, opening new markets and creating channels for growth. We successfully began unlocking the power of the private sector – from seed companies, to SMEs, to agro-processors – and enhanced their participation and investment in the agriculture sector. We supported governments to identify policies which deter private sector investment. Through our systems tracking, we have clearly identified the gaps in the sector where private sector players can engage, helping to grow the sector whilst generating profits.

We can see that we are putting the right building blocks in place, as AGRA's success in catalyzing a sustainable enabling environment and changing agricultural ecosystems has created new opportunities for farmers.

Our farmers now have greater awareness, more appropriate options, and improved access to the inputs they need. We have developed and strengthened last mile delivery across the continent, improving the capacity and reach of extension and input distribution system. This has markedly increased farmer knowledge and choice, enabling farmers to make more informed decisions about their farming practices.

As a result, our farmers are now making better choices – giving them agency over how they farm and providing the foundation for better livelihoods and resilience. A majority of the farmers reached through our activities are now using improved inputs and better post-harvest practices. We are starting to see the impact of these decisions translate into improved yield.

However, given the scale and complexity of this building project, it will take many years for farmers to experience the amplified ripple effects of our efforts.

Changing agricultural systems is undeniably difficult and slow. We are faced with numerous, interconnected challenges across agricultural systems. Actors within the ecosystem have different mandates, agendas, and approaches. The resources available to tackle agricultural transformation are woefully insufficient.

We cannot guarantee changing all farmers' behavior. The impacts of our interventions at the national level and within agricultural systems have to come together at the same time to create a gateway to impact at the farmer level. Even with the right incentives, some farmers may not change their behavior and external pressures may further reduce the likelihood of farmers risking changing their practices.

However, our early results show that our investments are paying off and we have laid the foundations for longer-term change. Our farmers have adopted improved agronomic practices and technologies and are experiencing increased yields in most contexts. Whilst our investments in increasing access to finance and growing output markets have been insufficient to date, we will unlock progress in these areas through application of our integrated approach. This will encourage farmers to participate in commercial markets, helping to grow their income and increase their resilience.

AGRA has developed - and continues to refine - a repeatable blueprint for the building blocks that will enable a sustainable, inclusive, and resilient food system on the continent.

We offer bespoke solutions that address the particular challenges faced in each context. We engage in deeply participatory conversations with stakeholders on the ground to understand the specific challenges faced. We work with local partners to offer 'solutions' that are specific to this context. We are adaptive to the changing needs and circumstances of these farmers as the global environment changes faster than ever. Government stakeholders are appreciative of this approach and recognize it is critical for successful implementation.

Our partnerships approach brings together available resources to tackle binding constraints. AGRA unites partners from across the public, private, and non-governmental sectors to focus on critical issues, maximizing the efficiency of the limited resources in the sector. We encourage new actors to invest in the sector and we support businesses trying to enter the sector to grow.

The Partnership for an Inclusive Agriculture Transformation in Africa (PIATA) was a crucial component. AGRA was deeply supported – financially, technically and strategically – by this innovative partnership between five important development partners. Our deep appreciation goes to the Bill and Melinda Gates Foundation (BMGF), Germany’s BMZ and associated institutions (KfW & GIZ), the UK’s FCDO, Rockefeller Foundation, and the United States’ USAID.

We realize synergies between our efforts, compounding our impact on farmers. We see strong synergies between our policy work and specific system interventions, especially in seed and fertilizer. There are also synergies between our efforts to strengthen the last mile delivery systems for extension and input distribution, as many of our VBAs have leveraged their trusted relationships with farmers to start selling inputs.

We put forward integrated approaches which can simultaneously tackle multiple, interrelated constraints. We designed and implemented consortia as a model for deploying targeted, coordinated interventions and de-risk investments to attract and strengthen agribusiness SMEs in order to entice the private sector into new areas of agriculture. AGRA’s consortia offered an integrated pack of support and drove a significant uplift of investment into prioritized value chains.

We are continually striving to be a learning organization, which evolves on the basis of our learnings to maximize our impact. Going forward, we will adopt a sustainable food systems approach to consider all elements, relationships, and related effects of the food system. We will become more targeted in our approach by centering around a number of interrelated, thematic areas and sharpening our focus around national priorities. We will integrate key cross-cutting priorities – inclusivity, nutrition, and climate-change adaptation – into all of our work.

We remain committed to catalyzing an inclusive agricultural transformation in Africa to improve the livelihoods of smallholder farmers across the continent, and we will continue to pave the path to transformation.

Introduction

AGRA was established in 2006 based on the belief that African smallholder farmers can increase their incomes and livelihoods if they are provided better access to opportunities, finance, inputs, and markets. Given that 65% of Africans are dependent on agriculture for their livelihoods and 90% of farmers are smallholders, this work could not be more important. AGRA seeks to catalyze an inclusive agricultural transformation whereby smallholder farmers shift from subsistence production to specialized, market-oriented production. This graduation to market-oriented production drives positive changes in the sector, increasing efficiency in production, building competitive markets, and enabling sustainable food systems. Agricultural transformation is a long and slow process that requires the consistent synergy of many stakeholders, immense detailed planning, targeted execution, iteration, and continuous learning.

AGRA's value proposition uniquely positions us to take on this challenge. We catalyze change at scale by homing in on the binding constraints in the food system. We create **connections** with partners across the agricultural sector – convening key players and coordinating among them. We have **credibility** as an African-led and Africa-centric institution that offers targeted solutions to local contexts. We have a unique set of **cross-sectoral capabilities** which enables us to bridge actors across the public, private, and development sectors. We are **committed** to our dedicated remit to solving the under-development of the agricultural sector, and we are supported by a consortium of development partners who share our vision.

AGRA takes a partnerships approach to agricultural transformation, facilitating actors to come together to tackle systemic constraints. The scale of the challenge is too large for any one organization to tackle alone, with Ceres stating last year that the funding gap to end hunger by 2030 is at least \$14 billion per year. Acknowledging this, AGRA focuses on empowering actors in the ecosystem to work together to tackle systemic constraints. First, we track agricultural systems across the continent to identify the bottlenecks to agricultural development. Secondly, we empower and partner with organizations across the ecosystem to leverage one another's strengths and capabilities to tackle these systemic constraints.

We are supported in our mission by the Partnership for an Inclusive Agricultural Transformation in Africa (PIATA). Launched in 2017, PIATA seeks to catalyze an inclusive agricultural transformation by driving productivity, strengthening output markets, enhancing resilience to shocks and stresses, and increasing coordination and accountability. AGRA is the main implementing partner for PIATA, which includes the Bill & Melinda Gates Foundation (BMGF), the Rockefeller Foundation, the UK Foreign & Commonwealth Development Office (FCDO), The Germany Federal Ministry for Economic Cooperation and Development (BMZ), and the United States Agency for International Development (USAID).

In our 2017-2021 strategy, we aimed to contribute to increased incomes and improved food security for 30 million smallholder farming households. With an average budget of \$10 per farmer, we set forth to directly impact 9 million households through our grantees and development partners. We aimed to indirectly reach 21 million households by leveraging partnerships and working with governments to invest in mechanisms that unlock private sector participation and crowd-in investment.

We worked in 11 focus countries where there is a strong government commitment to agriculture and high impact potential. In our 7 “push” countries, we focus on building agricultural systems to drive transformation as their agricultural systems are relatively nascent. These countries include Burkina Faso, Ethiopia, Ghana, Nigeria, Mali, Mozambique, and Tanzania. The 4 “pull” countries are geographies where we focus on “pulling” production towards output markets: Kenya, Malawi, Rwanda, and Uganda.

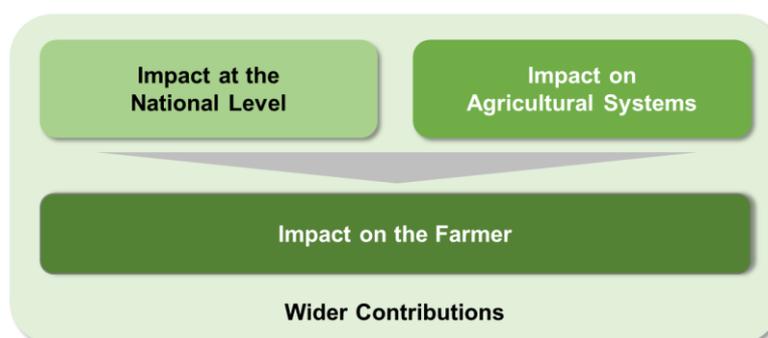
The key pillars of our strategy were system and market failure mitigation, government capacity implementation, and strategic partnerships for scale. We ensured our activities were tailored to correcting the market and system failures that hinder farmer access to inputs, extension, and output

markets. We supported government-led farmer programs and strategies, and enhanced states' ability to accelerate policy reforms. Our partnerships leveraged knowledge, resources and networks that propelled us along the long journey towards agricultural transformation.

Report Structure

AGRA's activities are intended to catalyze national and system transformation, which should open a gateway to impact at the farmer level whilst also spurring wider contributions. In line with this logic, this report has four main sections. First, the report considers AGRA activities at the national level which are focused on creating an enabling environment for the private sector to get involved and serve farming communities by facilitating access to inputs, extension, markets, finance, and other supportive resources. Secondly, the report covers our involvement at the system level which is geared towards increasing productivity and surplus for both the farmer and the market. This surplus would in turn create opportunities in the non-agricultural sector such as industrial production, and spur rural economies, moving more countries from dependence on low-yield subsistence into fully thriving rural economies that grow from the mutual combination of agricultural and non-agricultural income. In the third section of this report, the impact of AGRA's activities at the national and system level on the farmer are discussed. AGRA activities are intended to encourage farmers to adopt better agronomic practices and improved inputs, leading to increased yields and commercialization, and building farmer resilience. Finally, this report covers AGRA's contributions to broader development themes – inclusivity, climate change resilience, and sustainable food systems.

Figure 2: Report Framework



AGRA has been conservative in its assumptions and as rigorous as possible in its analysis. Our analysis is self-critical. While we see important progress in many areas, if the data does not support to a sufficiently high level what we see on the ground, we have indicated as such in our methodology across the major areas of work. This both helps us to point towards our future strategy areas for improvement or adjustment, or the need to collect more data on impact.

Note on Data Sources

The report predominantly draws on the PIATA Final Evaluation 2021 and our Farmer Outcome Surveys conducted in 2018 and 2020. We leveraged additional materials from AGRA reports, surveys, interviews, and workshops conducted throughout the strategy period to supplement our findings.

Over the past 5 years, we have accumulated vast quantities of data from across our focus countries and we have started establishing a robust framework for monitoring, evaluation, and learning. This having been said, the reader should be aware of the following:

1. The long-term nature of systemic change means that not many of our activities from the last strategy will not have demonstrated their full impact yet

2. The COVID-19 pandemic slowed our data collection in 2020, and we believe it adversely affected both smallholder farmers and SMEs
3. Our strategy development continued past 2017 – the first year of this strategy - so the timing of our baseline data varies across intervention areas
4. We prioritized more rigorous impact studies to test our models and reveal emerging results to enhance our learning versus collection of comparable nationwide data that could serve as a counter-factual
5. For the first time in 2021 we finally managed to do a comprehensive systems analysis across countries which will provide a strong basis for analysis going forward in our next strategy

The massive amounts of data and information presented in this report is exemplary of our continuous efforts to understand and respond to the changing environment and behaviour of Africa's smallholder farmers. We have committed to further enhancing our monitoring, evaluation, and learning efforts in our next strategy.

Supporting States to Drive Agricultural Transformation: AGRA's Impact at the National Level

Introduction

In our last strategy, we made a strategic shift towards working closely with states and setting up national-level partnerships to establish a strong enabling environment for agricultural transformation. We have aligned our support to government priorities and flagships where there is strong internal buy-in and championship, in order to catalyze a scale impact. Furthermore, the word that we do in policy and state capability is a critical enabler for our systemic interventions.

Figure 3: Impact at the National Level – Key Questions

- Has the policy environment and policy development process improved?
- Has state capability to plan, coordinate, and drive national investments in agriculture increased?
- What lessons can be learned for the future?

Through our national level engagements, we have demonstrated to African governments that there is a viable pathway to agricultural transformation. We have successfully positioned AGRA as a partner to governments, which supports them to lead the agricultural sector towards transformation. Our support for state flagships has helped governments to articulate their focus areas, which inform the priorities and activities of development partners and the private sector.

We have unleashed the power of the private sector by enhancing private sector participation in the agriculture sector. We have helped governments to identify policies which deter private sector investment and supported reform of these policies, contributing to the crowding in of the private sector to select agricultural systems. Through our tracking of agricultural systems, we have identified systemic bottlenecks to agricultural development where the private sector can add value. We have demonstrated different ways the private sector can participate successfully in agriculture, enabling them to profit whilst growing the sector.

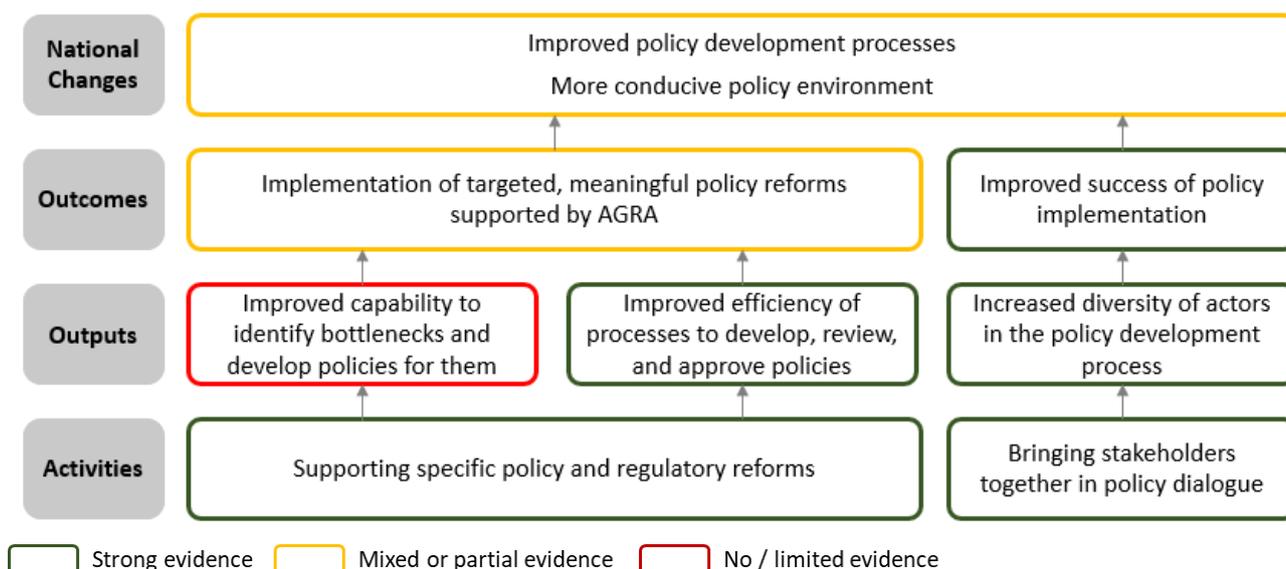
The multi-decade period of national transformation means we only expect to see initial results from AGRA's activities at the national level. It can take considerable time for the full impact of policy reforms to be felt on the ground and many of the state flagships we have supported are still underway. We should consider the evidence of our success at the national level described here as only the initial results.

Improved the Policy Environment and Policy Development Process

A clear policy and regulatory system sets the foundations for inclusive and sustainable agricultural transformation. Our work seeks to overcome these challenges in the policy environment by strengthening government capacity for policy development and by inviting a wider array of actors into the policy making process. Our efforts have increased the diversity of actors in policy development in our focus countries and improved efficiency of process to develop, review, and approve policies. There is more limited evidence of states’ having improved their capability to identify the critical bottlenecks for policy development – an area where we intend to focus more attention in our next strategy through provision of analytical support.

At the outcome level, there is strong evidence our work has improved the success of policy implementation. There is moderate evidence that AGRA has helped to improve policy development processes and build a more conducive policy environment at the national level. We are emboldened that we are already seeing the impacts of our recent engagement in this area, and we have identified the areas we need to increase our support to further strengthen the policy environment going forward.

Figure 4: Policy Environment and Development Process Theory of Change¹

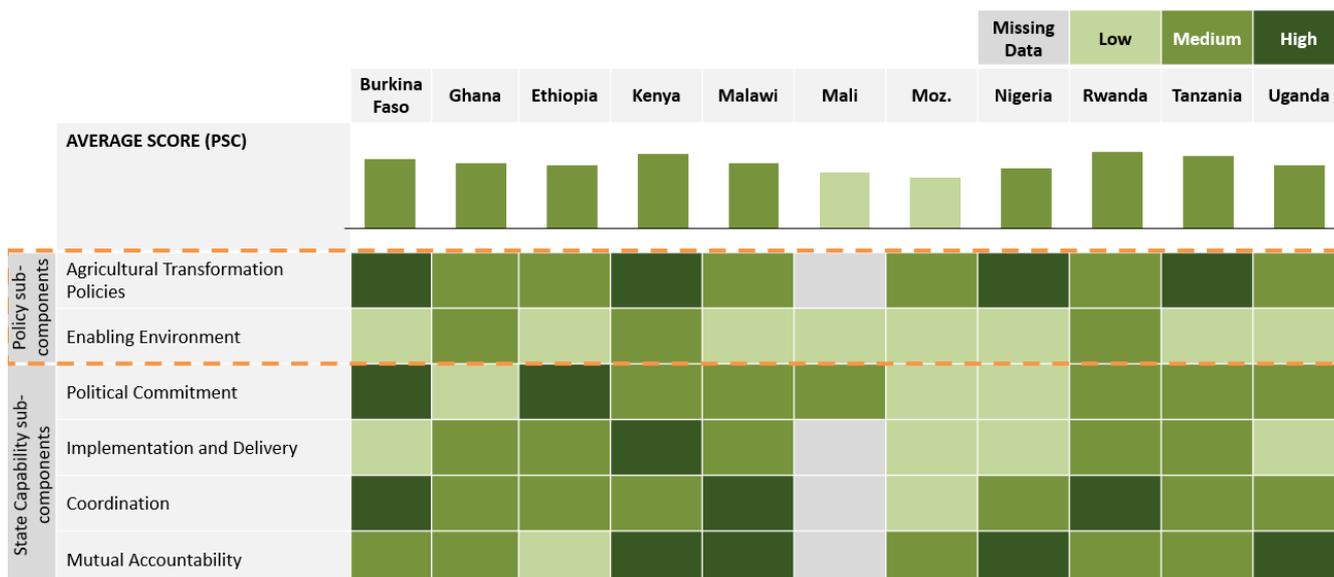


Across AGRA’s focus countries – and beyond AGRA’s specific activities – we see evidence of relatively strong policy systems. This policy systems analysis has been conducted as part of AGRA’s outcome monitoring and shows the current state of policy systems across AGRA focus countries, broken down into key components – agricultural transformation policies and enabling environment. This systems analysis has been conducted – and is presented – for different agricultural systems throughout this report, drawing on multiple data sources including open-access databases, AGRA’s Farmer Outcome Surveys, and national public institutes. It helps us to visualize the areas of strong and weak performance within each system and between countries. The analysis provides the basis for in-depth case studies which can help to derive what AGRA’s role is or has been in strengthening these systems. From this analysis we can see that across AGRA focus countries, there is evidence of strong agricultural transformation policies in place – particularly across Nigeria,

¹ This Theory of Change was created by AGRA to depict the response to each of the key questions laid out in the introduction of this section. The evidence markers were assessed on the basis of statements made in the PIATA Final Evaluation 2021.

Tanzania, Burkina Faso, and Kenya. However, the enabling environment is weak across the majority of our focus countries and remains an area of concern.

Figure 5: Policy and State Capability Systems Analysis (Policy sub-components highlighted)²



Policy Development

AGRA has improved the efficiency of the policy reform process, increasing the number of policies approved and enhancing effective implementation. We have invested over \$6 million into policy reforms over the last five years – with particularly substantial investments in Kenya, Ghana, and Mozambique. These investments have been used to support the approval and implementation of 42 policy reforms, with a further 30 in the pipeline. Our support has driven a significant reduction in the total lead time for policy approval, from 8-10 years to 3-5 years.

² KIT Systems Analysis 2021 - Policy system sub-component definitions: a) Agriculture transformation policies; Vision and strategy for agriculture transformation, policy coherence and policy responsiveness; b) Enabling environment: structural policies enabling private sector development, regulations for market integration and entrepreneurship in agriculture, quality of public institutions, and quality of road infrastructure

For all system scan analyses | Data Sources: Existing open-source databases, data obtained from household and SME surveys, and expert views obtained through key informant consultations | Methodology: A semi-quantified approach was adopted to facilitate the monitoring of change over time in AGRA's systems - these 'system scans' deconstruct each system into separate components, each with its own set of indicators, to monitor change in system performance | Data was measured in 2021 with no previous reference and color coding is: Green – good; Amber – fair; Red – poor

Our activities have driven policy reforms which target specific systemic constraints in agricultural systems:

Figure 6 Case Studies of AGRA-Supported Policy Reforms

	CHALLENGES	AGRA'S ACTIVITIES	RESULTS
RWANDA  <i>Seed</i>	Capacity constraints in the national seed certification service	AGRA made a 250K grant to the Ministry of Agriculture and Animal Resources to increase capacity	15 local companies were able to benefit from a reform that allowed the private sector to multiply seed
ETHIOPIA  <i>Tariff barriers</i>	Tariffs had been put in place to promote local agricultural equipment and inputs development, but the local industry had not thrived	AGRA supported ATA to reduce trade barriers leading to duty being lifted on more than 400 items	33% increase in the amount of mechanization equipment in Ethiopia
Tanzania  <i>Export Restrictions</i>	Unfavourable trade environment restricting cereal exports had reduced commercial production	AGRA provided technical assistance and facilitated intra-government dialogue to lift export restrictions	Increased private sector off-take volumes, higher farm-gate prices, and recovery of maize and soya exports

We have realized synergies between different areas of policy development we have supported.

We supported multiple fertilizer taxation, importation, and registration reforms in Tanzania by facilitating policy dialogues with technical experts from various research institutes and agricultural bodies who convened to revise the regulations. The Ministry of Agriculture approved this suite of new fertilizer regulations in 2017, reducing institutional and regulatory mandates which were leading to duplication of functions and fees – centralizing all functions under the Tanzania Fertilizer Regulatory Authority. As such, customized fertilizer blends were allowed into the country to cater for local farmer needs and new companies such as OCP Africa entered the market, increasing the supply of innovative fertilizer products. Fertilizer trade increased by 47% and fertilizer prices reduced by 10-40%.

Due to the recency of engagements in policy work, our impact is limited to certain systems.

AGRA's support for policy reforms is weighted in the seed and fertilizer systems. Our focus on these systems in both our policy and systemic work has realized meaningful synergies, leading to demonstrable increases in farmer choice. However, we realize there remains critical policy reform work to be done in other systems, and we have commenced working in some of the areas as a basis for our efforts in our next strategy.

Policy Environment

AGRA has made targeted investments to widen stakeholder involvement in the policy reform process, driving an integrated policy environment and strengthening buy-in for policies when they reach the implementation stage. In Burkina Faso, AGRA financed workshops and supported pilot reviews to support policy reform of input subsidy programs. We worked with partners such as the International Fertilizer Development Center to create the agricultural input grant program guide and the Ministry of Agriculture to design a pilot operation to test the e-voucher system to support this input grant. Our broad stakeholder involvement revealed the potential impacts of this subsidy on specific actors, which meant we could follow up and provide targeted support to these actors.

AGRA supports stakeholder dialogues to support the validation and implementation of the CAADP Malabo targets. The Malabo Declaration provides direction for transforming Africa's agricultural sector between 2015 to 2025. In partnership with the Africa Union Commission and

Regional Economic Communities, in 2019 various countries received AGRA's support in outlining suitable approaches for implementing the recommended commitments. This support was extended to 11 countries for the 2021 Review, and the grant has now been expanded to all 55 states.

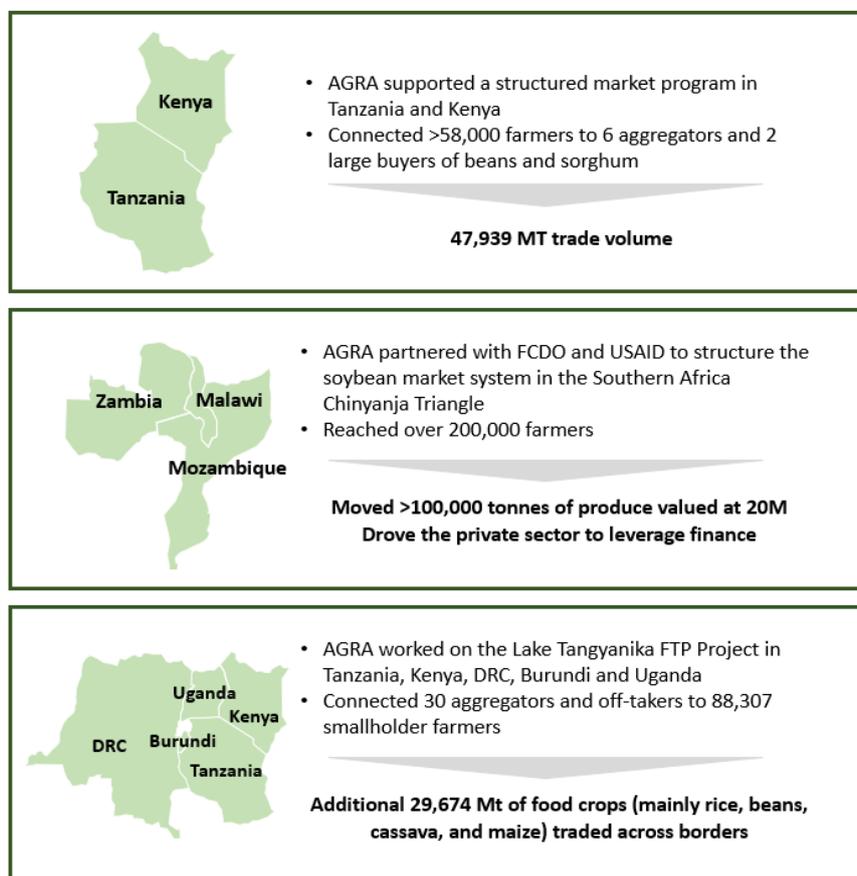
Regional Food Trade

We support governments to identify policies which deter private sector investment, and which should be reformed in order to enhance a more vibrant, predictable trade environment. We have supported 10 policies to strengthen regional food trade, which have contributed to strengthened food security, increased trade, and more competitive prices. In partnership with the East African Grain Council, we supported the waiver of import and export bans in Malawi, Zambia, and Kenya, leveraging evidence to present trade flaws and interacting with government stakeholders to link policy and data for effective decision-making. As a result of our technical assistance to address the drivers of market failure in the Eastern-Southern-Africa region, by December 2021, we had recorded 81,878 mt of food trade (of which 6,825 Mt was nutritiously fortified food). To further support private sector growth in regional markets, we provide specific company investments, build market linkages, strengthen supply chains, and drive longer-term integration into regional food markets. This work is ongoing and expected to amplify our impact on the regional food trade over the longer-term.

We have applied a data-driven approach to support government and private sector decision-making on regional food supply chains. The Regional Food Balance Sheet (RFBS) ascertains the food basket of a country based on imports and exports. In partnership with the AUC, we are strengthening and driving uptake and utilization of the RFBS in local institutions. The minimum viable product will cover maize, beans and rice in Kenya, Uganda, Tanzania, Rwanda, Malawi, and Zambia by 2022. By 2024, the RFBS will cover 11 countries and 5 commodities.

We have strengthened select structured market linkages to unlock specific trade opportunities:

Figure 7 Case Studies of AGRA-supported Structured Market Linkages

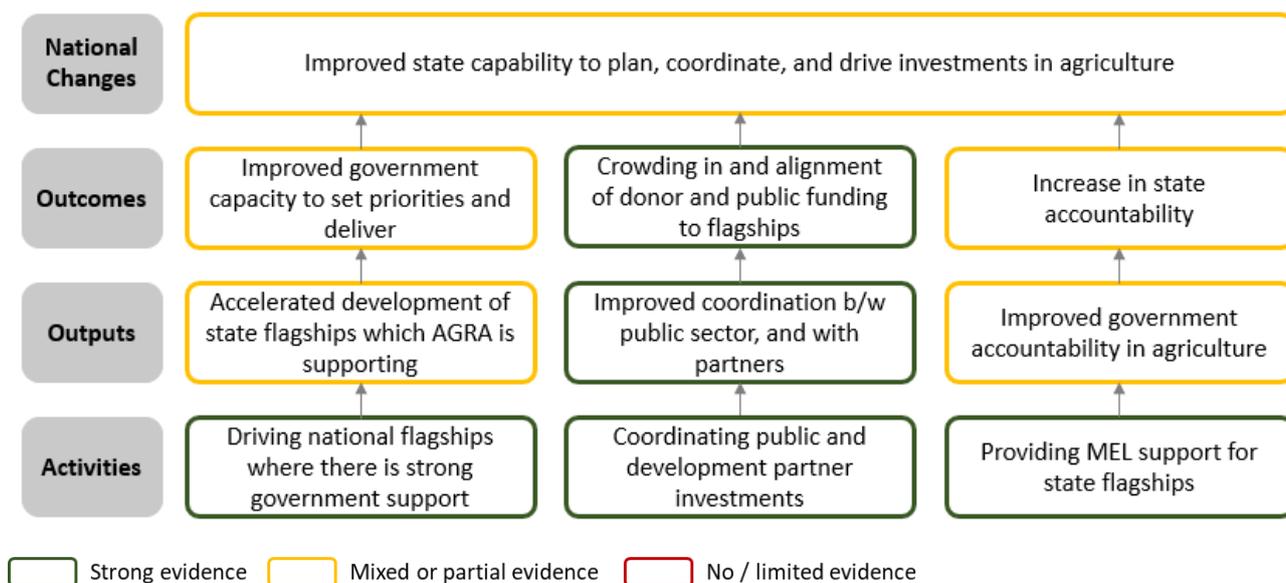


Increased State Capability for Agricultural Transformation

To enhance states' capability to realize agricultural transformation, we provide targeted support to enhance states' visions for agricultural transformation and build their capacity to deliver on this vision. AGRA supported national flagships with strong government support, and there is moderate evidence that this led to accelerated development for these flagships; and improved government capacity to set priorities and deliver on them. Our involvement in this area has been relatively recent, and we expect that our impact will expand as we deliver on more flagships and build on our learnings.

We coordinated public and development partner investments in NAIPs and flagships, leading to improved coordination between these partners and crowding-in of funding to flagships. AGRA provided MEL support for state flagships which has had moderate impact on improving government accountability, in agriculture and beyond. We expect our impact to strengthen in this area as we expand our MEL support at the national and regional level. Given the recency of our efforts to strengthen state capability for agricultural transformation, we are encouraged by the positive results, and we believe we will see enhanced impacts as we build on our learnings and expand our efforts in this area:

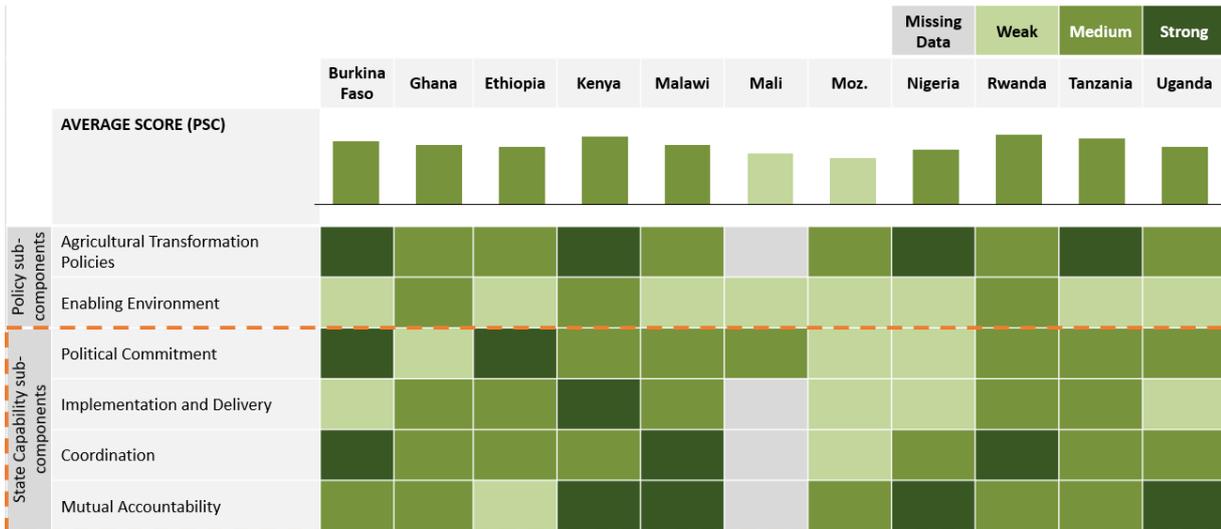
Figure 7: State Capability Theory of Change³



Across our focus countries, we see moderately strong state capability, with some challenges in Mali and Mozambique. Our systems analysis shows the current status of state capability across AGRA focus countries, broken down by its key components – political commitment, implementation and delivery, coordination, and mutual accountability. The analysis includes – but is not limited to – areas where AGRA has contributed over the past 5 years. There is evidence of strong coordination across Burkina Faso, Malawi and Rwanda and strong mutual accountability in Kenya, Malawi, Nigeria, and Uganda. However, there is evidence of weak implementation and delivery in multiple countries, which hinder the overall strength of state capability.

³ This Theory of Change was created by AGRA to depict the response to each of the key questions laid out in the introduction of this section. The evidence markers were assessed on the basis of statements made in the PIATA Final Evaluation 2021.

Figure 8: Policy & State Capability System Analysis (State Capability sub-components highlighted)⁴



National Flagships

AGRA provides bespoke, tailored support to states to improve their capacity to design and implement flagships. AGRA supported the implementation of 10 flagship programs and 9 National Agricultural Investment Plans (NAIPs). We focused on strengthening the vision, strategies, and priorities of flagships and NAIPs. AGRA’s support has reduced the average design time for flagship programs from two years to 4-6 months. Of the nine NAIPs supported, six have proceeded to implementation, demonstrating the program gains of partnering with governments.

Our support has improved government leadership to direct and implement flagship initiatives. Stakeholders agree that AGRA was an accelerator of change in the development of these flagship projects through its provision of quality technical assistance and through the funding of workshops and studies:

Figure 9 Examples of Flagship Programs Supported by AGRA

	Kaduna flagship to boost grains and ag. services	Burkina Faso rice flagship program	Malawi Program on Youth and Women in agribusiness
Objectives	<ul style="list-style-type: none"> Strengthen input and extension systems to improve maize, rice, soybean, and tomato productivity Increase market access through aggregation and structured private sector off-taker arrangements 	<ul style="list-style-type: none"> Support the government in prioritizing food security leading to government ownership, private sector commitment shortage of EGS 	<ul style="list-style-type: none"> Engage and create jobs for women and youth in agriculture value chains
Total Flagship Investment	<ul style="list-style-type: none"> 1.2 million (from Kaduna State Govt.) 	<ul style="list-style-type: none"> 504 million USD 	<ul style="list-style-type: none"> 279 million USD
Key Partners	<ul style="list-style-type: none"> Netherlands, FCDO, USAID, FAO, World Bank 	<ul style="list-style-type: none"> World Bank, IFAD, Islamic Development Bank, Saudi Development Fund, KfW 	<ul style="list-style-type: none"> Malawi Ministry of Agriculture, and Ministry of Gender and Social Welfare
Projected Impact	<p>550K Households to benefit from enhanced market access and uptake of technologies</p>	<p>119K Households to benefit directly - including 30K women and 20K youth</p>	<p>426K Households reached directly – 50% female-headed</p> <p>1.5M Households reached indirectly</p>

⁴ KIT Systems Analysis 2021 - State capability subcomponent definitions: a) Political commitment: level of agricultural transformation on the agriculture agenda, and government expenditure on agriculture; b) Implementation and delivery: organization structure and capacity for policy implementation and delivery, mobilization and leveraging of donor investments and the private sector; c) Coordination: internal government coordination, and government coordination with development partners; d) Mutual accountability: joint sector reviews, published and accessible policies and results, and results-driven M&E of agriculture transformation policy implementation

Whilst some flagships may be progressing with AGRA's support, the systemic problems regarding a lack of basic technical and managerial capacity in the public sector remain. Most governments remain dependent on our support to fill analytical, technical, and managerial capacity gaps in the design of these programs. Going forward, we will provide more holistic, long-term support to build the necessary skills and mindset within the civil service to build state capability to implement.

Coordinating Investments

AGRA has improved coordination within and between ministries and we have mobilized non-government actors to support state flagships. We have contributed towards new sector coordination mechanisms (inter-ministerial) and processes in Ethiopia, Ghana, Mozambique, Burkina Faso, Tanzania, and Nigeria. In Nigeria, coordination between agricultural stakeholders had broken down in the states of Kaduna and Niger. AGRA convened stakeholders through both states in the previously dormant State Council agriculture meetings to align on common priorities. AGRA provided technical assistance and training to the state ministries to help them develop their planning and budgeting processes as a starting point for coordinating with non-state actors. In these revived State Council meetings, partners came together to develop agriculture plans.

AGRA's actions have served to help crowd in and align donor and public funding to flagship programs in Burkina Faso, Ghana, Kenya, and Tanzania. Our work with donors in state flagships has supported the coordination and mobilization of donor communities to achieve quicker collaborative impact towards various programs and goals. AGRA has helped to mobilize \$1.4bn for flagship programs, comprised of \$400 million from governments and \$1 billion from multilaterals and the private sector. In the case of Nigeria, AGRA's work to support the coordination of agriculture donors in Kaduna and Niger states helped the state ministries to mobilize \$5 million in investment, demonstrating the catalytic potential of AGRA activities.

MEL Support

We have recently started supporting countries in the development of internal monitoring systems for flagship programs and overall sector strategies. We have supported the design of MEL tools, systems and frameworks in Ethiopia, Mali, Ghana, and Nigeria, including by training over 350 government staff on MEL approaches and skills. Our work has helped to foster a results-driven approach to program delivery. The learnings from flagship design and implementation can be widely shared to refine the implementation of other projects in the agriculture sector.

This is an important step towards demonstrating and growing this culture of accountability within the sector. In Kenya in 2021, AGRA supported the relaunch of the Joint Sector Review, which had not occurred since 2016/17, which helped to enhance mutual accountability of stakeholders involved. AGRA is now establishing an MEL framework to monitor the progress of the implementation and performance of the Agricultural Sector Transformation and Growth Strategy, which feeds into Kenya's CAADP reporting. Our efforts towards improving the monitoring of the strategy have encouraged 47 counties to buy into the transformation program. With support from other partners, joint sector reviews have been initiated and institutionalized across all 11 AGRA countries.

African Green Revolution Forum (AGRF)

Each year, AGRA hosts the AGRF – the world's premier forum for African agriculture – to bring together stakeholders from across the agricultural landscape to drive forward Africa's inclusive agricultural transformation. The AGRF is unrivalled in its ability to convene leaders, academic thinkers, and implementers from across the private, public, development and non-profit partners, and academic and research sectors and unite them around a common purpose. This vast array of stakeholders meeting at the AGRF each year to conduct agenda setting, align on policy and advocacy, present opportunities for investment facilitation and finance, share lessons, promote accountability, and coordinate across the sector.

The AGRF demonstrates AGRA's unique ability to bring actors together and drive to results. In the 2021 AGRF Summit, AGRF included 150 in-person delegates and 8,580 virtual delegate participants, including 10 current and former heads of state and 20 ministers. A total of \$5.1 billion of investment priorities were presented at the Agribusiness Deal Room and over \$12.5 billion of food systems commitments were made during the forum.

Lessons Learned

By partnering with governments, we have helped pave the way to transformation. A strong enabling environment and a clear vision for transformation provide the confidence and direction for development partners and private sector players to invest and grow. We have gained credibility as an African institution, established by and for Africans, which provides bespoke, targeted advice to African governments building on our deep contextual knowledge. We will leverage our unique positioning to further strengthen our partnerships with African governments going forward.

Our activities work synergistically together to maximize our impact on farmers, with particular success in input systems. We have seen synergies between our work in different areas of policy reform – most evidently in our support for multiple policy and regulatory reforms in Tanzania's fertilizer sector. In the next section, we will further unveil the synergies between our policy and systemic work.

We have shepherded a culture of national accountability and identified key gaps that require focus to unlock agricultural transformation. Our monitoring and evaluation systems have developed granular indicators that acknowledge both progress and intervention areas across different agricultural systems. We highlight areas which need political attention and where private sector participation needs to be encouraged. By regularly tracking the progress of agricultural development, we hold governments to account for their visions of the agriculture sector.

We strive to evolve on the basis of our learnings to ensure we are maximizing our impact. For example, at the national level we have learnt that partnerships are critically important to unlock policy and regulatory change. Similarly, we have learned that data and evidence are powerful tools for driving policy reforms. The set-up and maintenance of national data systems demands sizeable resources, but our ability to show the impact of policy reforms better enables us to build up credibility in the sector going forward.

Addressing Systemic Bottlenecks: AGRA's Impact on Agricultural Systems

Introduction

Efficient, market-driven agricultural systems are required for sustainable, scalable change which underwrites agricultural transformation. In evaluating our work tackling systemic constraints in agricultural systems, we have focused on the impact of these systems on farmers on the ground:

Figure 10: AGRA's Impact on Agricultural Systems – Key Questions

- Has farmer knowledge and choice been enhanced?
- Has farmer access to improved inputs been enhanced?
- Has farmer access to markets improved?
- Has access to finance and investment been enhanced?
- What lessons can be learned for the future?

We have tracked progress across the sector and identified systemic constraints, enabling us to focus actors across the sector on targeting these constraints to development. By conducting regular tracking for different agricultural systems, we have been able to provide a clear view of where there has been progress and what the constraints to system transformation are. This has enabled us to focus actors in the sector on unlocking these constraints.

We have leveraged integrated approaches to tackle multiple systemic constraints across the value chain. We have deployed and demonstrated successful integrated approaches – such as consortia – to identify targeted, coordinated interventions across the value chain and bring actors together to enact these changes.

We have successfully unleashed the power of the private sector in agricultural systems. We have tested and demonstrated models for private sector participation. Through our consortia, we not only identify critical areas for engagement but we de-risk private sector investments to entice them to enter the market and help us to strengthen agribusiness SMEs and other actors along the value chain.

We have unlocked synergies between our work at a national level and private sector investments. This has had a particular effect on the seed, soil, and extension systems. In these areas across many focus countries, we have supported policy reforms for policies which deterred private sector investment, and then supported the private sector in their market entry and strengthening.

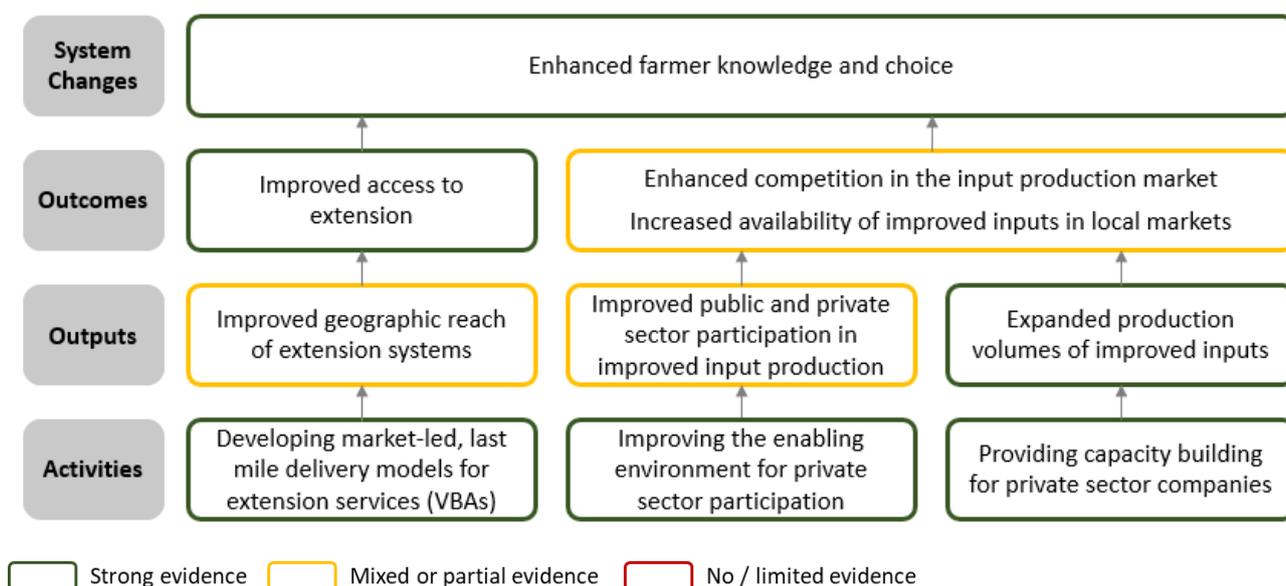
We have built up critical experience to inform our delivery model going forward and remain optimistic about the greater impact that can be unlocked with more time, resources, and collaborative regional support. We see promising early-stage results that our approach is working, and we have deployed scalable models which can be expanded in our next strategy, including Village Based Advisors (VBAs) and agro-dealers. We are deeply committed to catalyzing agricultural transformation and will continue to build on our strengths and learn from our lessons.

Improved Farmer Knowledge and Choice

Farmer knowledge and choice are essential to spur the uptake of improved agronomic practices and inputs. Strong extension systems provide farmers with direct support, ensuring rapid delivery of updated agricultural advice and accelerating the on-ground impact of system interventions. This encourages the adoption of good agronomic practices and uptake of improved seed and fertilizer varieties, which are critical to achieving higher yields. We have focused on three main areas to enhance farmer knowledge and choice: developing market-led, last mile delivery models for extension; improving the enabling environment for private sector participation and providing capacity building for private sector companies.

As a result of our efforts, there is strong evidence of improved farmer access to extension – and the positive impact that comes from that. There is moderate evidence of increased availability of improved inputs in local markets. Whilst we have contributed to notable success stories of private sector entry into these markets, there is a need to expand these efforts further. Overall, we are pleased to see the strong evidence of enhanced farmer knowledge and choice from AGRA’s efforts over the last five years.

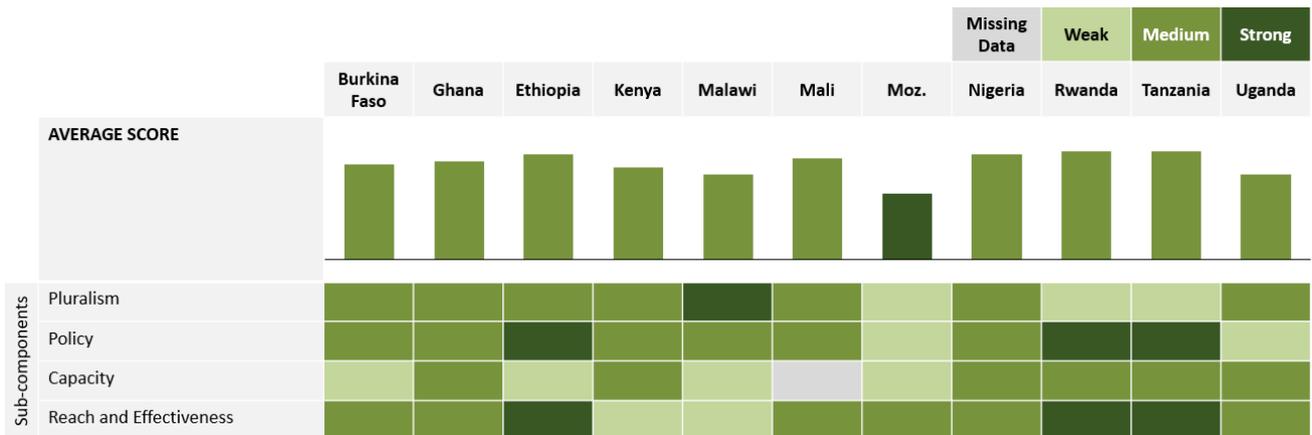
Figure 11 Farmer Knowledge and Choice Theory of Change⁵



Across our focus countries – beyond AGRA’s targeted activities – we see moderately strong extension systems, except for Mozambique. This analysis presents our view on the current status of extension systems across AGRA focus countries, drawing particularly on pluralism, policy, capacity, and reach and effectiveness. It can be used to draw initial insights about areas where AGRA may have contributed as well as point us towards potential areas of focus in the next strategy. In Rwanda, Tanzania, and Ethiopia there is evidence of strong extension policies and reach and effectiveness. In Malawi, we see evidence of strong pluralism. However, we see poor capacity across a number of countries – Burkina Faso, Ethiopia, Malawi, and Mozambique, as well as weak pluralism in Mozambique, Rwanda, and Tanzania.

⁵ This Theory of Change was created by AGRA to depict the response to each of the key questions laid out in the introduction of this section. The evidence markers were assessed on the basis of statements made in the PIATA Final Evaluation 2021.

Figure 12: Extension System Analysis⁶



We see moderately strong seed systems across most focus countries, except Ghana, Malawi, and Mali. From our analysis on the current state of seed systems in AGRA’s focus countries, there is evidence of moderately strong results against nearly all indicators in Nigeria, Rwanda, Tanzania, and Uganda. Institutional Support, research and development, and the enabling environment have supported the seed system in most focus countries. Key areas of improvement include competitiveness as few seed companies dominate most markets, and seed use based on age of varieties and adoption of certified seed.

Figure 13: Seed System Analysis⁷

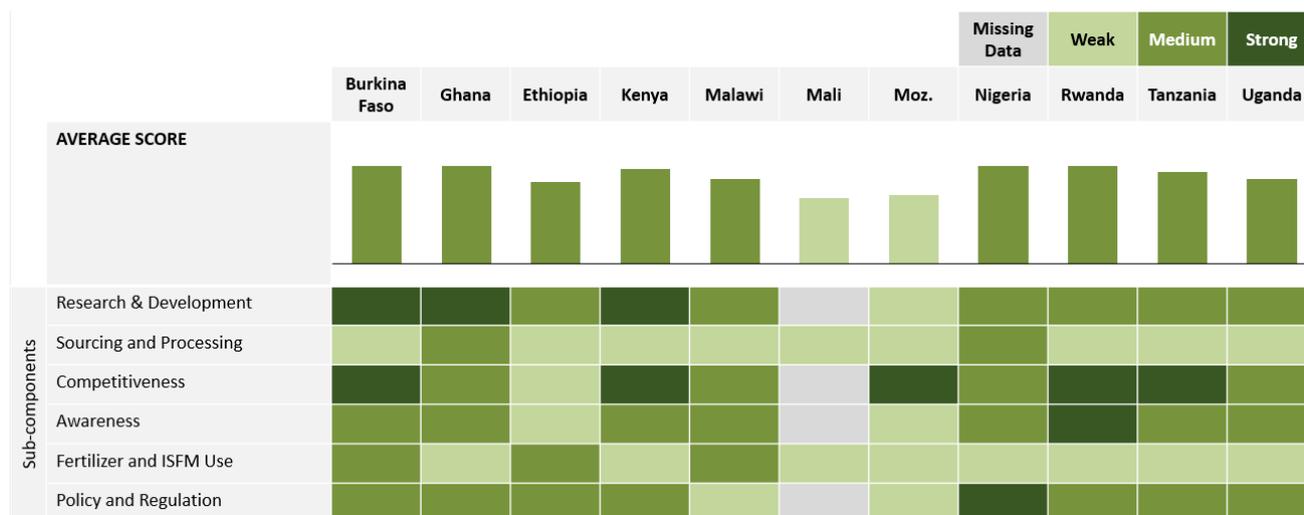


⁶ KIT Systems Analysis 2021 - Extension System Sub-component definitions: a) Pluralism: number of agriculture extension and advisory services (AEAS) applied, number of agro-dealers, private companies, producer organizations, VBA coverage per district; b) Policy: public expenditure on AEAS, national policy for AEAS, level of decentralized government institutions providing AEAS, presence and functionality of extension linkage research platforms ; c) Capacity: Public sector AEAS with a higher degree or diploma, resourcing for public agents, national strategy for upgrading extensionist skills, use of ICT among AEAS ; d) Reach and effectiveness: public sector AEAS per 10000 farmers, % of male HH heads monitored, female HH heads monitored, AEAS monitored, and farmers applying extensionist knowledge

⁷ KIT Systems Analysis 2021 - Seed system sub-component definitions: a) Research and development: number and adequacy of active plant breeders, crop varieties released in the past three years, and foundation seed availability; b) Industry competitiveness: number of active seed companies, areas under improved maize varieties, and market share of top four seed companies; c) Seed policy & regulation: length of variety release, quality and enforcement of seed law and regulation; d) Seed use: adoption of certified maize seed, proportion of hybrid maize seed, adoption and average age of second priority AGRA crop, and average age of cultivated maize varieties; e) Institutional Support: industry opinion on extension availability, quality of national seed traders association, and multi-stakeholder platforms existing to coordinate seed ; f) Service to farmers: distance to agrodealers, availability of hybrid maize in small seed packs, and actual and relative maize seed prices

We see moderately strong fertilizer systems across a majority of focus countries, except Mali and Mozambique. Our analysis on the current status of the fertilizer system across AGRA focus countries looks into the areas of research and development, sourcing and processing, competitiveness, awareness, fertilizer and integrated soil and fertility management (ISFM) use, and policy and regulation. The evidence shows that fertilizer systems across focus countries are strong against multiple indicators – research, competitiveness, and policy. Key barriers are marked around sourcing and processing, and related ISFM and fertilizer application practices. This could be attributed to the limited number of manufacturing and processing plants, reliance on imports to substitute insufficient local production, and limited use of fertilizer or manure.

Figure 14: Fertilizer System Analysis⁸

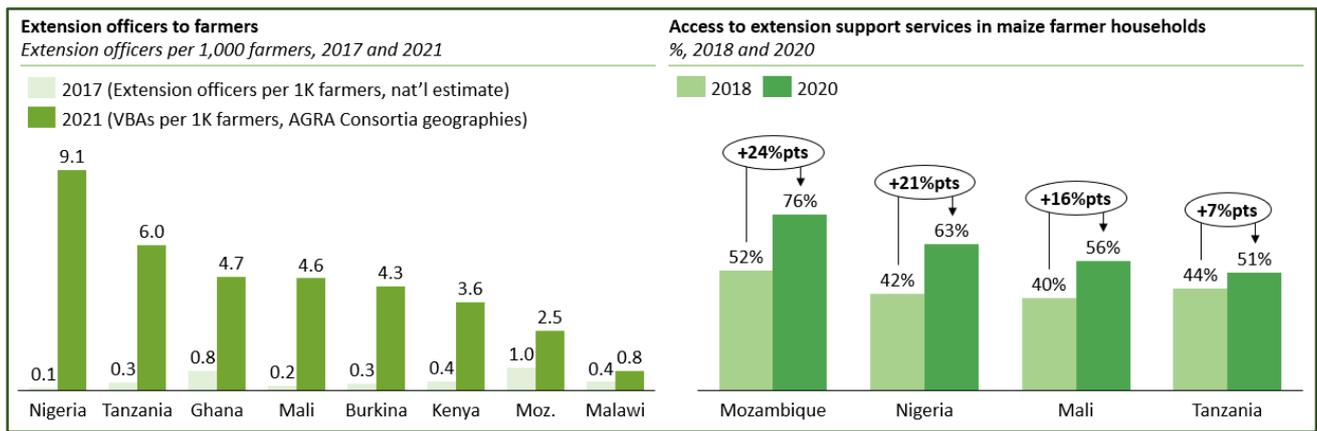


Private Sector-led Last Mile Delivery Models (VBAs)

Through VBAs, we have increased the reach and capacity of extension services. AGRA invested over \$25 million in extension from 2017 to 2021 in nine countries with the highest investments in Ethiopia (\$5m), Mozambique (\$4m), and Ghana (\$3.4m). Across its focus countries, AGRA promoted and trained 33,000 VBAs such that in countries covered by AGRA consortia, there are 6.6 VBAs for every 1000 farmers (reaching at least 60% of AGRA-supported farmers), a marked increase from the national average of 1 VBA for every thousand when AGRA began its work.

⁸ KIT Systems Analysis 2021 - Fertilizer system sub-component definitions: a) Research and development: capacity to sample, analyze, and map soil nutrients, capacity to develop and test fertilizer recommendations; age of crop-specific fertilizer application, and age of crop-specific lime application for countries with acidic soils; b) Sourcing and processing: number of competing importers, national production and source of fertilizer, imported variety of P205 fertilizer used, number of fertilizer processing plants, and number of companies producing organic fertilizer at scale c) Competitiveness: number of registered fertilizer distributors, registered agro-dealers in AGRA target areas, and number of different types of fertilizer traded ; d) Awareness: communication tools for crop and fertilizer recommendations, coverage of fertilizer demo plots, and pre-service training of AEAS on fertilizer and ISFM use ; e) Fertilizer and ISFM Use: Average use of NPK per area of cropland (separately), average use of manure per cropland, crop residues per cropland use after burning, and farmers applying three or more ISFM practices ; f) Policy and regulation: subsidies, frequency of fertilizer inspection, and availability of standards for fertilizer trade

Figure 15: Improved Coverage of Extension Services through VBAs⁹



AGRA has enhanced farmer access to extension services, enhancing farmer knowledge of good agricultural practices, empowering them to make the right choices and increasing their resilience. VBAs deliver contextualized extension content, emphasizing participatory and practical training to drive farmer buy-in and adoption. The model has demonstrated a way to reach farmers at scale and at a low cost. On demonstration plots, farmers are taught about Good Agricultural Practices through a ‘Mother Demo’ during Farmer Field Days. After these trainings, two hundred or more farmers in a village each receive a 50g pack of improved variety seed and a 200g pack of blended fertilizer to enable them to conduct a “Baby” demo on their farms. This gives all farmers in a village the opportunity to “learn-by-doing” with a new variety on their farms, with limited risk. As a result, more farmers have improved knowledge of good agronomic practices, know how to choose the right inputs, and are empowered to make better decisions.

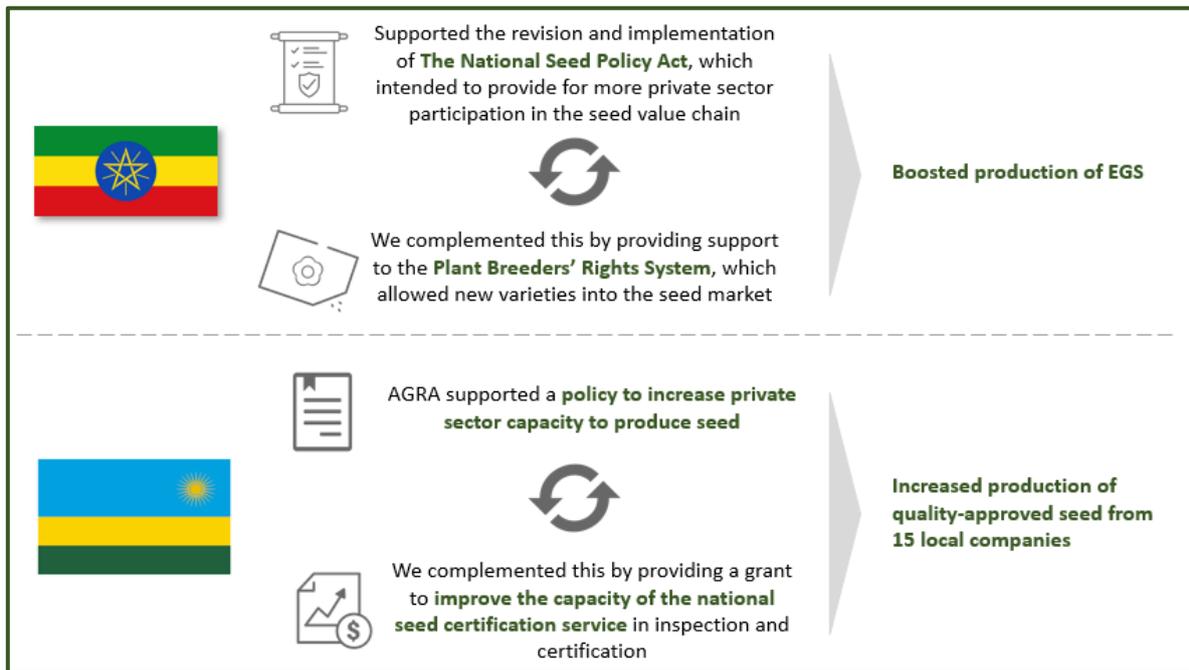
We have seen synergies between our efforts in extension and input distribution. VBAs have started playing dual roles, with 35% of VBAs selling seed and 27% of VBAs now selling fertilizer. When surveyed on their interests, 62% of VBAs were interested in establishing agro-dealerships.

Enabling Environment for Private Sector Participation

AGRA has encouraged greater public and private sector involvement in seed and fertilizer production by supporting select policy reforms to enhance market competitiveness:

⁹ AGRA Country Office Plans, 2019; AMIS Data; AGRA Farmer Outcome Surveys

Figure 16 Case Studies of AGRA-support Increases in Private Sector Involvement in Seed Production



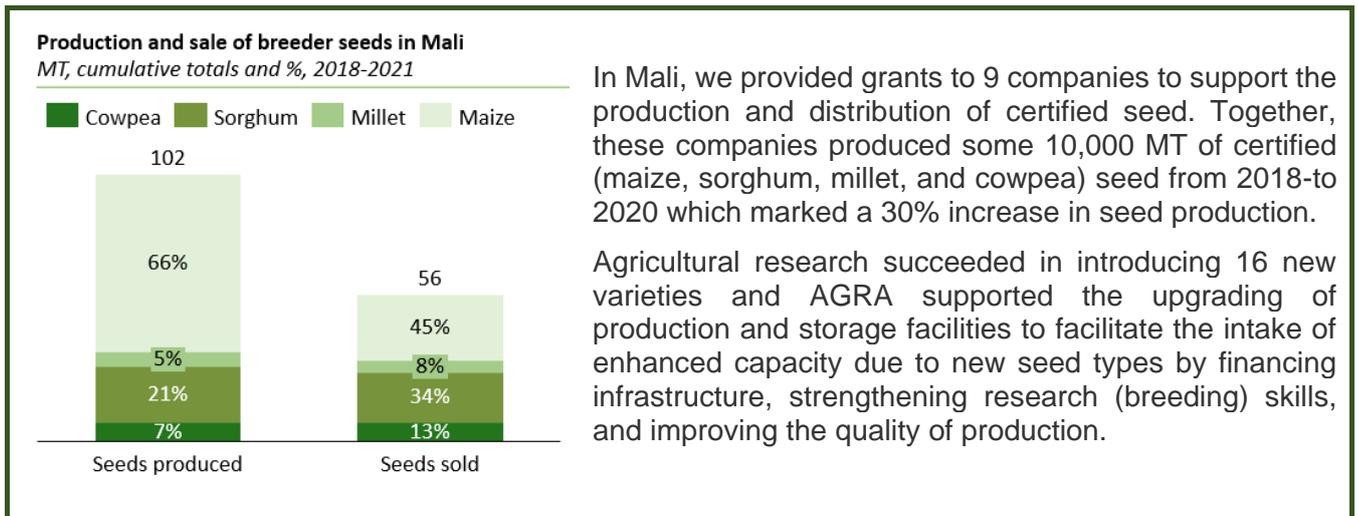
The reforms have promoted the production and adoption of improved seed and fertilizer with greater farmer reach. We worked with the Ethiopian Agricultural Transformation Agency and the Ministry of Agriculture and Natural Resources to curb the shortage of EGS and create a breeders' rights system in Ethiopia that allows new foreign varieties in the seed system, including the opportunity to collect research royalties from seed development by public institutions. This led to increased production of EGS to 1470MT from early reported results.

Capacity Building for Private Sector Companies

AGRA has been successful in providing direct technical assistance and grants to the private sector to expand their production capacity for improved seed and blended fertilizers. AGRA-supported seed companies have started new production operations, significantly expanding their certified seed production activities. In 2021 alone, more than 125,000 MT of improved seeds were produced by enterprises supported by AGRA, a combination of breeder, foundation, and certified seeds. AGRA has funded soil maps and supported the development and validation of new fertilizer blends. We have facilitated the production of 1,182,641 MT of targeted fertilizer blends in countries like Malawi, Mozambique, Ghana, Rwanda, Nigeria, and Uganda over the past 5 years. In Ghana, AGRA supported the recommendations of site- and crop-specific fertilizer blends and their validation in target regions based on the Ghana soil fertility map. Our work facilitated the provision of crop-specific fertilizer recommendations, increased awareness and promotion of these fertilizers, and accelerated uptake of appropriate fertilizer blends amongst target farmers.

Our support has catalysed the commercialization of improved inputs. As a result of AGRA's support, more than 400 seed varieties have been developed and commercialized between 2007 and 2020. In Nigeria, we awarded grants to two private sector companies to support production and commercialization of maize, soybean, and rice. With ample training support, these companies operated through outgrower fields and bought the foundation seeds from outgrowers, selling the excess quantities to seed companies, community-based seed producers, and other private organizations. Seed companies that previously lacked access to seed could purchase the foundation seed for multiplication, driving production of certified seed: maize, soybean and rice seeds experienced a 26%-119% production increase through one of the grantees.

Figure 17: Case Study: Certified Seed Production in Mali¹⁰



Overall, seed production in AGRA countries has proliferated in response to increasing farmer demand market, although cost constraints and limited number of distributors in some countries have affected fertilizer distribution. In Rwanda, Tanzania, Nigeria, Uganda, and Mozambique, the number of registered seed companies rose dramatically from 2017 to 2021 to serve this rising demand. This demand was driven in part by AGRA’s extension and input distribution investments.

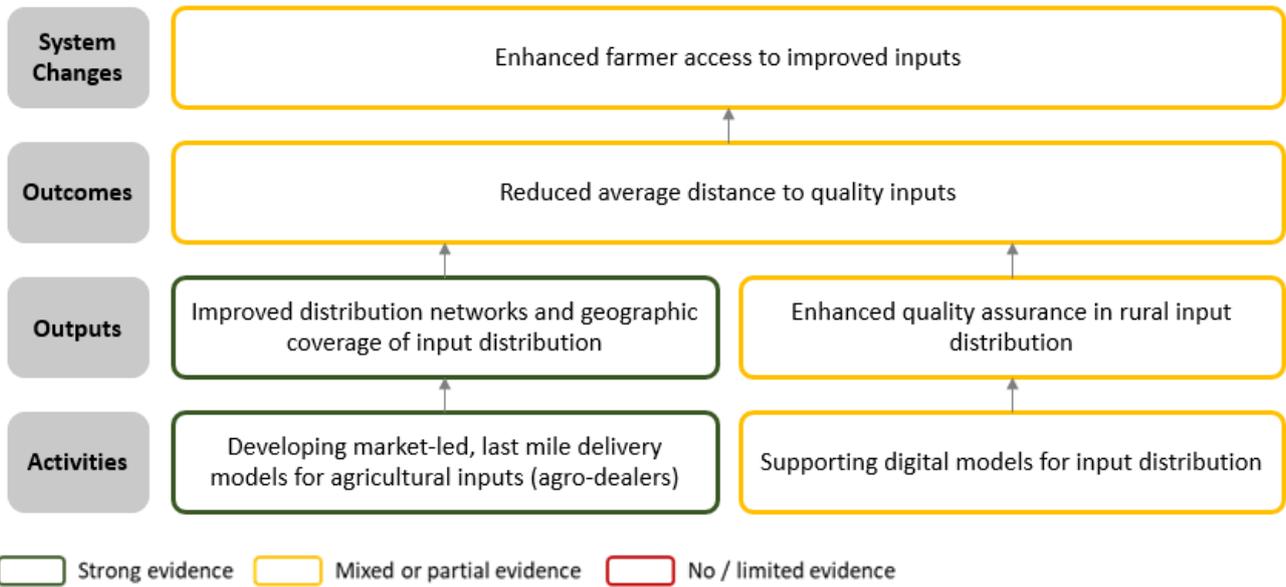
Enhanced Access to Improved Inputs

Functioning input distribution systems ensure timely access to affordable, high-quality inputs for farmers. AGRA focused its efforts on the ability of agriculture systems to support input distribution. It did this by developing private sector-led last mile delivery models to enhance uptake of quality agricultural inputs and by supporting digitalization to improve the efficiency of input distribution. AGRA’s efforts have driven improved distribution networks and geographic coverage of input distribution.

We have supported several successful models across the continent which can be replicated and expanded going forward. As a result of our work, we see moderate evidence of reduced average distance to quality inputs and, resultantly, enhanced farmer access to improved inputs. We have a solid understanding of the required next steps to strengthen our work in this area.

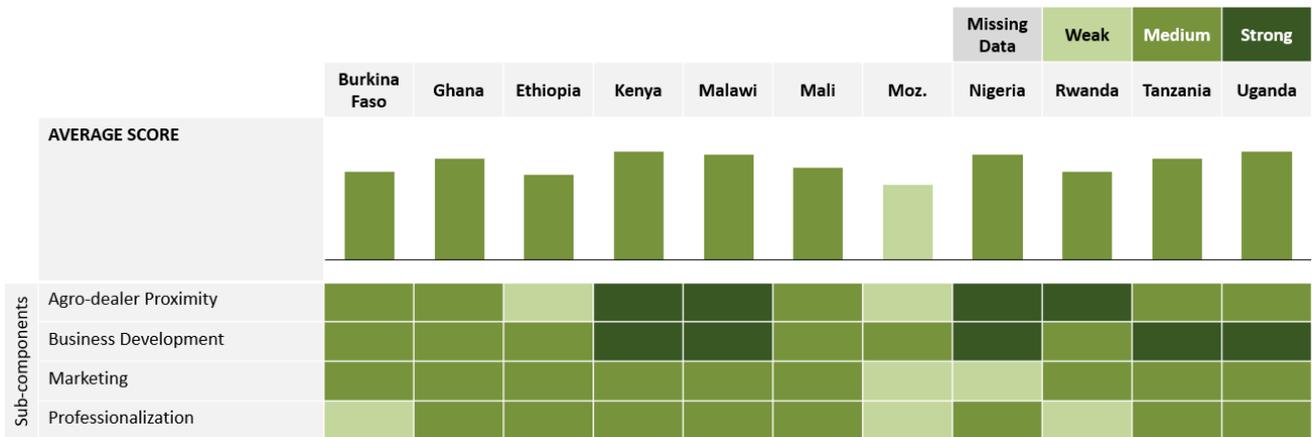
¹⁰ PIATA Outcome Monitoring Report – Mali, 2021

Figure 18: Enhanced Access to Improved Inputs Theory of Change¹¹



Across nearly all focus countries, we see evidence of moderately strong input distribution systems. Our analysis on the current status of input distribution systems across AGRA focus countries considers agro-dealer proximity, business development, marketing, and professionalization. The relatively strong scores are particularly driven by strong agro-dealer proximity in Kenya, Malawi, Nigeria, and Rwanda and strong opportunities for business development in Kenya, Malawi, Nigeria, Tanzania, and Uganda. We see evidence of constraints in Marketing in Mozambique and Nigeria, and in Professionalization in Burkina Faso, Mozambique, and Rwanda. The input distribution system in Mozambique is weak across most indicators.

Figure 19: Input Distribution System Analysis¹²



¹¹ This Theory of Change was created by AGRA to depict the response to each of the key questions laid out in the introduction of this section. The evidence markers were assessed on the basis of statements made in the PIATA Final Evaluation 2021.

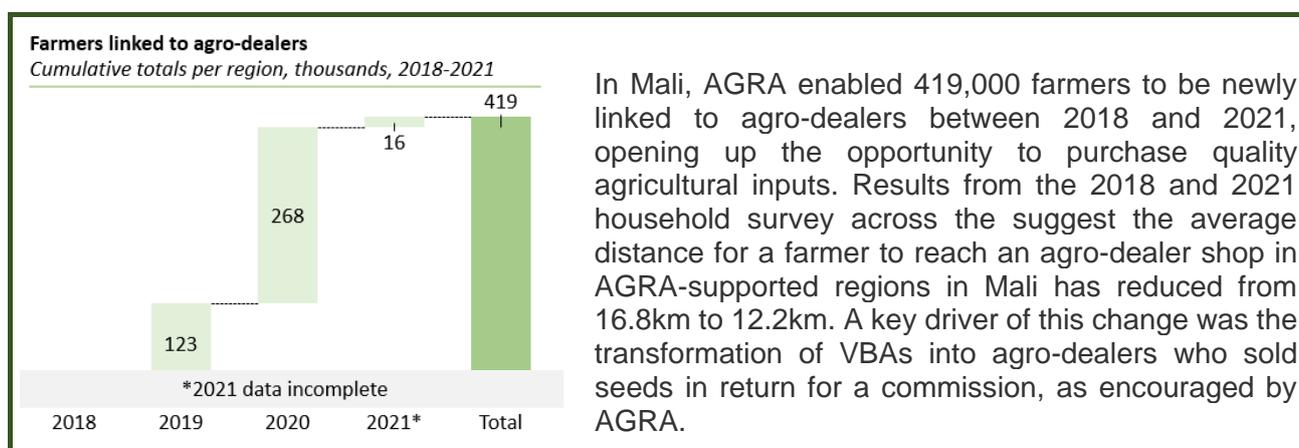
¹² KIT Systems Analysis 2021 - Input distribution system sub-component definitions: a) Agrodealer proximity – agricultural households per agrodealer, average distance to agrodealers, number of registered fertilizer distributors; b) Business development – fertilizer companies offer agrodealer support program, percentage of agrodealers using formal credit lines, average number of technical training per agrodealer, percentage of agrodealers having received business management training; c) Marketing – growth in volume of seed sold, average annual growth of total fertilizer sales, percent of agrodealers offering both seed and fertilizer, percent of agrodealers offering advisory services, percentage of agrodealers established linkages with VBAs and cooperatives, agrodealers organizing one or more market events and outreach each year; d) Professionalization – proportion of agrodealers that are registered, proportion of agrodealers that have supply contracts with hub dealers or wholesalers or input companies, proportion of agrodealers that have adopted digital or online business management tools, accredited agrodealers undergoing inspection by competent authority in the last year.

Private Sector-Led Last Mile Delivery Models (Agro-dealers)

AGRA has successfully supported the initial development and growth of on-the-ground private sector-led, last-mile input delivery models, namely agro-dealers. AGRA supported over 12,000 agro-dealers and seed companies with technical support to boost farmer outreach and improve market linkages through a hub-and-spokes model.

AGRA's support to agrodealers has improved the geographic distribution of input delivery and reduced the average distance to quality inputs. AGRA supported a strong network of 35,000 'mom and pop' shops that provide more than 15 million farmers with ready access to seeds, and other inputs, in their local communities. In addition, the expanded distribution of agro-dealers has led to an increase in the number of customers served and promoted healthy revenues across inputs - seeds, fertilizer, and crop protection products. The average distance to agro-dealers reduced from about 21km to 8km between 2017 and 2021.

Figure 20: Case Study: Agro-dealer Impact in Mali¹³



There is strong evidence that the expanded distribution of agro-dealers addresses unmet demand, and that larger agro-dealer networks will be economically sustainable. Several existing seed companies and agro-dealers have expanded operations and realized financial viability as a result: in Tanzania, SeedCo experienced a 23% increase in seed sales.

Digital Models

AGRA has supported digital platforms to enhance the efficiency of quality input distribution. We have implemented e-verification systems which have the potential to raise awareness of counterfeit agricultural inputs. Our support to five countries to improve protection against fake seeds has been facilitated by use of electronic tag systems, additional seed inspectors, and the establishment of better standards and labs. These digital platforms have been successful in enhancing quality assurance in seed and other mechanisms of input distribution.

¹³ PIATA Outcome Monitoring Report – Mali, 2021

Figure 21: Digitalization to Enhance Input Quality

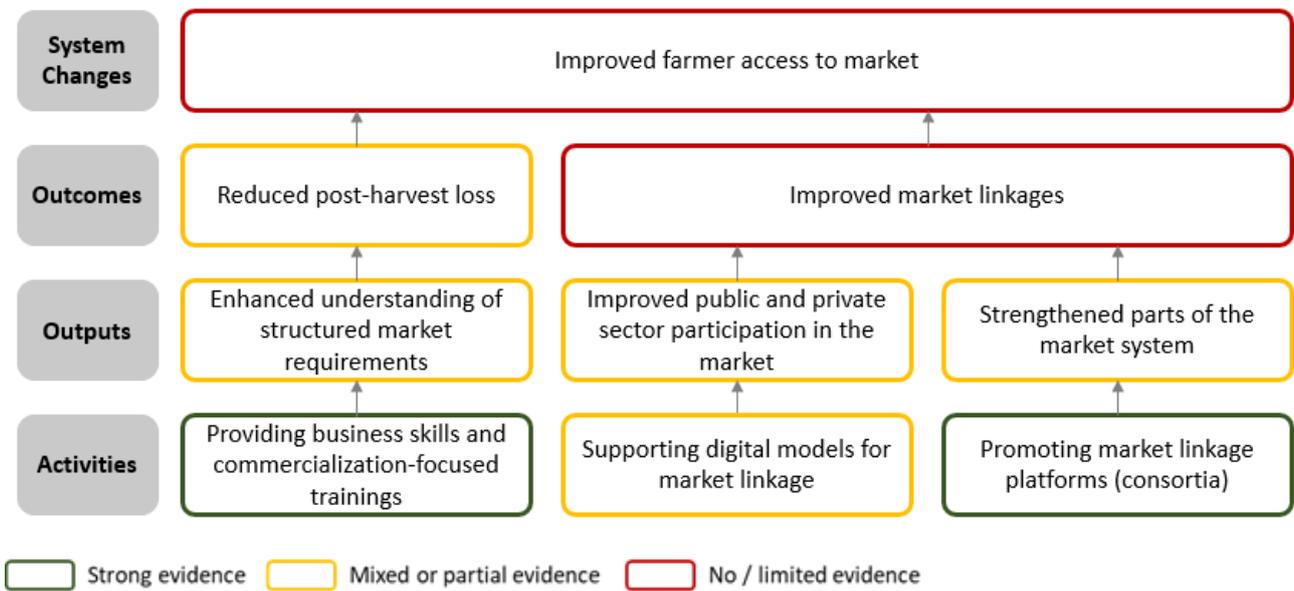
INNOVATION	RESULTS
 <p>T-HAKIKI</p> <ul style="list-style-type: none"> Allows farmers to check in real-time the authenticity of the products that they have just purchased Farmers enter the scratch code on each product to a toll-free number and obtain immediate feedback; if the code is not genuine, farmers are entitled to a refund 	<ul style="list-style-type: none"> Endorsed by the government which made it mandatory for seed companies to register In testing with pesticides companies (101 pesticide companies registered so far) About 3 million unique numbers have been generated, labels ordered, and printed Reached 350,000 farmers since its launch in 2020
 <p>SEEDCODEX</p> <ul style="list-style-type: none"> An electronic seed authentication tag that provides farmers with quality assurance through tracking, traceability, and provision of quality seeds With government advocacy, the platform is integrated into government and project budgets 	<ul style="list-style-type: none"> 2,645,500 distributed since introduction in 2020/21 planting season, generating more than 60 million Naira (~175,000 USD) Stakeholders state it has enhanced quality control, improved quality assurance of seed packages, and increased transparency for farmers

Improved Access to Markets

Efficient markets are critical for enabling farmers to reap the benefits of commercialization. Competitive markets with active trade boost agricultural value chains, enabling a chain of profitable revenues along the continuum of downstream to upstream participants. In the region, informal markets and informal trade continue to be the main channels of trading produce, and AGRA’s activities must align accordingly. AGRA conducts targeted activities across the value chain to catalyze the market through post-harvest support, farmer training, digitally enabled linkages, and consortia-based investments.

Historically, AGRA has focused on driving farmer knowledge and choice and improving access to inputs than on improving access to markets. As a result, we see moderate evidence of enhanced market understanding, improved market participation, and strengthening of the market system. The recency of our efforts in this area means we see moderate evidence of these efforts on reducing post-harvest loss, but to date there is only limited evidence of improved market linkages – and so only limited evidence of improved farmer access to market. We are highly self-aware of the need to improve our efforts in this area. One of our foremost learnings from last five years is the need to address the systemic barriers to functional markets and trade going forward.

Figure 22: Improved Access to Markets Theory of Change¹⁴



We see moderate to weak market systems across our focus countries, with particular constraints evident in Burkina Faso, Ethiopia, Malawi, and Mozambique. Our analysis on the current status of market systems across AGRA focus countries considers a number of components – production and supply, demand, aggregation and processing, market regulation and coordination, enabling environment, and regional trade. The evidence shows that market systems are relatively strong in Kenya and Nigeria, across most or all indicators. However, across most countries we see evidence of weak regional trade, and in many countries, there is evidence of weak demand and a poor enabling environment.

Figure 23: Market System Analysis¹⁵

		Burkina Faso	Ghana	Ethiopia	Kenya	Malawi	Mali	Moz.	Missing Data	Weak	Medium	Strong
		Nigeria	Rwanda	Tanzania	Uganda							
AVERAGE SCORE		Medium	Strong	Medium	Strong	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Sub-components	Production and Supply	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
	Demand	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
	Aggregation and Processing	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
	Market Regulation and Coordination	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
	Enabling Environment	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium
	Regional Trade	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium	Medium

¹⁴ This Theory of Change was created by AGRA to depict the response to each of the key questions laid out in the introduction of this section. The evidence markers were assessed on the basis of statements made in the PIATA Final Evaluation 2021.

¹⁵ KIT Systems Analysis 2021 - Market System Sub-component definitions: a) Production and supply – average annual increase in production of cereals, average annual increase in production of grain legumes, yield for selected cereal crop, yield for selected grain legume crop, gross production per capita index; b) Demand – cereal import dependency ratio, food balance, food price inflation; c) Aggregation and processing – percentage of post-harvest losses (based on dry weight) for maize; storage capacity for cereals, processing capacity for priority crops, agricultural infrastructure index, market participation of farmers; d) Market regulation and coordination – multi-stakeholder commodity platforms, market information systems, food safety and quality standards, digital agri-finance services; e) Enabling environment – global competitiveness index, intra-African trade policies and institutional conditions, enabling business of agriculture score, public investments in market infrastructures, laws and regulations of enabling relations between farmers and off-takers; f) Regional trade – export value index for agriculture, progress in boosting intra-African trade, trading across borders, trading food, trade integration score.

Business Skills and Commercialization Focused Trainings

Through our grants and investments, we have facilitated farmer trainings on post-harvest handling, storage, and business skills across most of our focus countries, contributing to reductions in post-harvest losses. Following trainings on improved post-harvest practices in Mali, Mozambique, Nigeria, and Tanzania, stakeholders reported post-harvest losses had reduced from 30% to 20%. To complement post-harvest storage training, AGRA also supported projects to promote and sell storage bags for grains and pulses.

Stronger market linkages are required to convert post-harvest losses reduction into increases in commercial offtake. In Mozambique, the reduction of post-harvest losses was supported by agro-dealers and aggregators entering the market. Stakeholders noted value chain actors with proper storage facilities were able to benefit from increased tradable volumes. These learnings need to be applied uniformly for farmers to benefit from the reduction in post-harvest losses.

Digitalization for Market Access

AGRA has made investments in digital platforms to improve access to market information. We have supported the establishment and strengthening of e-platforms for farmers which enable buyers to link directly with farmers, and farmers to order inputs. Given the dominance of trade in informal markets, digital platforms are enabling us to collect data from different markets that will be useful to analyze prices, contracts, and trends among various value chains. Farmers in Mali and Tanzania were trained on quality control and linked to potential buyers through e-platforms that were either existing or newly set up for them. However, there were examples of farmers breaking contractual arrangements due to liquidity constraints. Despite this, AGRA has still found it meaningful to invest in offtakers who can manage logistics in value chains, as opposed to intervening in aggregation and processing which have more specialized players. In Nigeria, AGRA supported the upscaling of the AFEX Commodity Exchange in Kaduna state to reach around 100,000 maize farmers. Whilst AFEX was successful in creating market linkages and improving the structure of trading relations, it did not change the spot market dynamics. The average price of maize per ton on the platform was around \$22 higher than on the open market. To change these spot market dynamics would require farmers to market themselves as a stable, quality supply base, and for such platforms to offer reliable market access.

Digitalization has been a powerful tool for agri-advisory services and last-mile outreach, including market linkages that increase farmer access to information, markets, and extension.

Figure 24 Digital Extension Case Study: Agribot



Market Linkage Platforms

AGRA creates market linkage platforms for specific sub-national regions, tailoring the approach to farmer and private sector needs. We have leveraged consortia as our main platform for integrated delivery, bringing together actors across the agricultural sector in a coordination mechanism focusing across different systems us to focus on systemic constraints in a particular geography. In our consortia approach, we identify priority crops and regions, assess markets and

systems around the farmers, rank key challenges, evaluate the presence and potential of partners, and develop informed investment solutions. The benefits to using consortia are manifold: i) inputs at fair prices, ii) functionality of aggregation models that increase mechanization, iii) financing models that boost investment in the sector, iv) favorable regulations, especially on last-mile farmer access to finance, v) structures for post-harvest support, vi) increased market access, vii) robust farmer training and good practices, and viii) overall improved decision-making from collective working and integration.

Consortia have led to the expansion of agricultural investments and encouraged private sector participation. We have launched 23 consortia in 7 focus countries, reaching 7.9 million farmers, and unifying multiple stakeholders to deliver targeted interventions across different agricultural systems. Consortia have strengthened coordination in their geographies, overcoming market failures caused by weak market signals. Over the last strategy, through those consortia focused on strengthening output markets, AGRA provided market opportunities to an estimated 2.65M farmers by engaging 3,895 buyers through consortia.

Figure 25: Case Studies: Impact of Consortia



- Reached **833,209 farmers** with seed, fertilizer, and extension
- **Investments of \$124 million across 26 companies** included capital investments in warehousing and processing of rice, maize, soya, and cassava, and expansion of irrigation and mechanization services



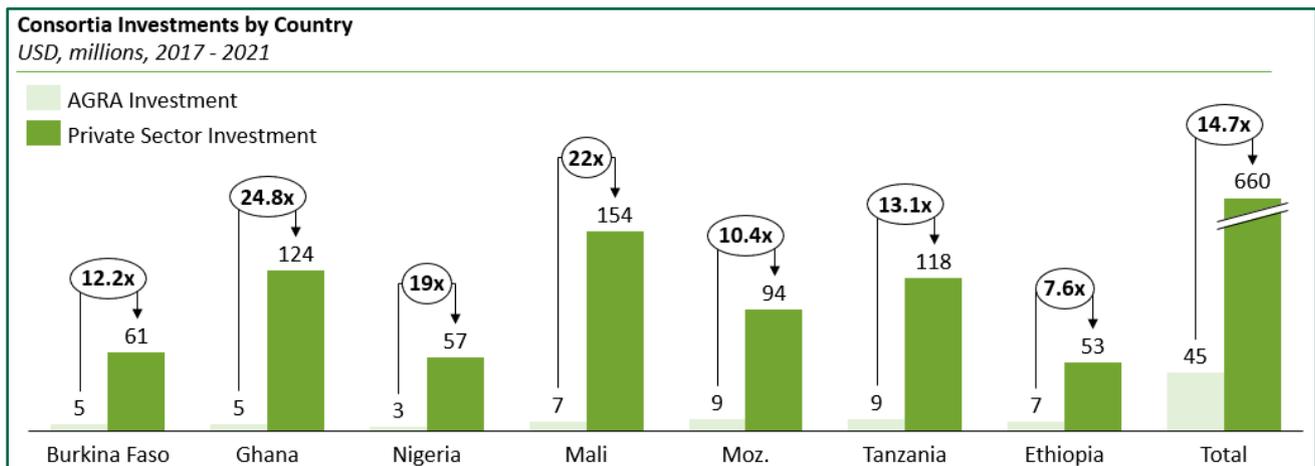
- Input systems **strengthened**
- **964 retail agro-dealers** and **168 hub agro-dealers supported**, supplying c.165,000 MT fertilizer
- Served **<500,000 farmers**



- Collective marketing via cooperatives **increased teff and wheat prices by 31% and 24%**
- **Structured markets sold 63.7M USD worth of teff and wheat**
- **Storage capacity of primary cooperatives increased by 500MT**
- **43 youth group agro-dealers** established, **reaching 45,000 farmers**

AGRA's consortia have mobilized nearly 15x incremental capital across core countries. AGRA invested 45 million USD on consortia in its seven push countries to primarily drive transformation by improving farmers' access to inputs and extension. We saw offtakers within consortia evolve to collaborate with input providers to also distribute improved inputs to consortia: The Smallholder Inclusive Productivity and Market Access consortium in Ghana is now led by YedentAgro Group, an established maize and soybean processor. This exemplifies how business-led consortia can work as long as they have widespread arrangements with input suppliers which do not constrain farmer choice. Our investment in consortia has catalyzed an incremental investment of 660 million USD from private sector actors, such that for every 1M USD invested by AGRA the private sector has invested 15M USD.

Figure 26: AGRA's Consortia Investments¹⁶



Consortia have strengthened extension services and input markets but have been less successful in improving access to finance and output markets. Private sector crowding in has been higher in magnitude in the input markets than output markets. In a web survey, 61% and 51% of AGRA grantees reported that extension and input market improvements made through consortia had widespread farmer reach. However, just 27% and 22% of grantees reported that output and finance improvements made through consortia had a similar reach. Going forward, we will shift from a focus on productivity and farm gate markets in our consortia, towards a broader focus on fulfilling consumer demand. As part of this, we will expand our focus on market to include informal markets and beyond primary crops to intercroops and rotational crops.

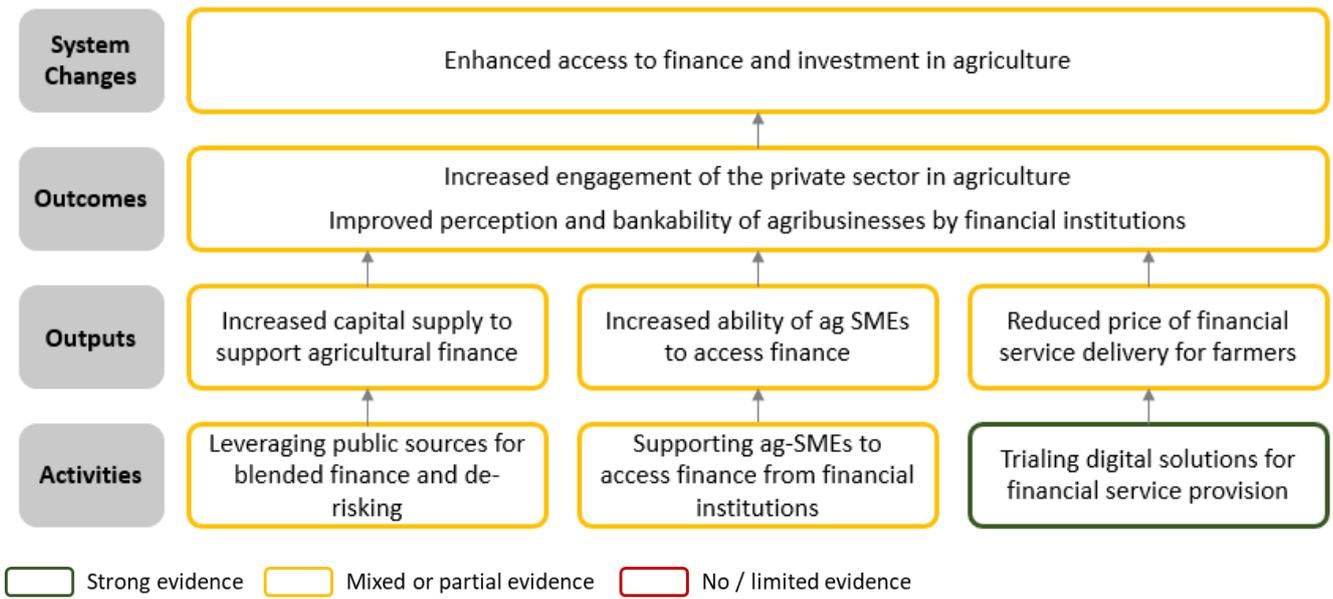
Enhanced Access to Finance and Investment

Access to finance is a key enabler to SME and agribusiness expansion which powers sector growth. AGRA conducts three types of activities to strengthen the agricultural financing system: leveraging public sources for blended finance and de-risking, supporting agricultural SMEs to access institutional finance, and trialing digital solutions for financial service provision. Strengthening access to finance is a newer area of focus for AGRA, and so we are yet to unveil the full impacts of our work.

We are encouraged by the initial evidence of impact from our work, in increasing capital support to support agricultural finance, increasing ability of agricultural SMEs to access finance, and the reduced price of financial service delivery for farmers. As a result of our work, we are seeing increased engagement of the private sector in agriculture and enhanced access to finance and investment in agriculture. These initial results give us confidence that we will start to see more sizeable, long-lasting impacts of our work over the next 5 years.

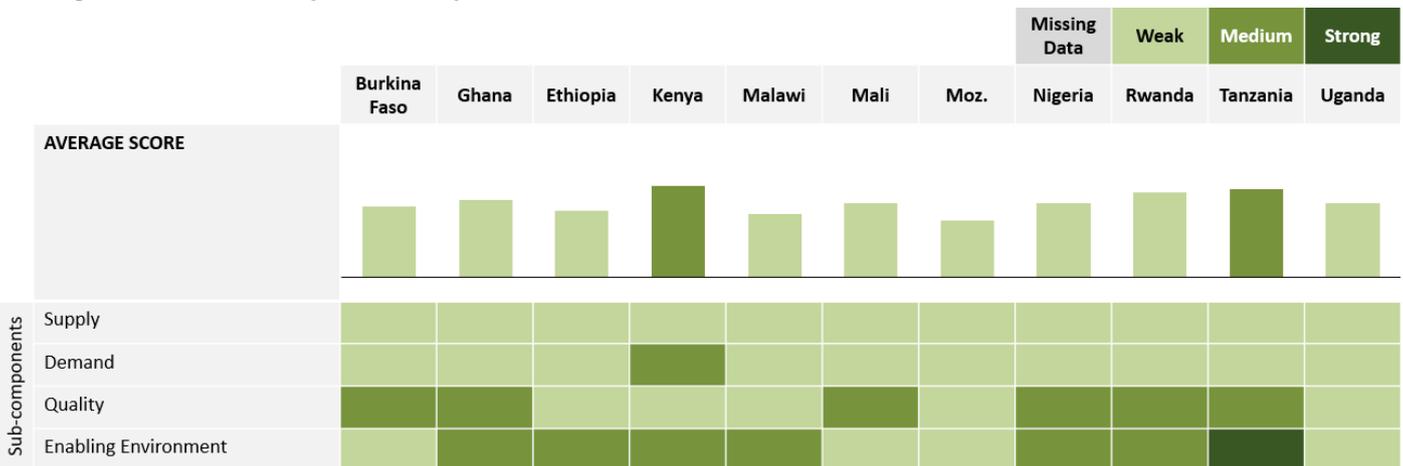
¹⁶ AGRA Technical Team

Figure 27: Enhanced Access to Finance and Investment Theory of Change¹⁷



In our systems analysis, we see weak finance systems across the majority of our focus countries, with moderately strong finance systems only in Tanzania and Kenya. Our analysis shows the current status of finance systems across AGRA focus countries, giving particular insight on supply, demand, quality, and the enabling environment. From the moderately positive scores for enabling environment, we see that generally that policies and regulations support agricultural finance across AGRA focus countries. Similarly, we see moderate scores for quality, which measures innovations that increase access to finance. However, we see that there is poor access to and use of financial products and services, suggesting that the innovations are either not plentiful enough or are not solving the right bottlenecks in the system.

Figure 28: Finance System Analysis¹⁸



¹⁷ This Theory of Change was created by AGRA to depict the response to each of the key questions laid out in the introduction of this section. The evidence markers were assessed on the basis of statements made in the PIATA Final Evaluation 2021

¹⁸ KIT Systems Analysis 2021 - Finance system sub-component definitions: a) Supply (access to financial products and services) – percentage of adults with account, borrowed from a financial institution, saved at a financial institution, mobile money account, rural population who are members of savings groups; b) Demand (use of financial products and services) – made or received digital payment in the past year, savings group fund utilization rate, borrowed to start, operate, or expand a farm or business, received payments for agricultural products into a financial institution account, enterprises with an account at a formal financial institution, farmers with crop insurance; c) Quality (innovations that enhance access) – affordability of products and services, accessibility, percent of firms choosing to access finance as their biggest obstacle, new agriculture finance products from the private sector that came to market, number of interventions to de-risk agricultural loans; d) Enabling environment (policy and regulation) – national financial inclusion strategy, national financial education strategy, adults that participated in some kind of financial education, favorable government regulation exists for the extension of financial products and services to farmers.

Blended Finance

In order to increase capital supply with the right risk and cost profile for agricultural finance, we co-design blended finance vehicles and provide catalytic grants to blended finance instruments. Blended finance has attracted larger institutional investors by redistributing risk between these investors and governments or non-governmental institutions that are willing to accept higher risks or lower returns. AGRA partnered in designing the ABC fund which targets agribusinesses and financial intermediaries, to crowd in private sector investors. AGRA provided 5 million USD capital in first-loss capital to the 50 million USD fund. By 2021, ABC had mobilized interest from three investors – Development Finance Corporation, Islamic Development Bank and Bank of America, with the last investor having disbursed their investment already. By December 2021, the fund had issued 24 loans totaling \$32.7 million, benefitting 170,000 farmers.

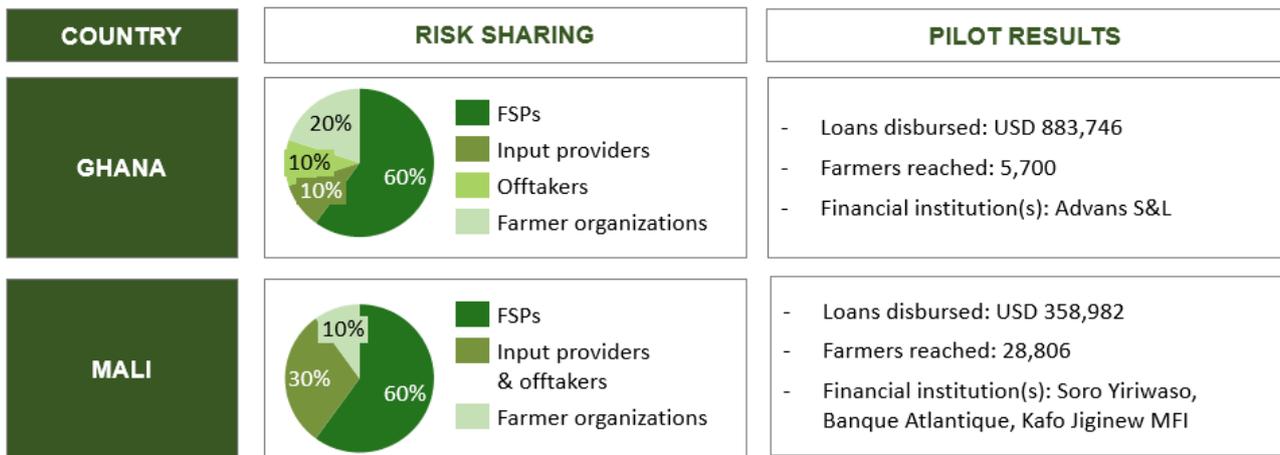
Figure 29 Examples of AGRA's Blended Finance Activities

 GIRSAL <i>Ghana Incentive-Based Risk-Sharing System for Agricultural Lending</i>	 PROFIT <i>Programme for Rural Outreach of Financial Innovations and Technologies, Kenya</i>
<ul style="list-style-type: none"> • AGRA supported the design alongside the Bank of Ghana and the Ministry of Food and Agriculture • AGRA raised seed capital as start-up funds for technical assistance and provided capacity building support by developing knowledge portals 	<ul style="list-style-type: none"> • AGRA supported the design alongside the Government of Kenya, IFAD and private sector actors
<ul style="list-style-type: none"> ➤ 36.2M USD agricultural credit guarantees issued ➤ 77M USD guaranteed loans issues ➤ 49 agribusinesses benefitted ➤ 19 FSPs signed agreements 	<ul style="list-style-type: none"> ➤ 441,091 households reached ➤ 327 business entities reached ➤ 113,485 loans to agribusinesses and farmers

Agricultural SME finance

In order to increase the number of agricultural finance deals, we attempt to reduce the risk of providing agricultural SME finance by supporting financiers to deploy risk sharing models, supporting innovations in inclusive finance, and contributing to ecosystem improvements. For example, AGRA developed an input finance model which brings together offtaking SMEs, banks, input suppliers and farmer groups in a risk-sharing arrangement that facilitates capital deployment by financial service providers. Guaranteed purchase contracts are established between the buyer and farmer/s. They make a bank deposit and the bank and farmer sign a loan contract for the full value of inputs. The bank disburses a partial amount of this value to the input supplier who delivers the requisite inputs to the farmer. The farmer uses the inputs and generates a harvest that the buyer purchases. The buyer repays the loan to the bank and uses the remainder to pay the farmer. This input financing model has increased the amount of loans disbursed and increased the participation of financial institutions in agriculture.

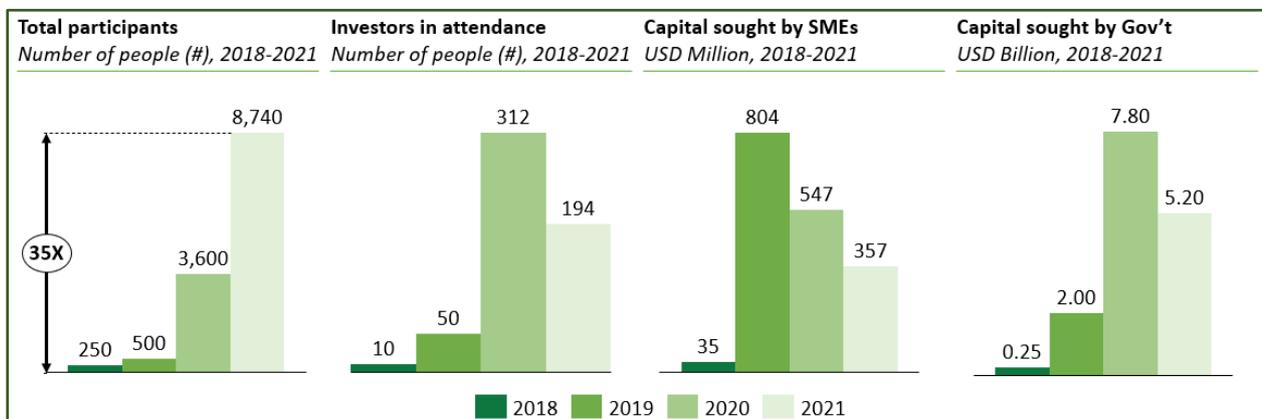
Figure 30: Early Results from the Input Financing Model



AGRA has also developed an equipment financing model which uses matching grants that prove the business case for the SME while allowing the vendor to profitably sell or lease equipment. In this arrangement, the donor deposits a grant in the bank. The SME then makes a down payment, ideally a cash payment of about 12%, to the equipment vendor who delivers the good and/or service to the SME. The SME then gets into a loan contract with the bank which makes about 70% of the payment to the equipment vendor while the matching grant pays the vendor the other 10% after the warranty period is over. At this point, the equipment vendor is fully remunerated, and the SME is left to repay the loan to the bank (half of the 80%), while the matching grant pays the rest. This mechanism lifts the burden off the SME in repaying the full amount and forces the vendor to share risk with the bank. An example of this is our support to ETC Agro in Tanzania, a farm equipment dealer, that partnered with several banks to link farmers and qualified SMEs to tractor financing that would also develop rental services for other farmers. This created a record sharing precedence with the banks and the tractors would be accepted as collateral leading to equipment financing for 174 lead farmers who by 2021 had served 21,453 farmers with mechanization services.

AGRA has also used matchmaking platforms to link investors with capital seekers. The Agribusiness Deal Room is an in-person and virtual platform that matches investors with public and private actors in the agriculture sector who are looking for capital. Through the Agribusiness Deal Room, we have facilitated outreach to over 2,000 companies and attracted over 150 investors through AGRA and partner networks. By 2021, AGRA had recorded \$300 million in investment commitments linked to the Agribusiness Deal Room.

Figure 31: Agribusiness Deal Room Performance¹⁹



¹⁹ QMR Final Presentation, 2021; Strategic Partnership Division Evaluation, 2020; AGRA PIATA 2021 report; AGRF 2021 Summit, 2021

Trialing Digital Solutions

We have demonstrated how digitization can increase farmer access to finance and improve the performance and efficiency of last-mile financial services delivery by supporting digital innovations in inclusive finance. We have supported apps and other innovations for pre- and post-harvest that either offer comprehensive financial solutions for farmers or solve a particular need such as goods receipt credit or agricultural insurance.

Figure 32 Digital Innovations in Inclusive Finance Case Study: KCB MobiGrow



AGRA's focus on digitalizing farmer services delivery models has had particular impact in boosting the uptake of mechanization. In Ghana, AGRA invested in Troto, an agricultural technology company which follows a "Uber for tractors" model to connect tractor owners with farmers wanting to use these tractors on a "pay-as-you-go" basis. The platform now links farmers and input dealers with tractors and other agricultural machinery with farmers cultivating rice, soybean, maize, and cassava. Troto's model registered a significant impact by increasing tractor owner revenues from 1,295 USD in 2017 to 7.8M USD in 2021.

AGRA's investment in digital platforms have increased access to finance in Ghana, Tanzania, and Kenya. Our digital-focused investments have facilitated pre-harvest financial services in Ghana, Tanzania, and Kenya, leading to 2 million farmers accessing digital bank accounts, 85,000 farmers accessing input loans, 45,000 accessing agri-insurance, and 350,000 farmers accessing e-verification for their input purchases. The majority of these solutions are now breaking even, hence will continue to serve an increasing number of farmers.

Lessons Learned

Our systemic interventions have realized impactful synergies with our policy work – particularly around inputs – to deliver an enhanced impact for farmers. AGRA-supported seed policy reforms in Rwanda and Ethiopia have opened up the sector to private sector participation. We have nurtured this private sector engagement through targeted capacity building and grant support. However, going forward we need to build on this learning and seek to achieve further synergies in output markets and access to finance. Such synergies may be between our policy and systemic interventions, or between different systemic interventions. For example, we know that success in agricultural finance requires functioning input distribution systems and output markets, and so we can enhance the impact of our work in inclusive finance through aligning our interventions in inputs and output markets in different value chains.

We have modelled integrated approaches which can simultaneously tackle multiple, interrelated systemic constraints. Our consortia have been successful in identifying targeted,

coordinated interventions across the value chains, and bringing actors together to enact these changes. Our consortia have led to an expansion of agricultural investments and encouraged private sector participation, unifying a diverse set of stakeholders to deliver targeted interventions across different agricultural systems to 7.9 million farmers. As such, our consortia are a powerful example of our partnerships approach and how we can bring together different types of actors to maximize impact on systemic constraints.

We are a learning organization, which constantly evolves on the basis of our learnings to ensure we are maximizing our impact. We have learned that our investments in agricultural finance should focus on systems that enable financial flows and encourage the private sector to invest in SMEs and other organizations that serve farmers. We will lean on partnerships for innovation and scale within our integrated approaches, building on our understanding of finance as a critical part of the ecosystem. Similarly, we will build on our learnings to strengthen our contribution to output markets. We noted the need to analyze and segment market levels in a more technical way to match the resourcing and intervention required. In our last strategy, we allowed our focus on productivity to outshine our understanding of the differing agricultural trajectories of our focus countries. Going forward, we will build on our contextual understanding of each market to implement targeted approaches which help to pull countries to the next stage of agricultural development. Our work since inception has laid the building blocks with a predominant focus on research, extension, and inputs. Having laid this groundwork, we are now well positioned to build output markets which respond to consumer demand and can attract financing.

AGRA's Impact on the Farmer

Introduction

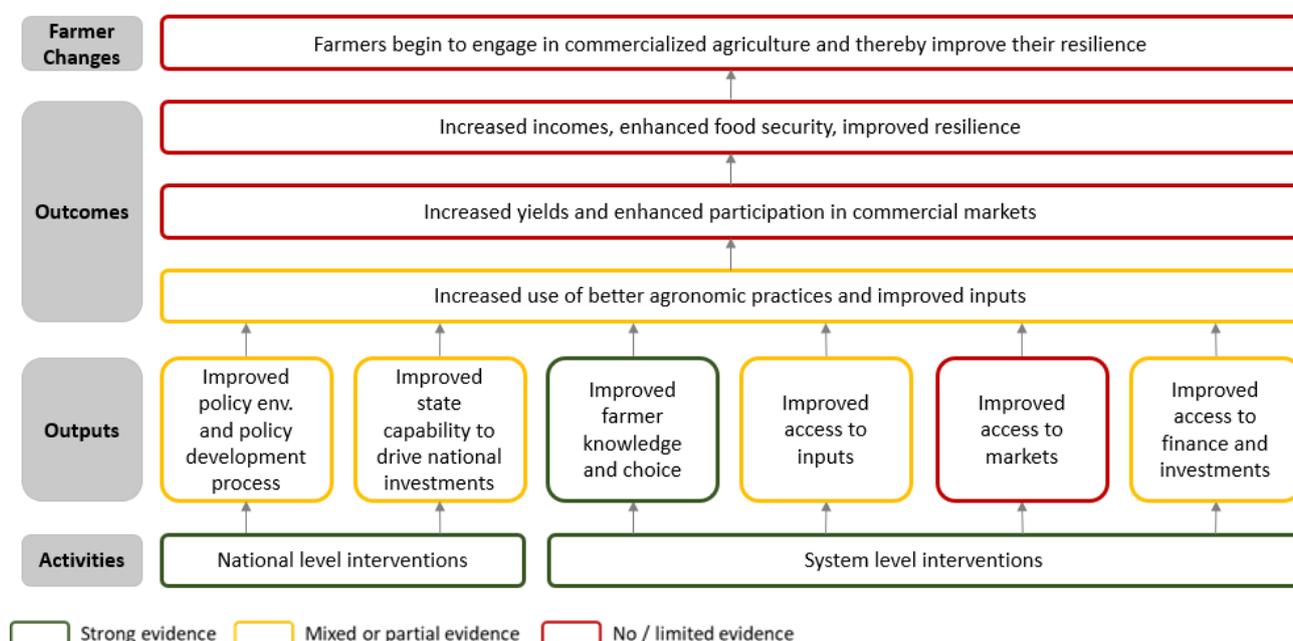
AGRA seeks to catalyze and sustain an inclusive agricultural transformation in Africa by improving the enabling environment for agricultural development and removing key systemic bottlenecks for farmers. Through its national and system level activities, we directly reached 11 million farmers and indirectly reached 26 million farmers. This achievement significantly outstripped our initial targets to reach 30 million smallholder households, which were considered ambitious.

AGRA's activities at the national and system level are intended to spur a tipping point with effect at the farmer level catalysing uptake of better agronomic practices and improved inputs, leading to improved yields and better participation in commercial markets, thereby driving increased income and farmer resilience.

Figure 33: AGRA's Impact on the Farmer – Key Questions

- Have AGRA's interventions encouraged increased use of better agronomic practices and improved inputs?
- If so, has this led to increased yields and enhanced participation in commercial markets?
- If so, has this led to increased incomes, enhanced food security, and improved resilience?
- What lessons can be learned for the future?

Figure 34: Impact on the Farmer Theory of Change²⁰



²⁰ This Theory of Change was created by AGRA to depict the response to each of the key questions laid out in the introduction of this section. The evidence markers were assessed on the basis of statements made in the PIATA Final Evaluation 2021.

As we operate at the national and system level, evidencing our farmer impact along this causal chain can be challenging. There is significant evidence of AGRA-supported farmers increasing the uptake of improved agronomic practices, especially the use of improved seed. We see that target farmers have increased their yields versus non-target farmers. However, the evidence of AGRA's impact on increasing incomes, food security, and resilience at this stage is limited. We do know that we have successfully seen farmer change in practice and use of technology – and a host of other supportive actions. However, given the scale of external factors, we cannot yet demonstrate direct causality between AGRA's actions and improvements in farmer income, food security and income.

The Covid-19 pandemic had significant impacts on farming and our ability to enact change. Our ability to work with partners on the ground and collect information or fully execute our activities was hampered during the pandemic: lockdowns, minimal contact with farmers, priority on subsistence farming to survive, and the closure of markets prevented us from facilitating and monitoring our activities. Nevertheless, we did our best to navigate the specific situation in each country and respond to changing farmer needs coming out of the pandemic.

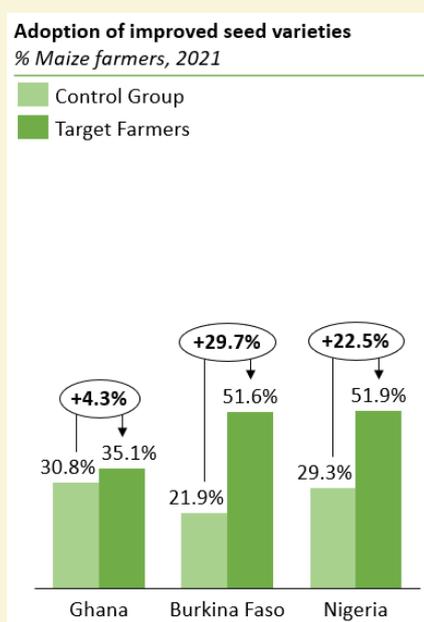
The evidence of impact along each step of this causal chain should be considered a signifier of the success of our approach. It is critical to remember the multi-decadal nature of agricultural transformation: building on our lessons in our next strategy – particularly by expanding our work in access to finance and output markets - will enable farmers to reap the full benefits of our efforts to date.

We have seen that AGRA's approach is catalytic. The signs of impact that we have seen along the long and slow path towards transformation should be taken seriously. We know that systems change is a long and slow process, and farmers' behaviour change is not guaranteed. However, the specific evidence we have of AGRA's impact on increasing incomes, food security, and resilience should be taken as signifiers that our model does work.

Increased Use of Better Agronomic Practices and Improved Inputs

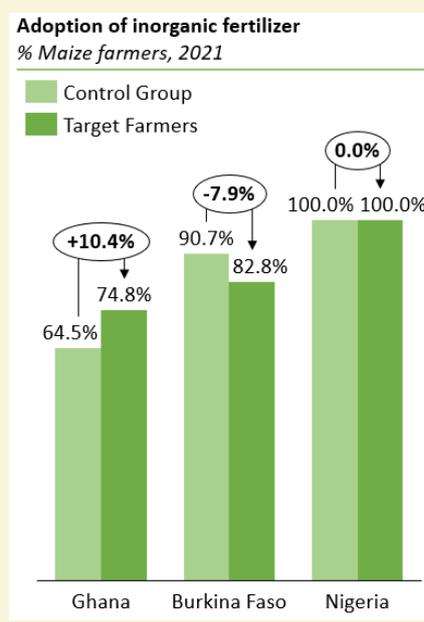
AGRA's activities at the system level – namely the extension, seed, fertilizer, and input distribution systems – have triggered farmers to use good agronomic practices and improved inputs. Across focus countries, 75% of target farmers have adopted fertilizer use, 49% of target farmers have adopted improved seed, and 60% of target farmers have adopted post-harvest practices. Analysis of the variations in these results will help us identify key learnings to apply in our next strategy to amplify our results.

Figure 35: Adoption of Improved Seed Varieties by Target vs Control Farmers



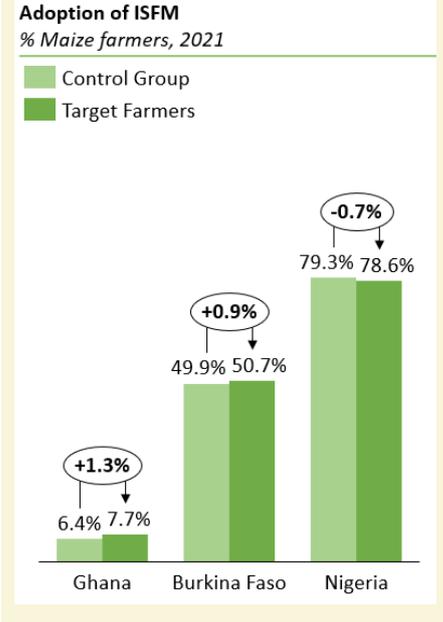
We see the most significant uplift in uptake of improved seed between target and control farmers. This is likely an outcome of the synergies between our work at a national level and system level, which were particularly evident in the extension and input systems.

Figure 36: Adoption of Inorganic Fertilizer by Target vs Control Farmer



AGRA's more limited impact on the uptake of inorganic fertilizer may reflect its focus on promoting organic fertilizers, which are better for the ecosystem. The reduced rates of inorganic fertilizer adoption for target farmers in Burkina Faso may represent their switching to improved varieties.

Figure 37: Adoption of ISFM by Target vs Control Farmers

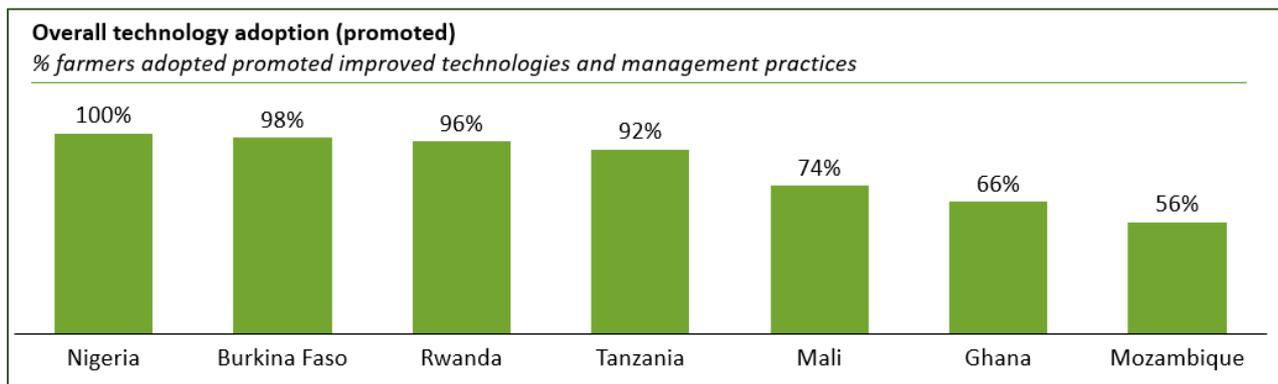


We see limited uplift in adoption of ISFM between target and control farmers, likely because ISFM is highly resource and labor-intensive. The variation in uptake between countries is likely because ISFM is more likely to be promoted and adopted in countries where farmers have seen and experienced land degradation, specifically in countries along the Sahel.

We see variation in farmer uptake of improved agricultural practices and inputs between different countries. This ranges from 9% uptake of improved practices in rice households in Tanzania, to as high as 99% uptake of improved practices in rice and maize households in Nigeria.

²¹ PIATA Final Evaluation 2021

Figure 38: Variation in Uptake of Improved Agricultural Practices by Country²²

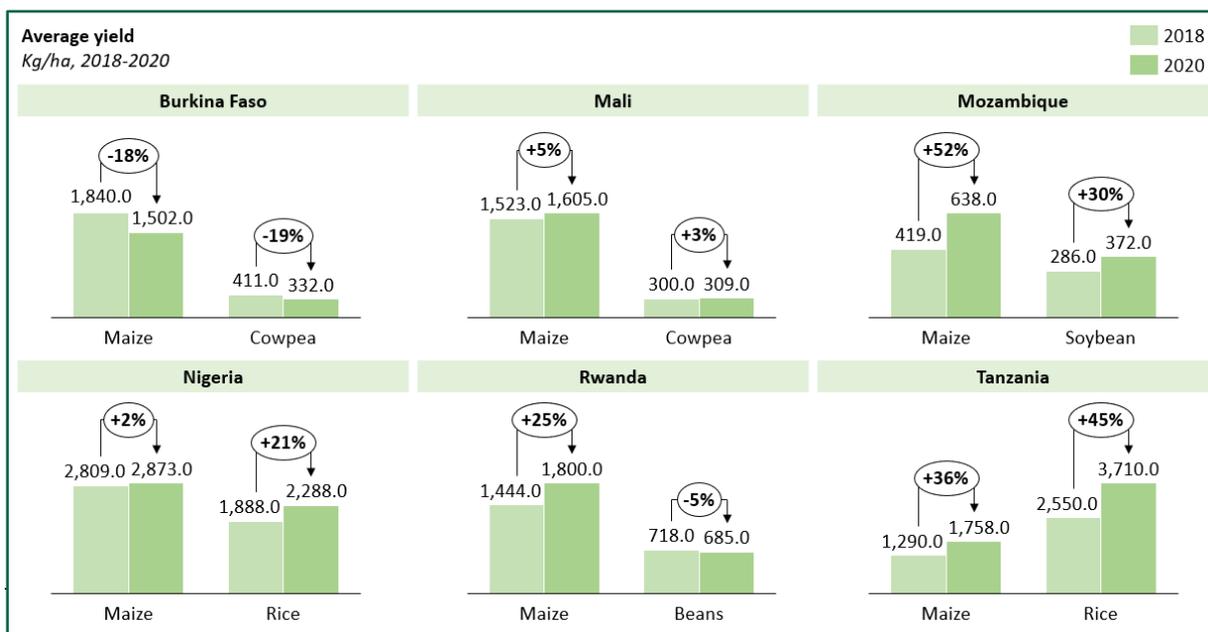


This may reflect both the different starting points in each country, the differences in AGRA’s investments across geographies, and the uplift from synergies between national and systemic interventions in some countries versus others. It may also be reflective of the socioeconomic background of farmers in different geographies: across focus countries, farmers who adopted improved agricultural practices and inputs were typically those who could afford to take most risks - young, male, and relatively wealthy farmers. This likely reflects the greater ability and willingness of wealthier groups to experiment, as well as their enhanced access to finance or credit. These findings are useful for suggesting where AGRA should focus in its next strategy to focus on lifting farmers out of poverty.

Increased Yield and Enhanced Participation in Commercial Markets

The adoption of better agronomic practices is translating into increases in yield in the majority of contexts. The extent of AGRA’s impact on yield typically varies according to AGRA’s level of investment, the extent of synergies between its activities at the national and system level, and the degree to which AGRA focused on access to finance and output markets to drive commercialization.

Figure 39: Average Yield for AGRA-supported Farmers, 2018-2020²³

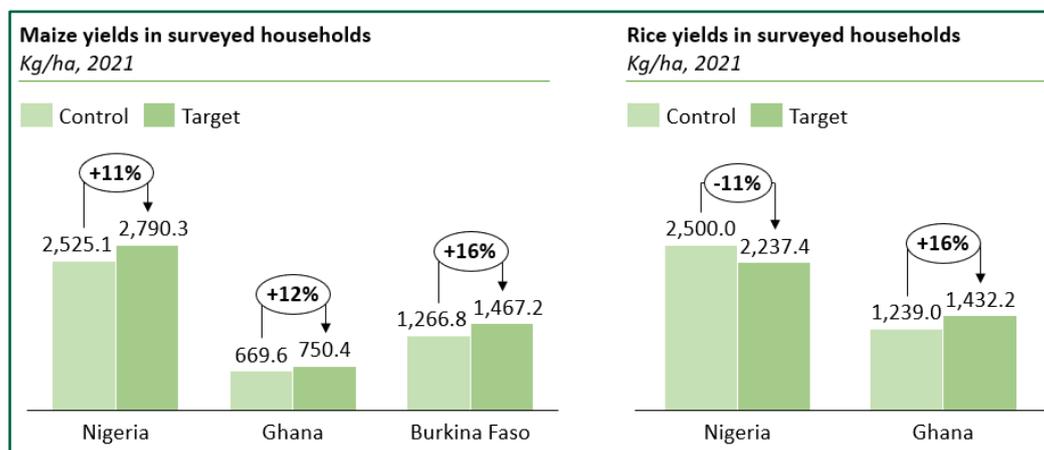


²² AGRA Farmer Outcome Survey 2020

²³ AGRA Farmer Outcome Surveys 2018 and 2020

The impact of AGRA’s activities on yield is more sizeable for maize - AGRA’s primary crop - than for other crops. This reflects the level of investment and focus: the majority of AGRA target farmers planted maize in the last season. The increase in maize productivity is likely driven by AGRA’s particular focus on input subsidies and elevated by synergies between national and systemic level interventions. Whilst AGRA has had a notable impact on maize yields, it must be noted that maize yields for both control and target households remain low.

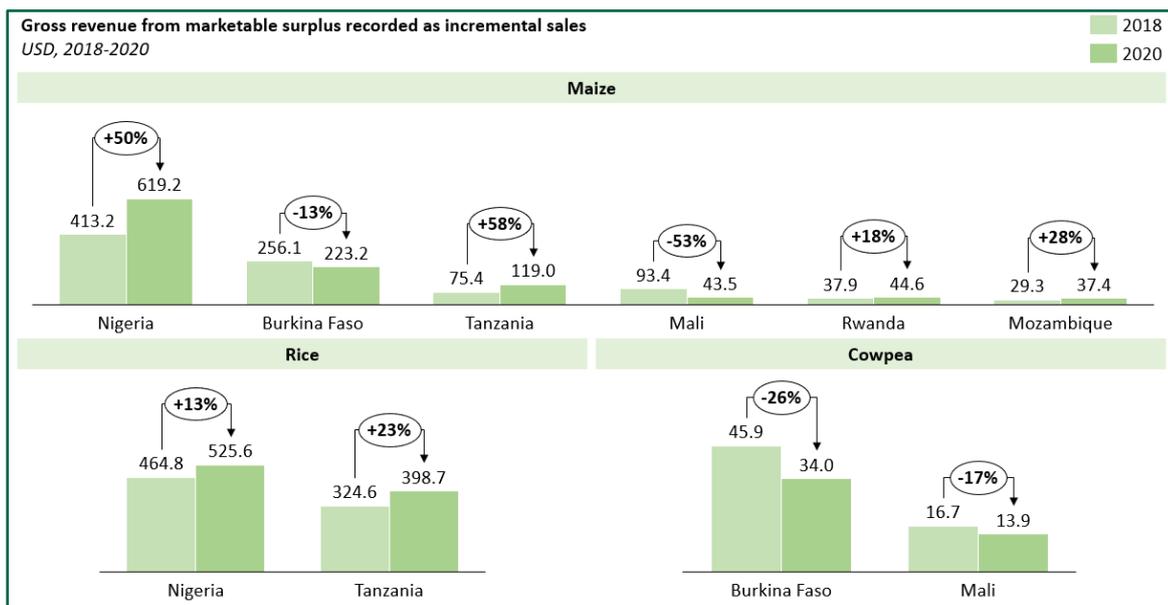
Figure 40: Yield Survey in AGRA Target vs Control Households²⁴



Increased yields are translating into enhanced participation in commercial markets in contexts where AGRA made significant investments to link farmers to structured markets (e.g., through consortia). We see improved gross revenues from marketable surplus for maize and rice farmers, which are AGRA’s major crops and were the focus crops across AGRA’s consortia. However, for crops where AGRA is less focused – soybean, bean, and cowpea – farmers did not realize the benefits of yield impacts. This having been said, where we see the steepest changes in gross revenue from marketable surplus, this is predominantly driven by changing crop prices rather than yield. For example, the price of maize in Nigeria increased from \$0.18/kg to \$0.37/kg between 2018 and 2020 which is likely a large contributor to the 50% increase in gross revenue from marketable surplus. Similarly, the price of rice in Burkina Faso reduced from \$0.50/kg to \$0.45/kg between 2018 and 2020 which was likely a driver of the 26% reduction in gross revenue from this crop over the same time period.

²⁴ PIATA Final Evaluation 2021

Figure 41 Gross Revenue from Marketable Surplus²⁵



Increased Incomes, Enhanced Food Security, and Improved Resilience

At this stage in the transformation journey, the evidence that AGRA has had a positive impact on food security and resilience is encouraging but limited. Given the long pathway to agricultural transformation, this is not unexpected. However, we are starting to see positive signs emerging of progress on the ground.

We hear anecdotal evidence from farmers that AGRA's activities have led to improved food security and resilience. Two-thirds of farmers report that their crops have higher quality – with nearly one-third noting better resilience to drought and pests. Most farmers had production surpluses in 2020, with 66% reporting that compared to 2017, their surpluses have increased by at least 4 months. We also see evidence that this is gradually translating into a view that incomes are somewhat predictable – an encouraging sign in communities where subsistence farming is common. During conversations with farmers, VBAs, and agro-dealers in Tanzania, Mozambique, Kenya, and Ethiopia, farmers stated their income and food security had increased as a result of productivity gains tied to AGRA's extension and input investments.

However, reports from the ground and supporting data will need to be supported in the future by more rigorous impact analyses. There has not been deep analysis conducted on the impact on sales, income, and food security in Tanzania, Kenya, Ethiopia, and Mozambique so it is hard to verify replicate lower-level reports across the full target population. Impact analysis in Burkina Faso, Ghana, and Nigeria found no positive impact yet on food security and resilience, despite significant improvements in maize yields in Nigeria.

This having been said, AGRA's activities spurring behavior change in farmers and improving yields should be taken as concrete signs of the path towards transformation being paved. We remain early in the journey towards transformation, and we are positive about the reports from farmers on the ground regarding their improved resilience. With more time, we expect this will be reflected in the analyses.

²⁵ AGRA Farmer Outcome Surveys 2018 and 2020

Lessons Learned

Since inception, we have been laying the building blocks for agricultural transformation and we are starting to see the impacts trickle down to the farmer. Our investments in seed diversification and agricultural SME development between 2006 and 2016 paved the way for our focus on input markets in this strategy. We have further strengthened farmer awareness of good agricultural practices over the past 5 years, and we can see this translating into improved yields. Further investments across agricultural systems going forward will continue to build on our successes today to unlock impact.

The combination of our national level approaches and systemic interventions work - especially in inputs and extension - has synergistically worked together to maximize our impact on farmers on the ground. Multiple interrelated policy and system-level interventions in seed, fertilizer, and extension have increased overall production and supply of quality approved seed and fertilizer and improved farmer choice. Our synergies on extension and input supply distribution, and training VBAs in business activities that can create income for them have further enhanced the supply, knowledge, and choice of improved inputs for farmers. Going forward, we need to leverage these learnings to increase the synergies in our work on finance and output markets, in a shift away from a focus on productivity to one where we focus on pulling countries towards the next stage of agricultural development.

We are a learning organization, which tries to constantly evolve on the basis of our learnings to ensure we are maximizing our impact. We know we have not done enough to date to track our success and impact on farmers. Going forward, Monitoring, Evaluation, and Learning systems will be embedded into all of our work as standard. This will enable us to have more regular, detailed data on the impact of our activities on our farmers. With these data points, we will get to constantly iterate our approach to build on our strengths and maximize our impact on farmers on the ground.

AGRA's Wider Contributions

Introduction

While working towards its goal of inclusive agricultural transformation, AGRA made some positive contributions to other important areas in the development discourse. These cross-cutting issues were not prioritized in AGRA's 2017-2021 strategy - our investments in these areas were limited, and hence so was our impact. However, the targeted evidence of success in these areas suggests AGRA is well-positioned to contribute further.

Figure 42: AGRA's Wider Contributions – Key Questions

- To what extent have AGRA's interventions promoted gender equality?
- To what extent have AGRA's interventions improved climate change resilience?
- To what extent have AGRA's interventions strengthened sustainable food systems?
- What lessons can be learned for the future?

We are acutely aware of the challenges being faced by farmers on the ground, and the importance of these areas. Farming challenges are only more pertinent to women and youth, who are too often excluded from interventions and analysis. In addition, farmers everywhere are facing rapidly worsening climate change and environmental degradation, with the impacts even more drastic for our farmers in the Sahel. The sector's focus on driving productivity and income has not done enough to improve nutritional outcomes. We plan to contribute more intentionally to cross-cutting areas in our next strategy.

We know that we have not done enough in these areas to date, and we are committed to prioritizing them in our future strategy. Our future strategy will take a food systems approach, and sustainable farming, inclusivity, and nutrition will form core pillars of our work. We have already begun intentional strategies in these areas.

Promoted Gender Equality

Women comprise 60% of the agricultural workforce in sub-Saharan Africa, but typically experience 20-30% lower agricultural outputs and worse food insecurity than men; this inequity is a major inhibitor of inclusive agricultural transformation. This difference in agricultural outputs is a result of numerous contributing factors. Women have less legal access to assets such as land due to gendered biases that encourage cultural norms which constrain their right to own and inherit property, which limits their opportunities to borrow due to a lack of collateral or to monetize based on assets – only 1% of women in Africa access credit. Women also have less access to inputs, extension, and markets, receiving just 5% of agricultural extension. Finally, in agri-business, women only own a third of the SMEs that produce, process, and trade agricultural products and services.

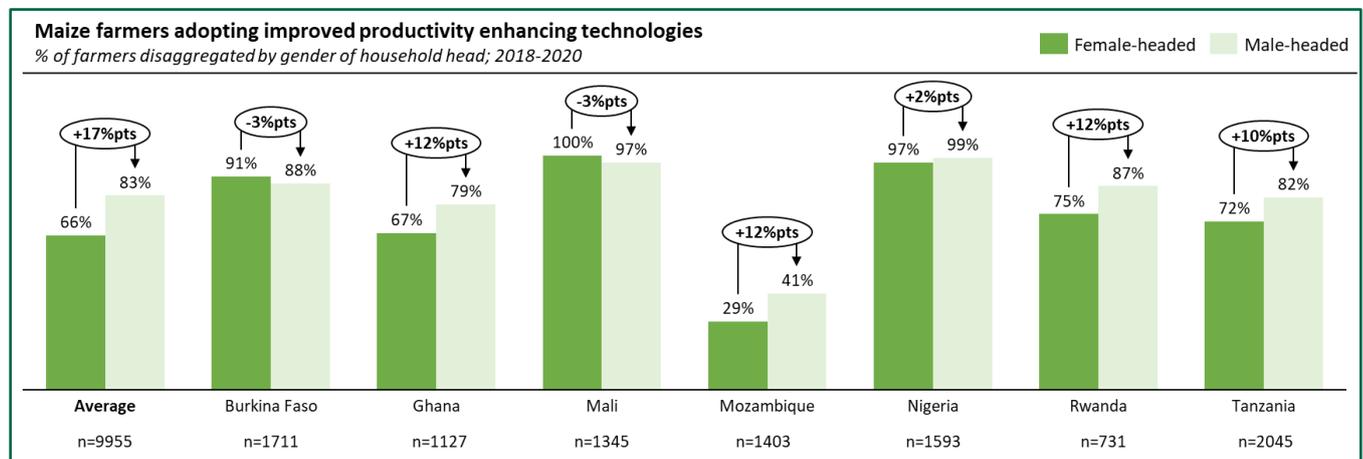
The AGRA Farmer Outcome survey which covered 7 focus countries showed that under 10% of targeted farmers were from female-headed households. This ranged from nearly 30% in Rwanda to less than 2% in Mali. Our focus on targeting women-headed households to date has been insufficient. We are in the process of making a conscious shift to a 'gender-intentional' approach, focusing on providing opportunities and building agency for women.

In recent years, AGRA has been more deliberate in its effort to include women in its extension provision and services, which has had a positive impact on driving the uptake of improved

agricultural practices amongst women farmers. In Kenya, Tanzania, and Burkina Faso, 24% of VBAs are now women. Between 2018 and 2020, women VBAs helped us to reach 3.5 million women through extension services and women have experienced a greater increase in access to extension services than men (although their overall rates are still below men in most circumstances). Our support and recruitment of female VBAs has made it easier for women farmers to connect with extension services, receive those services, and look up to relatable role models.

The uptake of improved technologies that enhance productivity remains higher in male-headed households. We see that 26% more male-headed households adopted productivity-enhancing technologies in a maize farmer survey. Mali, Burkina Faso, and Nigeria had fewer disparities than Mozambique, Ghana, Rwanda, and Tanzania. Women are less likely to have access to some of these technologies due to cultural barriers, lower literacy levels, less asset ownership and less disposable income that limits their purchase and use of them. An inclusion report by AGRA further reveals that due to time poverty, men have more time to attend trainings where they are trained on technology and this includes extension services, leaving them with more knowledge and room to experiment

Figure 43: Farmers Accessing Improved Farming Technologies by Gender²⁶



We have actively focused on working with women entrepreneurs, to close the profit gap between men- and women-led SMEs. AGRA has provided business and management skills training and promoted market linkages. We have worked with 2000 women-owned or led businesses, 23 seed companies, 107 women hub agro-dealers, and 1400 women retail agro-dealers. Our VALUE4HER platform has facilitated access to information, training, and networking opportunities, helping women agripreneurs to build their collective capital and voice. On this platform, we have seen a 278% increase in women-to-women web-based conversations.

AGRA has supported state flagships which promote women’s involvement in agriculture. For example, the Program on Youth and Women in Agribusiness in Malawi aims to create 1 million jobs in agriculture, targeting women and youth, and is projected to reach 426,000 households directly, of which 50% are female-headed. AGRA’s support has accelerated the progress of such flagships, contributing to better inclusion of women in agriculture. However, AGRA has a powerful role in promoting female integration across all its flagships going forward.

²⁶ AGRA Farmer Outcome Surveys 2018 and 2020

Improved Climate Change Resilience

Agriculture is one of the most vulnerable industries to climate change, with its effects putting smallholders at further risk of slipping into, or being entrenched in, poverty. Each hour, 1,692 acres of productive dry land become desert as climate-related temperature rises and extreme rainfall increasingly affects yields. Furthermore, about 17% of land in Africa is degraded due to unsustainable farming practices.

Sub-Saharan African smallholder farmers will be affected by climate change due to its impact on the availability of freshwater resources, crop yields, and the decreasing land area suitable for agricultural production. Scientists predict that the effects of climate change will be felt hardest on the continent. Already, 1 in 3 Africans face water scarcity, and crop yields may decrease substantially in Africa due to the increasing frequency of drought, particularly as sub-Saharan Africa's food systems are primarily rain-fed. The areas suitable for agriculture and the length of growing seasons are expected to decrease.

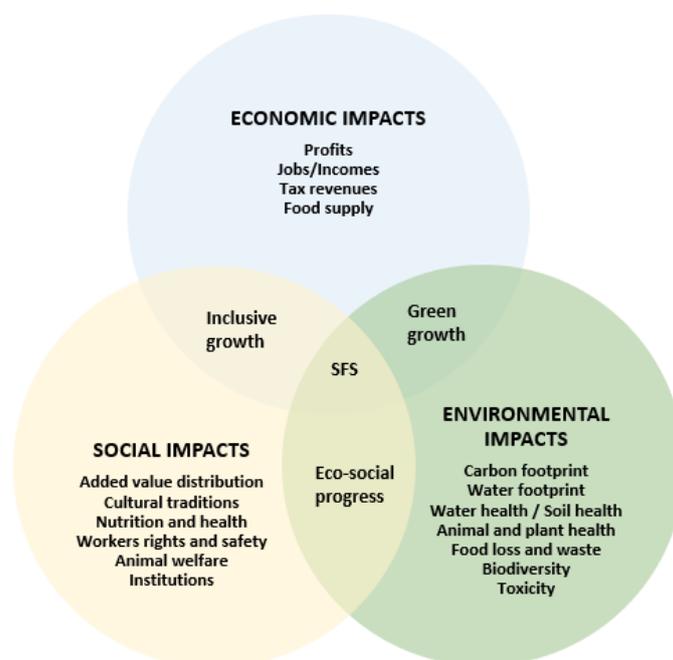
AGRA's efforts to increase farmer resilience have had a small positive contribution on improving resilience to weather and other external shocks. Our activities have raised the ability of farmers to absorb weather shocks, such as the promotion of drought-resistant seed varieties and more sustainable farming practices. We have invested in Burkina Faso and Mali to increase moisture resilient varieties leading to planting of vegetable seeds that shift focus away from pure crop seeds that are less resilient. The vegetables add value to the food system by increasing household nutrition and boosting farm income, particularly among women. However, there remains high and continuous demand for new improved seed varieties to help combat the impacts of climate change. For instance, key informants in Ethiopia report high demand for wheat varieties that are rust resilient, as current varieties are becoming severely affected by diseases after a few years.

AGRA has supported projects which encourage farmers to adopt more sustainable farming practices to mitigate against the impacts of climate change. AGRA supports a Soil and Land Management Project in Kakamega, Kenya, geared towards restoring the productivity of over 10,000 hectares of farmlands through sustainable land management. The aim is to double yields for maize and beans, the region's staple crops, without intruding into forest land. Early results have revealed that 7,222 hectares of land have been put under sustainable use and 333,800 tree seedlings have been planted to slow down land degradation, 76% of the beneficiaries are adopting good practices such as crop rotation, and households have increased their revenue from the sale of maize, beans, and indigenous vegetables from \$85/month in 2017 to \$145/month in 2021.

Similarly, AGRA has supported regenerative agriculture approaches to improve food security and community resilience. In the Regenerative Agriculture project in Embu and Makueni, eastern Kenya, AGRA is working with IKEA Foundation and the Cereal Growers Association to tackle agricultural and climatic issues in the region, including land degradation, declining soil fertility, limited access to extension services, and weak input and output market linkages. We are now working with >25,000 farmers in the two counties, and we have seen 45-85% of farmers uptake improved agricultural technologies, and the average earnings from crop sales increased from \$309 in season 1 to \$371 in season two.

Strengthened Sustainable Food Systems

Figure 44: Sustainable Food Systems Framework



A sustainable food system delivers food security and nutrition for everybody, whilst ensuring not to compromise the economic, societal, and economic bases to generate food security and nutrition for future generations. Food systems encompass the entire range of actors and the interlinked value-add activities which generate food products that originate from agriculture. To realize the SDGs to end hunger, achieve food security, and improve nutrition by 2030, it is imperative to reshape the global food system to be more productive, more inclusive, and more environmentally resilient.

AGRA has contributed to building a more sustainable food system by driving positive economic impacts for actors along the value chain. In Malawi, our investments in the groundnut value chain have created economic opportunities for women and youth by reviving the groundnut trade with South Africa and attracting SMEs for value addition. Through the PROFIT program, we have increased the efficiency of smallholder horticulture farmers growing potatoes in Nyandarua County in Kenya. Previously, farmers were struggling to obtain profitable prices for their produce and were locked out of financial institutions. AGRA equipped the farmers with record keeping, financial management, and general farm skills that saw the middlemen eliminated, increasing market access with fair prices for the farmers. They also accessed loans through SACCOs, purchased agri-insurance, and obtained better inputs which have enabled improved livelihoods.

AGRA’s activities have also had positive social impacts which have driven more sustainable food systems. As well as efforts on gender inclusion detailed above, AGRA has started focusing more on youth inclusion by empowering young entrepreneurs through a strategic initiative called Generation Africa. In 2019, Generation Africa hosted an annual Africa-wide business competition termed ‘GoGettaz’ where young entrepreneurs pitched their agri-business ventures, selecting 12 finalists who received 50,000 USD to grow their businesses. GoGettaz has now morphed into an online platform for youth agribusinesses with 6,500 registered.

AGRA has also contributed to more sustainable food systems through the positive environmental impacts resulting from its activities. We have integrated climate information in extension systems in Nigeria, particularly in Niger and Kaduna states that experience weather-based seasonal fluctuations. We have connected Nigeria’s meteorological systems into crop weather

systems that are facilitated by extension to reach farmers. In Makueni, eastern Kenya, AGRA is working with the Cereal Growers Association, to tackle some of the agricultural and climatic issues in the region including land degradation, declining soil fertility, limited access to extension services, and weak input and output market linkages.

Lessons Learned

Our tools are adaptive to the changing needs and circumstances of farmers across Africa, and we should leverage these tools to tackle cross-cutting issues. AGRA has a wealth of knowledge on soil fertility that can be used as an evidence base to encourage farmers and governments to focus on soil health and land restoration. AGRA's work on soil health protects above- and below-ground biodiversity, and training farmers on ISFM and targeted application of fertilizer helps protect it and embed sustainable practices. Given its strong and growing reputation as a partner to governments, AGRA is in a unique position to try and build strategies for climate resilience into its policy and flagship work with governments.

We should envelope gender, climate, and other cross-cutting issues into our integrated approaches which can simultaneously tackle numerous, interrelated challenges. Our consortia model has enabled us to bring together current and new actors in the sector to tackle identified challenges across the value chain. Through our consortia, we have realized a 15x uplift of investments into prioritized value chains. In this way, we can ensure greater focus and resource deployment for cross-cutting issues such as gender, climate, and nutrition by weaving these priorities into interventions prioritized in our consortia approach.

We are a learning organization, which consistently strives to evolve on the basis of our learnings to ensure we are maximizing our impact. We recognize that there has not been equal distribution of the economic value-add between different societal groups, requiring a deeper social inclusion lens in our work: Where there was evidence of AGRA's actions leading to increased yields and incomes, the increased adoption of improved inputs which catalyzed this change was predominantly accomplished by high-resource farmers – those typically with larger dwellings, access to electricity, and larger landholdings, and potentially with greater access to finance and ability to take and bear risk. This demonstrates the importance of building on our work to increase access to finance for farmers, to better enable less wealthy farmers to reap the impact of our activities. Similarly, we recognize the need to shift to a gender intentional strategy focused not only on reach but also on empowerment. AGRA will move beyond a consideration of how many women we have reached to how many women have been empowered to make the right choices, which is critical for sustainable transformation.





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