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Colophon

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Acronyms

ADC	Agricultural Development Company
AFC	Agricultural Finance Corporation
AgCK	Agricultural Council of Kenya
AGRA	Alliance for Green Revolution in Africa
ASCU	Agricultural Sector Coordination Unit
ASTGS	Agricultural Sector Transformation and Growth Strategy
CAADP	Comprehensive Africa Agriculture Development Programme
CIP	International Potato Center
DAP	Diammonium phosphate
EAGC	Eastern Africa Grain Council
EGS	Early generation seed
GAP	Good agricultural practices
GoK	Government of Kenya
IFAD	International Fund for Agricultural Development
ISFM	Integrated Soil Fertility Management
JASCOM	Joint Agricultural Sector Communication and Coordination Mechanism
KALRO	Kenya Agriculture and Livestock Research Organisation
KEPHIS	Kenya Plant Health Inspectorate Service
KIIs	Key informant interviews
KIT	Royal Tropical Institute
M&E	Monitoring and evaluation
MFI	Micro-finance institution
MoALF	Ministry of Agriculture, Livestock and Fisheries
MSMEs	Micro, small and medium enterprises
NGO	Non-governmental organisation
NPCK	National Potato Council of Kenya
PIATA	Partnership for Inclusive Agricultural Transformation in Africa
PPP	Public-private-partnership
PROFIT	Programme for Rural Outreach of Financial Innovations and Technologies
R&D	Research and development
REACTS-II	Regional East African Trade in Staples Phase II project
SACCO	Savings and Credit Cooperative
SHG	Self-help group
SLM	Sustainable Land Management
SMEs	Small and medium enterprises
USAID	United States Agency for International Development
VBA	Village-based advisor
Wageningen CDI	Wageningen Centre for Development Innovation
WRS	Warehouse receipt system

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1 Summary of results and key messages

1.1 Introduction

The Alliance for Green Revolution in Africa (AGRA) aims to catalyse and sustain an inclusive agricultural transformation in Africa to increase incomes and improve food security for 30 million farming households in eleven focus countries. Since 2006, AGRA and its partners have worked across Africa to deliver proven solutions to smallholder farmers and thousands of African agricultural enterprises. The Alliance has built the systems and tools for Africa's agriculture: high quality seeds, better soil health, and access to markets and credit, coupled with stronger farmer organisations and agriculture policies. AGRA's theory of change envisages that sustainable agricultural transformation can be facilitated through a combination of:

- Policy and state capability – investments to work with and support governments to strengthen execution and coordination capacities, enhance transparency, accountability and enabling policy environment;
- Systems development – investments to build downstream delivery systems while providing support to local private sector to scale technologies and services for better productivity and incomes; and
- Partnerships – to facilitate alignment between government and private sector, improving integration and coordination for investments in agriculture.

AGRA's strategy for 2017-2021 is to place stronger emphasis on supporting the Government of Kenya (GoK) to achieve its objectives in the agricultural sector. AGRA is also aiming to leverage funding for the agenda to promote market-driven agricultural intensification. The AGRA strategy in Kenya aims at improving the productivity and income from smallholder producers, improve efficiency in large-scale production, and reduce the cost of food for Kenyan consumers.

The AGRA approach in Kenya focuses on country support and policy engagement, while also investing in agricultural value chains and market system development. Particular focus is being placed on the potato, pulses and sorghum value chains.

For outcome monitoring in Kenya, it was decided to only focus on system change monitoring, as well as the performance of a selection of SMEs benefitting from the AGRA programme. The volume of grassroots activities by AGRA in Kenya, which are directly aiming at productivity increase among farming households, is limited. For the first year policy and state capability and market systems were chosen to assess. Within market systems, the focus was placed on the potato market system and the beans market system.

1.2 System change

Market system

System change needs

Intervention in the seed potato system has been identified as most urgent. In particular, the local retailing system is a challenge. The development of a cheap and rapid, local quality assurance system is needed. Also, improvement of the bulking and trading of ware potatoes

was given the highest priority. Currently, there is renewed momentum in regulation of the potato bulking and trading system. The results are however fragile, and require strategic thinking and continued effort. In particular, design errors in regulation implementation need urgent addressing:

- Roadside control of compliance with the potato trade regulations is highly sensitive to corruption;
- Cess (local tax) per bag has not been reduced while enforcing a smaller bag size;
- Customers want bags in which potatoes are visible, while the standard bag does not allow for that;
- Standard 50 kg bags are being enforced in six potato-producing counties, but not in potato-consuming counties.

Other opportunities are identified in the intensification of production, input supply, advisory services and access to finance. Lower priority is given to development of the processing sector, potato retail and consumption, and potato sector governance.

The current bean market system relies on farmers taking their produce piecemeal to the market combined with haphazard farm-gate collection efforts. At consumption level, beans have for long not been considered a high-value product, and as a result, the crop is not (yet) recognised as a cash crop. Availability of quality seed is haphazard, and the combination of sub-optimal production and a lack of an effective bulking systems in Kenya mean imported beans from Uganda are the cheaper, higher quality and more convenient option for larger scale traders.

The main opportunity in the bean market system is in the combination of improved bean aggregation and production. Intensification of bean production through more appropriate input use and good agricultural practices is needed to be competitive. To interest larger scale buyers to buy Kenyan beans throughout the year, a functioning bean bulking system also needs to be developed.

AGRA objectives and activities

AGRA aims to contribute to potato sector professionalisation through investing in market-led potato value chain development, and the domestication of potato sector policy and regulation at county level. Bean market system change ambitions are modest. One AGRA-funded project, the Regional East African Trade in Staples Phase II project (REACTS-II), is focusing on cross-border trade, while the Sustainable Land Management (SLM) project is focussing on sustainable land use and climate change mitigation. Both indirectly and only partially intervene in the Kenyan bean market system.

Early results and analysis

The AGRA potato projects are addressing the seed potato system, market-led service provision to farmers and policy implementation at the county level. There are pertinent issues hampering potato market system performance.

AGRA has done well by buying into the existing agenda of the National Potato Council of Kenya (NPCK), which is well aligned with the needs of the sector. The Agricultural Council of Kenya (AgCK) has been successful in creating buy-in from the county governments in the implementation of the potato policy. In support to county-level implementation of the potato regulation, more focus could be placed on stakeholder action learning to seek solutions for effective road-side control of potato regulation compliance without provoking corruption;

appropriate packaging acceptable to all market actors; and effective private and cooperative potato bulking systems. A point of attention is to ensure close collaboration between NPCK and the AgCK. Continued modest funding to the NPCK would have been desirable to facilitate this.

The experience gained from the domestication of the potato policy will be valuable for AGRA's future strategy to realise agricultural sector change through policy and state capability improvement. A good documentation of lessons learned will be important to feed into the design of future policy domestication efforts.

TechnoServe and NPCK interventions have previously worked on training potato producers. What is required next is a scalable model of cost-effective training of smallholder farmers on intensification of potato production.

A shortcoming of the investments in potato sector change is the short duration of grants, which means that the achievements by TechnoServe cannot be harnessed, documented and replicated. Similarly, the NPCK cannot continue to pursue its seemingly effective efforts at the same level of intensity. It is understandable, however, that AGRA has to make choices in what to fund, as its Partnership for Inclusive Agricultural Transformation in Africa (PIATA) resources available for grants in Kenya are limited.

Regarding the bean market system, AGRA's investments have resulted in isolated farmers seeing the business case for more intensive bean production. Selected aggregators in Kenya have professionalised their enterprises and are connected effectively to Ugandan aggregators. To realise systemic change of the local bean market and achieve lasting impact, however, the development effort is not substantial enough.

Policy and state capability

System change needs

GoK's commitment to agricultural development is high, and a clear sector transformation policy has been published with AGRA's support. The GoK is committed to the Comprehensive Africa Agriculture Development Programme (CAADP), and aware of the importance of monitoring progress towards its agricultural sector growth objectives. What is lacking, however, is a harmonised monitoring and evaluation (M&E) methodology for monitoring change at the county level, and implementation at the national level. The coordination of sector transformation is poor. The Agricultural Sector Coordination Unit (ASCU), has been dismantled. New coordination mechanisms are being developed.

A major constraint is the implementation of agricultural policy and the delivery of services by the government, especially after devolvement of power from national to county level. Only few county governments are actively driving sector transformation. The significant expertise at both county and national level in agricultural development is sub-optimally applied. Short-term political interests, rather than longer-term sector transformation objectives are driving budget allocation at both national and county levels. On the other hand, some counties demonstrate that local government can effectively steer agricultural transformation and private sector engagement, with efforts significantly improved since 2009.

AGRA objectives and activities

AGRA is aligning its change ambitions squarely with the strategic choices made by the GoK. AGRA is focusing on maintaining political commitment at the current high level, and further increasing buy-in from the higher political level into the Sector Transformation and Growth Strategy (ASTGS). AGRA is also aiming to encourage better use of government resources allocated to agricultural development.

AGRA is committed to supporting implementation of the ASTGS. AGRA is also assisting the Ministry of Agriculture, Livestock and Fisheries (MoALF) by offering small grants and technical assistance to finalise pending policy and regulatory reforms on: i) warehouse receipt systems (WRS); ii) the seed sector; iii) fertiliser; iv) mechanisation; v) irrigation; vi) crop insurance; vii) the potato sector; and viii) strategic food reserves. AGRA further offers support to MoALF in the establishment of an M&E framework to monitor progress of ASTGS implementation and agricultural sector performance, which builds up from county to national level, and feeds into the national biennial CAADP reporting.

Early results and analysis

AGRA's efforts to improve Kenya's agricultural policy and state capability are well received and on track. Through its unique role in offering support to national-level policy development, AGRA manages to have significant influence on agricultural sector development in the country, with modest resources. AGRA has managed to have good relationships up to the highest decision-making levels in the country. As a result, AGRA has developed a unique position of close advisor, offering well received and appreciated support to the GoK. AGRA offers tailored and responsive support to the MoALF, allowing the ministry to improve its performance in spite of its internal administrative weaknesses. AGRA is providing valuable insight to the ministry of agriculture, thus contributing to its performance and capacity. Capacity building is done on-the-job, by tackling policy constraints and building coordination and reporting systems.

Using the CAADP process as a structure on which to build its support, AGRA ensures its policy work resonates at the high level. AGRA supports development of the M&E and performance measurement system, up to county level, to be able to respond to CAADP accountability demands.

AGRA's impact can be highly significant if its support contributes to improving a culture of professional and evidence-based decision-making within GoK's system, its Ministry of Agriculture and the county governments. A major constraint is political opportunism in budget allocation decisions at the national and devolved government level, leaving no funding for longer-term agricultural development. AGRA is well positioned to contribute to change in the culture of investment decision-making, and its impact will be significant. Documentation and learning from the approach used in Kenya for annual outcome monitoring is highly recommended to ensure its continuation.

The devolvement of government has significantly weakened implementation power in agricultural development. To realise agricultural transformation at the grassroots, focus mainly at the national level will not realise change. In this light, implementation of the potato policy at county level will be a highly relevant experience to inform future investment decisions by AGRA. The documentation of lessons learned is of high interest.

A point of attention is to guard against a tendency to try to document everything in policies as a solution for sector transformation. Many components of the agriculture sector may not benefit from policy and regulation, but from collaborative learning and behaviour change by sector actors.

1.3 SME performance

To assess the changes in performance of SMEs benefitting from the AGRA-PIATA programme, a rapid survey instrument has been designed, and baseline data collection was implemented. Sampling was done randomly from a list of SMEs provided by AGRA. In Kenya, 46 SMEs participated in the survey – three commercial seed producers, three seed companies, four input companies, 12 input supply/agro-dealers and 24 agri-value chain actors (processors and aggregators).

The SMEs were scored, based on interviews, on their business resilience, financial stability, human capital and investments in research and development (R&D) and equipment. The current scores can be compared with scores in two years to monitor SME performance progress over time.

2 Objectives and scope of the report

The Royal Tropical Institute (KIT) was contracted by AGRA to implement annual outcome monitoring of its activities under PIATA 2017-2021. The annual outcome surveys have three different, interrelated objectives:

1. Understand AGRA's progress towards desired outcomes, both for internal and external reporting;
 - a. Elicit data and insight into the effect of AGRA interventions on its beneficiaries
 - b. Provide insight into sustainable improvement of the performance of agricultural sector support systems
2. Learn about the performance of AGRA interventions to allow for intelligent evidence-based adaptation of implementation;
3. Document lessons learned for improved design of future AGRA, but also external, interventions.

In Kenya, the AGRA programme has few activities that have a direct impact at producer level, and it was decided to focus data collection on the qualitative assessment of progress towards the programme's system change objectives. The Kenya team consisted of:

- An international expert in qualitative data collection in agriculture;
- A national expert in qualitative data collection in agriculture;
- A national private sector development expert.

AGRA Kenya selected market systems and policy and state capability as the systems to monitor in 2019. This report describes the qualitative data collection and results for these two systems, as well as the results of the SME survey. Within market systems, the focus was placed on the potato market system and the beans market system.

Primary data was collected by the qualitative team in Kenya during 3-15 November, 2019. Key informant interviews (KIIs) were carried out to collect information on systemic constraints experienced by agricultural sector stakeholders, and to understand the choices made and approach applied by AGRA to contribute to system change.

For the outcome monitoring in Kenya, it was decided to only focus on system change monitoring. The volume of grassroots activities by AGRA in Kenya, which directly aim at increasing productivity among farming households, is limited. Therefore, it was considered less useful to implement household surveys to assess changes in behaviour, yields and income at the household level, as impact on these indicators will be indirect and hard to measure and attribute. Only system change was monitored, as well as the performance of a selection of SMEs benefitting from the AGRA programme.

SME surveys were administered to 46 selected companies and businesses linked to AGRA interventions.

AGRA Kenya made available country programme roadmaps and information related to issued and planned grants. Secondary data and online reports completed the data sources.

This report should be read keeping in mind the limitations of the study. The SME performance survey was designed for rapid and cost-effective data collection. The system analysis was limited to two systems, and field data collection was limited to one week per system. The report results should thus be interpreted with caution. The SME performance measurement will serve as a baseline for measuring change over time. The system change studies have made an effort to place the entirety of AGRA's investments in the country, and the subsequent impacts on the local system, in context. However, the field work could only cover a portion of AGRA's intervention portfolio because of limited time.

3 Introduction system analysis

3.1 Agricultural policy context

GoK recognises the importance of agriculture as the bedrock of its economy, and places agricultural development central in its national development agenda. Kenya's Vision 2030 focuses on agricultural development as one of the six key sectors to drive in achieving its target of 10% annual economic growth.

In 2019, the ASTGS was published (MoALF, 2019), which stipulates the strategy that Kenya intends to implement to transform its agricultural sector over the next 10 years. The ASTGS prioritises three anchors to drive the 10-year transformation:

- Anchor 1: Increase small-scale farmer, pastoralist and fisherfolk incomes:
 - Raise average annual small-scale farmer incomes by ~40% from Kenyan shilling (KSh) 465/day to 625/day
 - Directly benefit ~3.3 million Kenyan farming households
- Anchor 2: Increase agricultural output and value addition;
 - Expand agricultural Gross Domestic Product (GDP) from KSh2.9 trillion to KSh3.9 trillion
 - Grow contribution of agro-processing to GDP by KSh130 billion over five years
- Anchor 3: Increase household food resilience;
 - Reduce the number of food-insecure Kenyans in the arid and semi-arid land regions from 2.7 million per year on average to zero, while reducing the cost of food and improving nutrition.

AGRA has been a lead partner to the Ministry of Agriculture in the development of the ASTGS.

3.2 AGRA objectives and activities

AGRA aims to catalyse and sustain inclusive agricultural transformation in Africa by increasing incomes and improving food security for 30 million farming households in 11 focus countries. Since 2006, AGRA and its partners have worked across Africa to deliver solutions to smallholder farmers and local African agriculture enterprises. The alliance has invested in the systems and tools for Africa's agriculture: high quality seeds, better soil health, access to markets and credit, and coupled by stronger farmer organisations and agriculture policies.

AGRA is an African-led alliance focused on reorienting subsistence-based farming into thriving businesses. It was established to catalyse the transformation of smallholder agriculture into a highly productive, efficient, sustainable and competitive system, while also protecting the natural resource base on which agriculture depends. As a sector that employs the majority of Africa's people, nearly all of them small-scale farmers, AGRA recognises that developing smallholder agriculture into a productive, efficient, and sustainable system is essential to ensuring food security, lifting millions out of poverty, and driving equitable growth across the continent.

AGRA in Kenya, 2007-2016

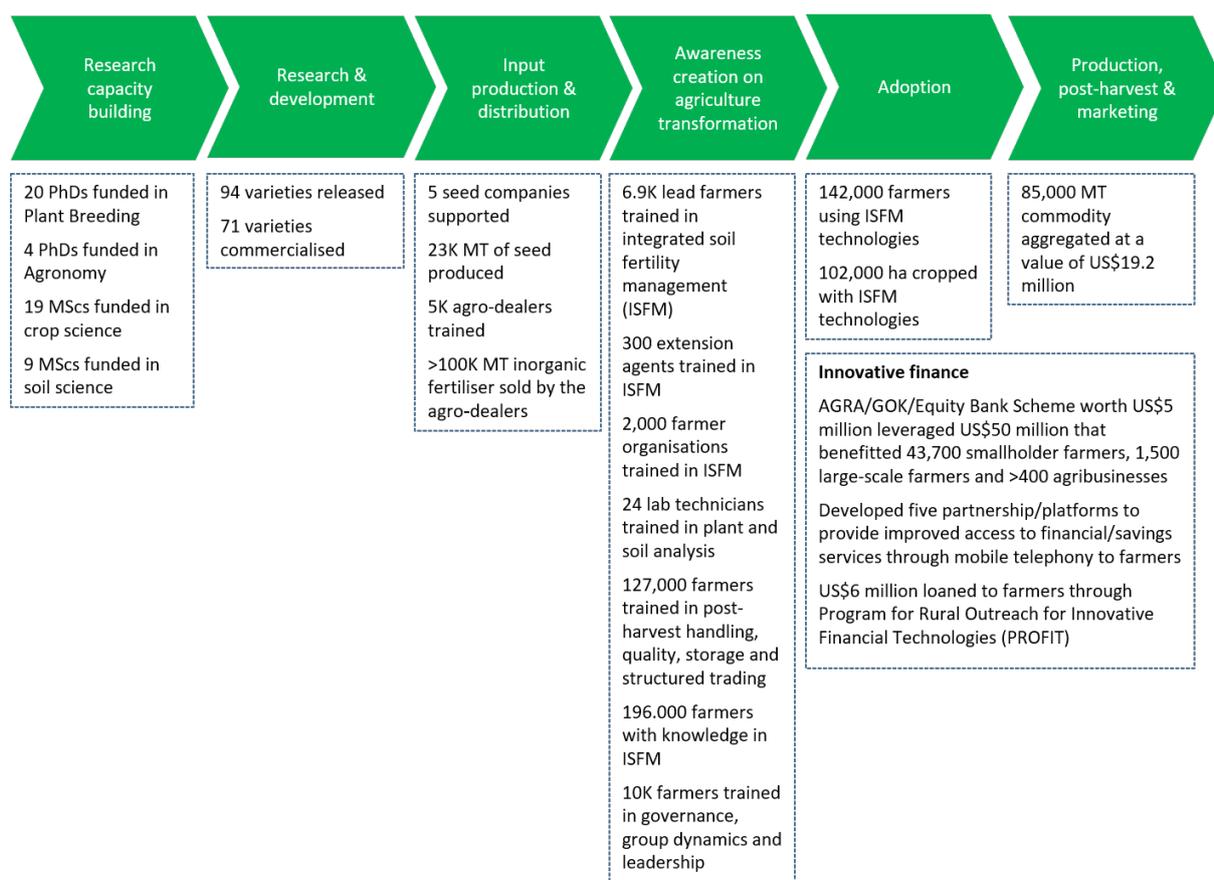


Figure 1: AGRA investments and results over the period 2007-2016

From 2007 to 2016, AGRA's investments in Kenya have mainly been focused on seed sector development and post-harvest handling and marketing. In addition, soil fertility management by producers, and assuring supply of agro-chemicals through well-trained agro-dealers was part of AGRA's intervention portfolio in Kenya. Through innovative finance, the AGRA programme facilitated access to finance for producers to enable them to invest in the intensification of their production.

AGRA country strategy 2017-2021

The 2017-2021 AGRA strategy is placing stronger emphasis on support to GoK in achieving its objectives in the agricultural sector. AGRA is also aiming to leverage funding for the agenda to promote market-driven agricultural intensification. The AGRA strategy in Kenya aims at improving smallholder productivity and incomes, enhancing efficiency in large-scale production, and reducing the cost of food for Kenyan consumers.

The AGRA approach in Kenya focuses on country support and policy engagement, while also investing in agricultural value chains and market system development. Particular focus is being placed on the potato, pulses and sorghum value chains.

4 Potato market system performance

Market system performance was chosen as an area to focus on for the annual outcome survey in Kenya. Considering the project portfolio of AGRA Kenya, the potato market system was selected. In addition, data was collected on bean market system performance. This chapter will focus on the former; chapter 5 will address the latter.

4.1 System performance

Changes in system performance over the last 10 years

To assess current system performance, a half-day workshop was held with potato sector experts involved in the implementation of AGRA-funded interventions. The current performance of the sector was assessed by making a timeline of the important changes in sector performance over the last 10 years (Table 1).

The performance of the sector has changed significantly over the last 10 years. Potato productivity has increased as a result of the use of more high-quality seed potatoes, combined with better agricultural practices. In potato trade, few changes have been observed other than a gradual increase in prices, which has been providing producers with the incentive to intensify their production. The processing market has developed. In 2009, for example, there were only a few processors producing crisps but their numbers have increased, and ready-cut vacuum-packed chips are gathering momentum in the market.

Chain support services have also improved over the last 10 years. Notable change was mentioned regarding seed potato supply. A number of private seed potato companies have started investing in commercial seed potato production, following the pioneering Kisima Farm. In addition, the Agricultural Development Company (ADC) in Molo is currently producing seed potatoes commercially, after not having done so in meaningful volumes since the end of the 90s. In addition, the number of varieties commercially multiplied has increased, resulting in more choice for producers. At the same time, the sector preference is dominated by a single variety, Shangi. Recent developments are the training of accredited decentralised seed inspectors, and a renewed debate about the possibility of the production and marketing of 'clean seed' – a category of seed potatoes subject to a less stringent certification system.

Agricultural advisory services to potato producers have also changed over the last 10 years. The public extension system has lost much of its implementation opportunities with the devolution of government. Where there was a meagre recurring budget for the district agricultural office to provide advisory services before, since devolution, the budget is decided on at county level, and directly visible investments in local infrastructure and distribution of inputs take priority over investment in capacity building.

Agricultural officers are retiring and are not being replaced. Since 2009, a number of practical field-based farmer training curricula to assist producers in the intensification of their potato production have become available, and are being taught by potato trainers from the public, non-governmental organisation (NGO) and private sector. Extension service providers have diversified, as private service providers are growing in importance (village-

based advisors (VBAs), promoted by Farm Input Promotions – Africa, and advisory services are being offered by input supply companies. Some farmer self-help groups (SHGs) have started paying for services.

In terms of input supply, a major shift has taken place in fertiliser advice, which has gone from diammonium phosphate (DAP) to NPK, as the former was contributing to soil acidification. An NPK fertiliser, which is specifically blended and enriched with micronutrients for potato production, is currently available on the market by Toyota Tsusho Fertiliser Africa. In addition, affordable soil fertility testing has become available through the introduction of soil testing based on photo spectrometry by Soil Cares Ltd., which allows farmers to obtain tailored advice. Recently however, the fertiliser market has been disrupted by the distribution of subsidised DAP and calcium ammonium nitrate fertiliser, creating a disincentive for farmers to use the advised special NPK blend.

In terms of access to credit, there are initial signs of improvement, but seasonal credit is still not accessible to potato farmers. Only those few farmers involved in contract farming arrangements are able to access such credit. Small amounts of credit can now be obtained by building up a credit history through mobile banking, but these amounts are insufficient to fund the costs of potato production. Group-based input credit is available through some Savings and Credit Cooperatives (SACCOs) and micro-finance institutions (MFIs), at a reasonable rate of 7% per six months. The Agricultural Finance Corporation (AFC) is offering a credit product tailored to potato farmers, but this is not well known by customers.

Table 1: Timeline of key potato sector developments, 2009 to present

2009		2014		2019		
Production		Increasing use of high-quality seed	Quality Good agricultural practice (GAP) manuals and training	Public-private-partnerships (PPPs) – organised niche market growth		
Bulking and trade	Extended bag used routinely in trade	Gradually improving prices for potatoes	Progressive reduction of bag size	Emerging organised bulking by SHGs and coops	Trader involvement in reform to regulate trade	Potato regulation published. Implemented (bag size) in six counties
Processing	Few crisp processors, dynamic, competitive market		Modest growth in volume absorbed	New crisp processors	Ready-cut vacuum chips gathering momentum	
Seed	Little certified seed available	Kisima Farm pioneer large-scale seed production	More large private seed potato company investments	PPP project influence	Investment in farmer services by off-takers	Clean seed production emerging
			Increase in no. of smaller producers	Early generation seed (EGS)	ADC investment in satellite	Private accredited inspectors

		under licence by large producers	production investment by GoK (ADC, Kenya Agriculture and Livestock Research Organisation (KALRO))	multiplication centres
		Increase in no. of varieties (Dutch and International Potato Center - CIP)		Apical cuttings piloting
Extension		Devolvement gov't - no more resources for extension	Extension by input suppliers growing (PPP influence)	VBA approach growing
		Quality training curricula for farmers published and used		SHGs and coops start paying for service
			Extension staff retiring	Digital services growing
Input supply	Change in advice from DAP to NPK	Improvements in crop protection	Blended NPK+ for potato by Baraka (AGRA support)	National fertiliser subsidy (DAP and CAN), disturbing market
			Soil testing dry method SoilCares	AAK spray service providers introduced
Financial services	Phone-based financial transactions		Small credit access through mobile phones	Credit in contract farming arrangements
			SACCOs and MFIs provide group-based input credit (7%/6 months)	PROFIT guarantee credit to agriculture SMEs AFC credit product for potato farmers (not well known)
			Input on credit from agro-dealers through group guarantee	

Gaps and opportunities

Table 2 offers insight into the opportunities identified for potato sector development, with intervention prioritisation. Not surprisingly, interventions in the seed potato system are identified as most urgent. In particular, ways to make good-quality seed potatoes locally available, and at a reasonable price, are major challenges. The development of a system of local quality assurance, which is cheaper and more responsive than the current system, is also essential. In addition, efforts to retail seed potatoes more closely to potato producers could assist in increasing the use of quality seed.

Improvement of the bulking and trading of ware potatoes is given the highest priority. Currently, there is renewed momentum in the regulation of the potato bulking and trading system, to which AGRA investments have contributed. Some early success can be observed in counties where AGRA-funded projects are active. The results are however fragile, and require strategic thinking and continued effort. In particular, design errors in the regulation implementation need urgent addressing:

- Roadside control of compliance with the potato trade regulations at checkpoints are highly sensitive to corruption;
- Cess per bag has not been reduced while enforcing a smaller bag size, thus effectively increasing costs;
- Customers want bags in which potatoes are visible, which is realised by filling the bag to the top and leaving it open. This manner of packaging using the standard bag exceeds 50 kg, and is thus against regulation. This requires traders to re-pack for retail and wholesale after reception of produce;
- Standard 50 kg bags are being enforced in six potato-producing counties, but not in potato-consuming counties, resulting in traders having to re-pack.

Other opportunities are identified in the intensification of potato production, input supply, advisory services and access to finance. Lower priority is given to processing sector development, potato retail and consumption, and potato sector governance.

Table 2: Gaps and opportunities in the potato market system

Actors	Strengths	Weaknesses	Root cause of weakness	Opportunities for improvement	Priority for improvement 1 = high, 5 = low)	
Chain actors						
Production	<ul style="list-style-type: none"> • Farmers 	<ul style="list-style-type: none"> • Improvement in yields over the last decade 	<ul style="list-style-type: none"> • Sub-optimal crop husbandry • Relatively low yields 	<ul style="list-style-type: none"> • Poor availability and use of high-quality seed • Sub-optimal soil fertility management • Improper rotation 	<ul style="list-style-type: none"> • Seed access and use, mainstreaming public-private extension efforts, mainstream soil testing, integrated soil management, integrated pest management, post-harvest losses, demonstration of mechanisation, private mechanisation service providers (already starting with the German Development Agency – GIZ) • Training of tractor owners • Aligning production and market demand 	2
Bulking and trade	<ul style="list-style-type: none"> • Brokers, traders, market sellers, transporters, wholesalers 	<ul style="list-style-type: none"> • Potatoes collected from all production areas and traded country-wide 	<ul style="list-style-type: none"> • No buying by the kg • Standards for trade not enforced • No size and quality grading • Cartel(s) in potato wholesale 	<ul style="list-style-type: none"> • No price incentives for grading and sorting • Standards enforced with poor involvement by traders • No country-wide enforcement 	<ul style="list-style-type: none"> • Continue regulation enforcement, learning and adaptation/interpretation (registration of traders, selling by kg), involve potato-consuming counties as well • Pilot different forms of regulated collection centres (coop and private) • Proper potato storage (one-two months, ambient stores), farm level, coop level, trader level, market level) 	1

Processing	<ul style="list-style-type: none"> Several emerging chips processors Crisp processors 	<ul style="list-style-type: none"> Competing entrepreneurs investing in processing and sourcing strategies 	<ul style="list-style-type: none"> Reliable sourcing remains difficult to realise 	<ul style="list-style-type: none"> Misunderstanding between buyers and producers Weak price incentives for farmers Optimal variety unclear 	<ul style="list-style-type: none"> Develop clear price incentives by processors for regular supply by farmers Collaboration between processors and breeders/seed companies to select, with customers, more preferred varieties for processing Improve supply of desired processing varieties Ensure access to seed of processing varieties 	3	
	Retail and consumption	<ul style="list-style-type: none"> Markets, hawkers, roadside sellers, supermarkets 	<ul style="list-style-type: none"> Potatoes widely available in Kenya at affordable prices 	<ul style="list-style-type: none"> Little product differentiation and mediocre quality Data: no good information on market segments Limited awareness of varieties among buyers: educate the client and trader 	<ul style="list-style-type: none"> Largely informal retail system 	<ul style="list-style-type: none"> Traceability of potatoes along the chain (food safety issues), first for vertically integrated chain Educate traders, retailers and customers on variety differentiation 	5
Chain support							
Seed	<ul style="list-style-type: none"> Research Commercial seed companies Medium-scale seed multipliers 	<ul style="list-style-type: none"> Seed availability greatly improved over last decade Supply still inadequate Prices high 	<ul style="list-style-type: none"> Seed potato retailing poor as no fine-grained distribution Few second-tier multipliers 	<ul style="list-style-type: none"> No access to inspection for small multipliers Commercial companies not investing in seed retail 	<ul style="list-style-type: none"> Support seed potato retailing system development Pragmatic cheap field inspection for second tier multipliers Data system for certified seed Further decentralisation of certified and clean seed production 	1	

			<ul style="list-style-type: none"> • Mainstream accredited inspectors • Government support to EGS production • Assure the Kenya Plant Health Inspectorate Service (KEPHIS) is equipped for seed certification • Seed storage facilities 			
Extension	<ul style="list-style-type: none"> • County agricultural departments • Non-governmental organisations 	<ul style="list-style-type: none"> • Price incentives for intensification of production exist • Quality farmer training curricula have become available (CIP, IFDC, SNV, Practical Training Centre, Thika) 	<ul style="list-style-type: none"> • No masterplan to reach a good proportion of Kenyan potato producers • Under-budgeting of large-scale extension efforts; Little faith in effectiveness of farmer training 	<ul style="list-style-type: none"> • Roll out large scale training of farmers by coalition of partners; Further develop PPP extension • Strengthen county extension system • Regulate private sector extension – distinction between marketing and independent advice 	2	
Input supply	<ul style="list-style-type: none"> • Fertiliser producers; agro-chemical companies • Agro-dealers 	<ul style="list-style-type: none"> • Industry investing in farmer training 	<ul style="list-style-type: none"> • Limited scope of training by input suppliers • Imperfect connections between extension and input industry • Simplistic package thinking • Industry lacks focus on access to protection for safe use of pesticides 	<ul style="list-style-type: none"> • Limited pre-competitive collaboration • Affordable quality spray service development 	<ul style="list-style-type: none"> • Link to and co-fund large-scale training (see above) 	2
Financial services	<ul style="list-style-type: none"> • MFIs, banks, SACCOs 	<ul style="list-style-type: none"> • Financial services have become more available 	<ul style="list-style-type: none"> • Seasonal production credit for smallholder potato producers 	<ul style="list-style-type: none"> • Lending without collateral remains problematic • Profitability/ appreciation of the 	<ul style="list-style-type: none"> • Support low-cost input-on-credit schemes for potato producers, without enforcing specific (expensive) packages 	2

remains
unavailable

potato chain is
limited in the
finance sector

- Mainstream good first examples
- Collaborate with finance institutes to facilitate access to credit, first inputs, next labour
- AFC can drive this development more with their potato credit product

Chain governance

Policies

- Implement regulation, learning and adaptation 2
- Implement sector strategy to advocate for resources for implementation
- Assure policies are realistic and fuel sector growth
- Enabling environment for seed companies

Stakeholder collaboration

- More sector coordination needed between interventions; engage development partners and government to avoid continuous learning of the same lessons. Ensure funders follow sector priorities
- Organisation of seed potato sector (Kisima, Agrico, Suera, local multi)
- National government and counties to work together, but also improve quality of farmer and trader involvement for policy domestication and other sector interventions

Source: stakeholder workshop and own analysis

4.2 AGRA change ambitions

Table 3 shows the three potato sector investments made by the AGRA PIATA programme in Kenya. Two investments – to TechnoServe for a potato value chain development programme, and to NPCK to support the implementation of its programme – have ended. The on-going investment is to the AgCK, mainly focusing on the implementation of the 2019 published potato sector regulations. The intended change in the sector through these investments is presented in Table 4. AGRA's ambitions are to address the entire value chain, from improving productivity to enhancing stakeholder collaboration.

Table 3: AGRA's potato sector investments

Grantee/organisation	Total grantee budget (US\$)	Period
TechnoServe	399,601	2017-2018
NPCK	158,064	2017-2018
AgCK	248,465	2018-2020

Table 4: AGRA potato market system development ambitions

Chain component	Envisioned change	AGRA investment	Timing	Scope and scale	Intervention budget (US\$)	Implementing partners	
Production	<ul style="list-style-type: none"> • Training of producers in intensification of production 	<ul style="list-style-type: none"> • NPCK grant • TechnoServe help a few field demos • Farm-2-Market alliance 	<ul style="list-style-type: none"> • 2017-2019 	<ul style="list-style-type: none"> • 6 potato counties 	<ul style="list-style-type: none"> • Overall: 150 NPCK • 400 TechnoServe • 250 AgCK 	<ul style="list-style-type: none"> • AgCK, TechnoServe, NPCK • County governments • Private sector partners • Government extension 	
		<ul style="list-style-type: none"> • Organised aggregation by farmer cooperatives for fresh open market • Vertical integration to improve supply to formal off-takers • Enforcement of marketing regulation 	<ul style="list-style-type: none"> • NPCK grant • TechnoServe grant • AgCK 	<ul style="list-style-type: none"> • 2017-2019 • AgCK 2018-2020 	<ul style="list-style-type: none"> • 6 counties 	<ul style="list-style-type: none"> • See above 	<ul style="list-style-type: none"> • National government (regulation) • See above
		<ul style="list-style-type: none"> • Enforcement of packaging regulation • Registration of traders at county governments • Roadmap to cover the whole regulation implementation 	<ul style="list-style-type: none"> • AgCK • NPCK 				<ul style="list-style-type: none"> • Same as above
Processing	<ul style="list-style-type: none"> • Access to varieties good for processing • Supply systems (vertical integration) 	<ul style="list-style-type: none"> • TechnoServe • NPCK 				<ul style="list-style-type: none"> • Same as above 	
		<ul style="list-style-type: none"> • Selling in designated markets • Promote transactions at markets in kg 	<ul style="list-style-type: none"> • AgCK • NPCK 				<ul style="list-style-type: none"> • County gov'ts
Seed	<ul style="list-style-type: none"> • Improve availability of seed potato to smallholder farmers • Develop pre-ordering and deposit systems for farmer groups and cooperatives • Access to information of where seed is Viazi-soko • 25 seed producers supported (registration and certified production) • Advocacy for access to certification services • Promote seed plot system; promote apical cuttings • Development of farmer clean seed/decentralise quality seed production 	<ul style="list-style-type: none"> • NPCK 					
		<ul style="list-style-type: none"> • NPCK 					
		<ul style="list-style-type: none"> • NPCK 					
		<ul style="list-style-type: none"> • NPCK 					
Extension	<ul style="list-style-type: none"> • Training of extension staff • Training on apical cuttings (seed system) • Facilitate ag. extension exposure to new technology (exchange with partners, viazi-soko system) 	<ul style="list-style-type: none"> • NPCK 					
		<ul style="list-style-type: none"> • NPCK 					
Financial services	<ul style="list-style-type: none"> • Link potato chain actors to financial services providers • Credit and insurance 	<ul style="list-style-type: none"> • Mastercard Foundation 					
		<ul style="list-style-type: none"> • Mastercard Foundation 					

	<ul style="list-style-type: none"> Farmer coops SMEs (off-takers, processors) Input suppliers 	<ul style="list-style-type: none"> International Fund for Agricultural Development (IFAD) Technoserve
Stakeholder collaboration	<ul style="list-style-type: none"> Create alliances of partners for marketing and regulation implementation Work through NPCK to strengthen stakeholder collaboration Link into national and county government strategies and implementation agendas 	<ul style="list-style-type: none"> NPCK
Policy	<ul style="list-style-type: none"> Implementation and enforcement of the Irish Potato Regulations 2019 	<ul style="list-style-type: none"> AgKC NPCK

4.3 AGRA system change results

The TechnoServe-managed project aimed at demonstrating a market system intervention approach that would work for development of the potato value chain. The project aimed to reach 80,000 producers. The main challenge was the length of the project, which was only 18 months, and could therefore only intervene for two seasons. The duration was short to solve the major issue of seed supply. However, the project was effective in engaging private input suppliers and agri-service providers in its efforts to improve sector performance.

TechnoServe's approach was to build on existing dairy farmer hubs that were also producing potatoes. This strategy was chosen because the dairy farmer hubs were already functioning entities of economic collaboration, which would allow for an effective intervention in the short time available. As a result of farmer training on intensification of production, good results were obtained and the producers were motivated to continue. Unfortunately, no second phase followed, as the AGRA-PIATA resources for Kenya interventions are limited. This meant that effective market linkages between the producers and processors, and improving seed potato supply, could not be realised to its potential.

NPCK was supported in the implementation of its programme. The AGRA grant was instrumental in the roll out of its programme, and was used to develop a seed potato pre-ordering and distribution system, and complementary seed potato production business models to improve seed potato availability in the country. In addition, farmer group training on intensification of production was implemented. Finally, county-level potato sector development plans were developed in six counties with the aim of implementing potato sector regulations.

The AgCK is focusing on the implementation of the 2019 potato sector regulations, in the same six potato counties where the NPCK developed county plans.

In terms of results, the following achievements were observed:

- Potato trade governance improved in the targeted counties;
- Collaboration was realised between government institutions at county level;
- There was a renewed momentum for country-wide implementation of potato trade governance;
- Private sector interest in engaging in potato market system-based interventions was demonstrated;
- The NPCK potato sector development agenda was supported, and the Council was strengthened as a result;
- AGRA's investments have contributed to NPCK's efforts to improve seed system performance. In particular, the debate on an alternative quality assurance class other than the current system for certified seed potato, has gained additional momentum;
- The potato project implemented by TechnoServe demonstrated that a market systems approach, involving service providers to the potato sector, could create the right momentum for farmers' intensified production.

4.4 Analysis of AGRA system interventions

Position in the intervention landscape

AGRA is only one of the many public, non-governmental and private actors intervening in the potato sector in Kenya. Table 5 outlines some of the other actors intervening in the sector. This table does not provide the full picture as no comprehensive analysis has been done of past and current interventions in the sector. It also does not show the dynamic nature of the sector, as also many of the public universities are doing potato research and private companies are developing and offering training to smallholder producers.

Table 5: Main actors in the potato sector

Actor	Areas of intervention
KALRO	R&D; basic seed potato production
CIP	Potato research; potato training development
NPCK	Representation of sector actors; multi-stakeholder interaction; policy advocacy; project implementation
SNV	Potato value chain development
GIZ	Potato value chain development; nutrition
IFDC	Potato value chain development; potato storage
Wageningen CDI	Public-private collaboration for variety registration and seed production
KEPHIS	Seed certification body; training of seed producers
Field-based trainers	Training on intensification of potato production; access to inputs
TechnoServe	Potato value chain development
AgCK	Domestication of potato regulation

Relevance

The AGRA potato projects are addressing pertinent issues hampering potato market system performance:

- Seed potato system performance;
- Market system-driven extension to commercial smallholder producers, to assist them in intensification of production;
- Lack of policy implementation at county level.

Expected impact

AGRA has done well by buying into NPCK's existing agenda, which is well aligned with the needs of the sector. AGRA has, as such, strengthened the NPCK, and avoided going too far out of its mandate to implement a grant project.

AGRA has made an additional grant to the AgCK for the domestication, at county level, of the potato policy. The AgCK has been successful in creating buy-in by the county governments in the implementation of the potato policy, which is an important achievement. AGRA has deliberately chosen to support the AgCK due to its track record in this area. A point of attention could be to assure that the NPCK remains committed and collaborates closely with the AgCK. A good collaboration and an agreed division of labour between the two organisations is important for the successful further implementation and necessary adaptation of the potato policy and regulations. In that regard, continued modest funding for the NPCK would have been desirable.

In support of implementation of the potato regulation, more focus could be placed on stakeholder action learning and assuring their quality participation in implementation. The potato policy has, as any policy, elements that are doubtful in terms of practicability and benefit to the sector. Implementation of the policy thus requires further piloting and learning, as an integral part of the domestication of the regulation. The following topics in particular require further piloting and learning:

- Effective road-side control of appropriate potato packaging, without provoking corruption;
- Appropriate packaging acceptable to all market actors;
- Piloting private and cooperative potato bulking systems.

The realised, expected, and potential impact of the funded programmes per sector component are assessed follows.

Production

Intensification of production remains a major opportunity, as yields are still relatively low and the market prices are remunerative. TechnoServe and NPCK were effectively supporting the implementation of farmer training to support intensification. This was seen in particular through TechnoServe's market systems approach involving input suppliers, but also through investing grant money into farmer group training, which could yield significant results if implemented at scale.

Bulking and trade

The potato policy is stipulating a mandatory use of rural collection systems. It is doubtful whether this is a realistic option, and if/how it can be more efficient than the current spot market system that drives the sector. In particular, the cash-in-hand payment system, and even advance payments before harvesting, are features of the current spot market system, which are much appreciated by smallholder producers. At the same time, the spot market system does have disadvantages in terms of the unequal negotiation position of farmers. Also, for traders it is not very efficient, as filling a truck by going from farm to farm takes time, compared to filling a truck once at a collection centre. The piloting of different types of collection centres or systems is merited and would be a next step in the development of the sector. Options are contract farming, cooperative collection centres and trader-run collection centres. However, obligatory use of such collection centres by traders or producers – before they have been tested for their added-value over the current well-functioning spot market system – threatens to harm the sector rather than support its development.

Processing

Potato processing opportunities have grown over the last 10 years in Kenya. The main development being that vacuum packed pre-cut and pre-fried chips are being processed and distributed to fast-food restaurants. This is a major development, which is likely to grow and replace the system where restaurants buy, peel and fry fresh potatoes.

TechnoServe's market research, as funded by AGRA, is confirming this development opportunity. If and how this will benefit potato producers remains in question, as it does not increase the volume of produce needed. A sure market through contract farming would be an obvious benefit. Currently processors are not paying price premiums compared to the spot market, which results in poor supply loyalty of producers to processors. Possibly over time, processors will realise that modest price premiums are needed to improve their supply security. Market-led interventions, such as the example implemented by TechnoServe, can assist in accelerating the development of effective relationships between potato producers and processors.

Retail

The current interventions have not tackled potato retail. A minimum intervention would be to assess the urban consumption market for simple, graded, packaged and branded fresh potatoes.

Seed

The availability and use of quality seed potato is the main bottleneck for intensification of potato production by smallholder producers. The AGRA interventions have not just focused on seed potato production, but have looked broader and piloted farmer group pre-ordering of seed potato on credit. Decentralised production and quality assurance have been placed, again, on the agenda of the NPCK. Continued efforts in this direction are required to trigger potato market system change.

Extension

The TechnoServe and NPCK interventions have delivered capacity building training to potato producers. What is required for system change, however, is a scalable model of potato production. Most important is cost-effectiveness of farmer group training to allow for joint bearing of the costs by farmers and input dealers, possibly subsidised by the public or development programme resources. TechnoServe has touched upon this, but has not been offered the opportunity to scale its intervention, as the project effectively only lasted 18 months.

Financial services

The TechnoServe project has worked on input supply on credit through established dairy hubs. There remains a need for increased access to credit as potato is investment intensive, and the issue has not been addressed yet enough.

Stakeholder collaboration

NPCK aims to organise the sector in Kenya. Granting a project to the NPCK, which squarely aligned with their own agenda, was a good choice by AGRA. The support to NPCK has strengthened the clout of the organisation, and appreciation by its members. Stimulating

collaboration between local government actors and law enforcement at the county level has ensured new momentum in the enforcement of the potato policy. Care has to be taken however to guarantee that involvement of the police will not turn out to be detrimental for the sector, increasing inefficiency and costs of potato trade as a result of corruption by officers with the mandate to control potato regulation compliance.

Policy

As mentioned, renewed momentum for potato policy implementation is an important result of the AGRA-funded interventions. The next challenge will be to ensure that the policies and regulation get adapted rapidly, to address flaws that surface during implementation. Any regulation that is not considered constructive by essential market system stakeholders will not be sustainable. In particular, the potato traders have not been listened to well enough regarding their objections to some elements of the policy. The reduction of the bag size to maximum 50 kg has not been accompanied by a proportional reduction in cess (local tax) per bag. Also, the bags do not take into consideration the customer desire to see the potatoes before buying, they are designed to hold 50 kg when closed, while customers prefer packaging with an open top, showing the content. Other elements in the policy, such as minimum product standards and obligatory trading through collection points, seem unrealistic and need to be piloted before enforcing implementation.

Sustainability

AGRA has chosen to push for policy domestication, rather than a continued policy battle at national level. This is a pragmatic choice to steer for real sector change. Importantly, AGRA's investments focus on buy-in by different sector stakeholders, including the county-level government structures, often by passed by development initiatives. At the same time, as mentioned above, additional stakeholder experimenting and learning needs to accompany this approach to assure sustainability of the new regulations. For instance, the current regulation does hold elements that are not practicable for potato traders.

The experience of domesticating the potato policy will be valuable for AGRA's future strategy of realising agricultural sector change through policy and state capability improvement. Good documentation of the lessons learned in the process will be important to feed into the design of future policy domestication efforts.

A shortcoming of the investments in potato sector change is the short duration of grants, which means TechnoServe's achievements cannot be harnessed, documented and replicated. Similarly, the NPCK cannot continue to pursue its seemingly effective efforts in the same intensity. It is understandable, however, that AGRA has to make choices in what to fund, as the AGRA-PIATA resources available for grants in Kenya are limited.

5 Beans market system performance

5.1 System performance

Besides the potato market system, the beans market system was also studied as a secondary crop. The scope of the study of the bean market system was limited, as the team could only visit the bean-related work implemented around Eldoret by the REACTS-II project, while additional investments are made in bean sector development in Western Kenya by the SLM project.

The current bean market system relies on farmers taking their produce piecemeal to the market; bean traders seeking for beans in village markets; and haphazard farm-gate collection efforts. The collection is however unreliable for producers. At consumption level, for a long time, beans have not been considered a high-value product and as a result, the crop is not (yet) recognised as a cash crop. Availability of quality seed is haphazard, and the variety choice limited, forcing farmers to opt for recycling seed.

Table 6 shows the gaps and opportunities observed in the bean market system, based on the results of the rapid assessment. The main opportunities for improvement were identified in the bean production and trading system. The combination of sub-optimal production and a lack of an effective bulking system in Kenya mean that beans imported from Uganda are the cheaper, higher-quality and more convenient option for larger scale traders. To improve productivity, farmer training in GAP is needed. To interest larger scale buyers to buy Kenyan beans throughout the year, a functioning bean bulking system needs to be developed.

Table 6: Gaps and opportunities in the beans market system

	Actors	Strengths	Weaknesses	Root cause of weakness	Opportunities for improvement	Priority for improvement 1 = high, 5 = low)
Chain actors						
Production	Farmers	<ul style="list-style-type: none"> Production for home consumption and the market Growing willingness to invest Use of hermetic bags popular among farmers 	<ul style="list-style-type: none"> Higher production costs than in Uganda 	<ul style="list-style-type: none"> Fewer beans producers at smaller scale Sub-optimal crop husbandry 	<ul style="list-style-type: none"> Integrated pest management, use of improved varieties, GAP, rotation, soil fertility management 	2
Bulking and trade	Middlemen, traders	<ul style="list-style-type: none"> Willingness to buy all types of beans 	<ul style="list-style-type: none"> No reliable collection system Mixing of varieties at farmer level Buying in Uganda remains attractive 	<ul style="list-style-type: none"> No bulking at farmer level No price incentives for quality No efforts to organise buying in Kenya 	<ul style="list-style-type: none"> Farmer collection centres to attract buyers Grading at farm level to serve specific institutional buyers Price incentives for farmers for specific desired varieties and quality 	1
Processing	Restaurants			<ul style="list-style-type: none"> Small component of the market 	<ul style="list-style-type: none"> None in particular, current market systems serve restaurants well enough Study Kenyan market for canned pre-cooked beans 	5
Retail and consumption	Roadside sellers	<ul style="list-style-type: none"> Collection, wholesale and retail 	<ul style="list-style-type: none"> No packaging and branding for high-end market 	<ul style="list-style-type: none"> Undeveloped market; demand unknown 	<ul style="list-style-type: none"> Branding and packaging quality beans for formal retailing market (supermarkets) and the institutional 	3

- done by the same traders
- Women-owned businesses
- Beans seen as 'poor-mans' food'
- market (schools, projects, programmes)
- Promotion of beans as a nutritious food

Chain support

Seed	Farmers, seed companies, agro-dealers	<ul style="list-style-type: none"> Packaged bean seeds available 	<ul style="list-style-type: none"> Supply and quality unstable 	<ul style="list-style-type: none"> Yield benefit of quality seed not very pronounced Poor business case for bean seed Variety choice of seed companies does not matching demand 	<ul style="list-style-type: none"> Better data on yield advantage quality seed Better understanding among seed companies of desired varieties 	2
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Extension	Public, private and NGO advisory services	<ul style="list-style-type: none"> Increasing interest in lending to agriculture 	<ul style="list-style-type: none"> Limited focus on market aspects 	<ul style="list-style-type: none"> Beans seen and treated as subsistence crop 	<ul style="list-style-type: none"> Support bean producers to better understand, respond and connect to emerging food markets Assure pragmatic best-bet soil fertility management advice is available for bean production 	2
Financial services	Banks, MFIs	<ul style="list-style-type: none"> Lending to traders very limited Seasonal credit to farmers still poorly available 	<ul style="list-style-type: none"> Poor understanding of risks in bean production and trade 	<ul style="list-style-type: none"> Build client relationships with bean traders with supply contracts (value chain finance) Develop seasonal input credit products for smallholder producers with agro-dealers 		

Chain governance

Stakeholder collaboration	Bean chain actors	<ul style="list-style-type: none"> Beans from Uganda cheaper to 	<ul style="list-style-type: none"> Sector not organised 	<ul style="list-style-type: none"> Support development of reliable bean bulking, sorting and collection practices 		
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import compared to domestic supply

- Trade not organised

Source: own analysis

5.2 AGRA change ambition

AGRA's grant investment in Kenya has been directed through the REACTS II project, which focuses on local, national and regional market development for a number of crops, including beans. In addition, the AGRA-funded SLM project in Western Kenya is also having an impact on the bean sector. The information obtained on this project is limited however, and specific components focussing on bean value chain improvement could not be distilled. As a result, the change ambition presented only covers part of AGRA's ambitions.

Through the REACTS II project, selected bean and maize aggregators are supported to improve their sourcing, by combined local and regional sourcing. At the same time, local production and trade is being stimulated through farmer business schools, in which bean producers get better insight into the costs and benefits of the crop. Seed production was stimulated through brokering collaboration between the Egerton University seed unit and bean producers. Farmers were trained as bean seed producers, with the objective to become out-growers for the Egerton seed unit.

Table 7: AGRA bean value chain development ambitions

Chain component	Envisioned change	AGRA investment	Timing	Scope and scale	Intervention budget (US\$)	Implementing partners
Production	<ul style="list-style-type: none"> Improved productivity 	<ul style="list-style-type: none"> Training of bean and bean seed producers 	2018-2021	<ul style="list-style-type: none"> Kenya, Rwanda, Uganda, 100,000 direct, 200,000 indirect farmer beneficiaries 	<ul style="list-style-type: none"> 1.4 M 	<ul style="list-style-type: none"> Kilimo Trust
Trade	<ul style="list-style-type: none"> Support Kenyan aggregators in their sourcing and marketing Linking Kenyan bean traders to Ugandan farmers who aggregate produce 					
Seed	<ul style="list-style-type: none"> Support development of commercial bean seed production 			<ul style="list-style-type: none"> Eldoret, Njoro 		<ul style="list-style-type: none"> Egerton University, Kilimo Trust, county

Extension	<ul style="list-style-type: none"> Farmer business schools; farmer GAP training 		
Financial services	<ul style="list-style-type: none"> Broker between bean aggregators, producers and financial service providers 	<ul style="list-style-type: none"> Mastercard Foundation IFAD TechnoServe 	<ul style="list-style-type: none"> Kilimo Trust
Stakeholder collaboration	<ul style="list-style-type: none"> Promote linkages between aggregators and local and regional producers 		
Policy	<ul style="list-style-type: none"> Monitor and debate regional trade bottlenecks 		<ul style="list-style-type: none"> Kilimo Trust

5.3 AGRA system change results

A number of early results can be observed:

- Isolated farmers are seeing the business case for beans;
- Selected Kenyan aggregators have been connected effectively to aggregators in Uganda (through current and earlier initiatives by Kilimo Trust);
- Selected aggregators in Kenya have professionalised their operations.

5.4 Analysis of AGRA system interventions

Position in the intervention landscape

The role of AGRA in the bean market system is limited. The REACTS-II project is implemented in a number of countries, and focuses specifically on facilitating cross-border trade in food crops, and not specifically on bean market system improvement in Kenya. The SLM project in Western Kenya is focussing on sustainable land use, and thus also does not have an articulated ambition to improve bean market system improvement.

In general, the bean market system receives relatively little attention, as beans are not considered a highly profitable cash crop by farmers or development initiatives, even though they are a major food crop in Kenya. The main entry point for bean interventions is in diet and nutrition improvement, and in particular, the promotion of iron-rich beans.

Relevance

The REACTS-II intervention has correctly identified that the perception of beans as not being a remunerative crop is a major part of the problem in local bean market development. The project has laboured to correct this perception with a number of smallholder producers.

Considering that there is a major problem in competitiveness of Kenyan bean producers compared to Uganda producers, a more comprehensive approach is required to increase production and marketing efficiency of Kenyan beans. This will require more substantial engagement with bean buyers and traders, including the more informal traders, who are supplying the main urban consumption markets.

It has to be noted that this would require additional resources, and logically, is beyond the mandate of the REACTS-II project, which focuses in particular on cross-border trade facilitation.

Expected impact

The regional market perspective of the REACTS-II project is an effective tool to link aggregators from Kenya to Uganda and better enable produce sourcing. The bean producers in Uganda get better access to the Kenya market, and Kenya aggregators outside of the border region get direct access to quality produce. This increased market efficiency will benefit both the final consumer and the aggregators.

Producers can also benefit from the efforts to increase efficiency in the Kenyan bean market, which are stimulating production and aggregation effectivity. The limited engagement by the project with Kenyan bean producers has also effectively promoted commercial bean production as a cash crop, demonstrating that it is possible to professionalise bean production and make it a business.

However, to realise systemic change of the bean market and achieve lasting impact, the local bean market development effort has not been substantial enough. In addition, the market development effort is focused entirely on institutional markets (schools, World Food Programme e.g.), without also addressing local market opportunities, which are suspected to shift larger volumes.

An effort to develop bean seed production as a business for Egerton University's seed unit has not been successful as a result of the unreliable and poor-quality supply of basic bean seed by the seed unit. Also, the business promise behind it is doubtful, as the Egerton seed unit could easily find contract growers closer to their base in Nyoro, which reduces transport costs, and makes regular supervision easier. The Egerton seed unit did not seem to have an ambition to develop a seed marketing system in the Eldoret region.

Sustainability

The intervention in the bean market was too limited to expect system change. The domestic bean market-related activities seemed somewhat scattered and haphazard, and not focused enough on the development of a comprehensive approach that could be scaled. The intervention's collection of activities thus fall short in achieving bean market system change, if that was the aim.

6 Policy and state capability

6.1 System performance

AGRA observes that progress of agricultural transformation has been slow in Africa, in general, because many countries grapple with capacity challenges that hinder their ability to design and implement a transformative agenda (AGRA, 2018). Various other studies confirm the important role of state and political capacity if agricultural transformation is to succeed (Mellor, 2017; Said & Vencatachellum, 2018; Kosec & Resnick, 2019). “If government is not explicit about the importance of agriculture and does not make large expenditure and rapidly build key government institutions to foster agricultural growth, the sector will not grow rapidly and rural poverty levels will decline slightly or not at all” (Mellor, 2017, p. 2).

The following tables have been developed to capture the summary survey findings on policy and state capacity, following the methodology developed by KIT for this purpose. Table 8 presents changes in policy and state capability observed over the last 10 years, based on discussions between AGRA staff and the KIIs. Overall, the performance of the GoK has improved since 2009. Political commitment to develop the agricultural sector is high. Expenditure on agriculture has however not grown significantly. A new clear vision for agricultural transformation has been developed, which gives focus and clarity but still, much policy inconsistency exists. On the other hand, the intention to address these inconsistencies is there at the Ministry of Agriculture and regulatory change is being realised, which provides better opportunities for grain trade by the private sector. At the same time, regulatory or economic incentives for the private sector remain inconsistent and unpredictable.

A major constraint remains in the implementation of agricultural policy and the delivery of services by the government. Counties have the mandate to drive agricultural sector change, but there are few counties where the local government is actually driving sector transformation. The budgets for agricultural extension have dwindled completely since the devolution of government. And whilst significant technical capacities in agriculture exist in Kenya – at both the national and county government level – this expertise is unfortunately used sub-optimally as a consequence of short-term political opportunism, rather than longer-term sector transformation objectives. The upside is that some counties demonstrate that the local government can steer agricultural transformation. Private sector engagement in agricultural transformation has also significantly improved since 2009.

Coordination of the agriculture sector’s transformation is poor. Devolution of government has reduced the influence of the national ministry of agriculture significantly, and the coordination among counties is sub-optimal. The ASCU has been dismantled. On the other hand, new coordination mechanisms are, with the support of AGRA, being developed. Further, policy development of the sector has been participatory, involving development partners and the private sector.

Accountability of the GoK against its sector transformation ambitions has improved. Stakeholder participation in policy development is mandatory. This is being implemented, but mechanically

so, which does not necessarily lead to better policies. Policies are being published and can be found online. The Kenyan government is committed to CAADP, and aware of the importance of monitoring progress towards its sector growth objectives. What is lacking, however, is a harmonized M&E methodology for monitoring change at county and aggregate at national level.

Table 8: Significant changes in policy and state capacity, 2009-2019

Indicators	Score 2009 (1-5) ^a		Score 2019 (1-5)
1. Political commitment			
<ul style="list-style-type: none"> Agricultural transformation is high on political agenda 	3	<ul style="list-style-type: none"> High commitment of GoK Commitment was high already, but has been improving still Challenge remains the difference between political rhetoric and implementation 	3
<ul style="list-style-type: none"> Government expenditures on agriculture (share of agriculture in total expenditure) 	2	<ul style="list-style-type: none"> Not much change 	2
2. Agriculture transformation policies			
<ul style="list-style-type: none"> Clear vision and strategy for agricultural transformation 	3	<ul style="list-style-type: none"> New strategy (ASTGS) is in place, and it is clear. This gives focus and clarity 	4
<ul style="list-style-type: none"> Policy coherence 	1	<ul style="list-style-type: none"> AGRA showing through collaboration with GoK, that inconsistencies can be addressed effectively Intention to address the issue of incoherence is there 	2-3
<ul style="list-style-type: none"> Policy responsiveness 	1	<ul style="list-style-type: none"> GoK is, with AGRA support, willing and acting to address policy issues Example: Potato Regulation, WRS, Irrigation Bill, Data Protection Policy, Dairy Regulations, Crop Regulations, Agriculture and Food Authority Act, Agricultural Subsidy and Strategic Food Reserve 	3
3. Enabling environment			
<ul style="list-style-type: none"> Legal framework for private sector development 	2	<ul style="list-style-type: none"> Great improvement for grains subsector e.g. negotiation of trade deals with private sector in neighbouring countries Marketing for seed potatoes has worsened – only 4% of certified seed is used. SHAVI and Syngenta seed company shops have closed. There is unreasonable regulation on both imported and locally-produced seed 	3
<ul style="list-style-type: none"> Economic or regulatory incentives support private sector development 	2	<ul style="list-style-type: none"> There is inconsistency and unpredictability in private sector development instruments. 	2

		<ul style="list-style-type: none"> Private sector is fragmented, with neither clear voice nor organised advocacy 	
<ul style="list-style-type: none"> Rural infrastructure 	1	<ul style="list-style-type: none"> Rural road conditions improved, but not strategically planned to trigger economic growth Politically-driven rural infrastructure investments Rural infrastructure investments result in selling off land for real estate at the expense of agriculture 	3
4. Implementation and delivery			
<ul style="list-style-type: none"> Organisational structures for policy implementation and service delivery 	2	<ul style="list-style-type: none"> Counties now have opportunities to drive change, but this is only happening in a few counties Allocation of budget for agricultural extension further reduced with establishment of county governments No effective and efficient service delivery structures established Debate on need for coordination and change has taken place 	2
<ul style="list-style-type: none"> Organisational capacity for implementation and service delivery 	2	<ul style="list-style-type: none"> Capacity is there, but is not well facilitated to undertake the duties and responsibilities Agricultural officers retiring without replacement, affecting future capacity for quality of services A few counties are actually driving change, showing good potential 	2
<ul style="list-style-type: none"> Mobilisation/leveraging of private sector and donor investments for implementation and service delivery 	2	<ul style="list-style-type: none"> Private sector is co-funding investments in agriculture Donors are buying into or aligning with government policies Counties are taking up grants, but oversight is still government run. Counties are partners, ideally 	3
5. Coordination			
<ul style="list-style-type: none"> Different government agencies/units at national and local levels coordinate on agricultural transformation 	2	<ul style="list-style-type: none"> ASCU disbanded AGRA is funding inter-ministerial meetings and facilitating discussions on sector transformation There is a joint agricultural sector secretariat and agricultural sector working group 	2
<ul style="list-style-type: none"> Government coordinates with stakeholders, including development partners and the private sector 	2	<ul style="list-style-type: none"> Consultative development of the ASTGS 	3
6. Accountability			
<ul style="list-style-type: none"> Policies on agricultural transformation are developed based on feedback from stakeholders 	2	<ul style="list-style-type: none"> Kenya's Constitution (2010) emphasises public participation Several stakeholder consultative forums established Participation does not lead to better policies 	2

<ul style="list-style-type: none"> • Policies and results on agricultural transformation are published and accessible 2 	<ul style="list-style-type: none"> • Sector actors' engagement is emphasised in the Constitution, and information sharing is a requirement 4
<ul style="list-style-type: none"> • Results-driven M&E of agricultural transformation 1 	<ul style="list-style-type: none"> • Kenya is committed to CAADP 3 • The CAADP result framework emphasises data-based policy planning and implementation • The Kenya Vision 2030 envisages agriculture sector growth of 7% <i>per annum</i> • Interventions for agricultural growth are outlined in the ASTGS • However, there is no harmonised M&E system between the national and county governments to monitor progress. The existing system is generic and not detailed enough for agriculture

^a Performance score: 1 = very poor, 2 = poor, 3 = fair, 4 = good, 5 = very good

Table 9 describes the strengths, weaknesses and opportunities for policy and state capability improvement. Regarding political commitment, the strength lies in the political backing of agricultural sector transformation, which is visible in the 'Big Four' agenda. Through this agenda, GoK publicly shows its commitment to agricultural development through the ASTGS endorsement, the Malabo Declaration commitments and the CAADP Peer Review mechanism that have been embraced. Relationships with international development partners are also strong and constructive.

Weaknesses lie in the consistent limited expenditure of the agricultural total public budget (2-3%), but also in the fact that the sector's development agenda is being steered more by political opportunism than by professionalism or evidence on what works for sustainable transformation. And whilst the ASTGS lays out the path to be taken for agricultural transformation, GoK is steering sector development in an opportunistic manner, seeking to maximise political exposure and mileage, rather than showing true commitment to the implementation of the full strategy. Strategic opportunities are in the advocacy of more evidence-based decision-making, and in supporting the Ministry of Agriculture's experts to put across their professional opinion within GoK and advocate for result-oriented investments for long-term change, rather than for short-term political gain. Additional opportunity is in support to the CAADP process, and monitoring of the associated commitments made by GoK regarding investments in agricultural sector transformation.

In relation to agricultural policies, the main weakness lies in the inconsistency between the large number of policies and regulations governing the agricultural sector. At the same time, there is limited capacity available to address these inconsistencies. Worse, additional policies and regulations are adding to the inconsistencies. Many policy processes stall as a result of lacking capacity within the GoK. An added challenge is the participation of stakeholders in policy development, which often comes too late, making it mechanistic rather than constructive and valuable. Opportunities are in support and capacity building in results-oriented policy development and quality participation of stakeholders.

When assessing the enabling policy environment for private sector investments in agriculture, there is political goodwill, a skilled labour force and associated productivity. Tax rates and administrative burdens are high however, and there is poor contract enforcement and dispute resolution, combined with corruption and insecurity, which makes the business environment uncertain. Cartels create barriers to entry in agricultural sub-sectors. Opportunities exist in evidence-based advocacy for the recognition of agri-businesses as part of the solution to development challenges and the creation of a level playing field between larger firms and micro, small and medium enterprises (MSMEs). This would help to add dynamism and competition to the agricultural sector, and remove barriers for growth of businesses.

Major challenges in creating an enabling policy environment for private sector investments are present in the area of policy implementation and service delivery. The devolution of government has brought budgetary decision-making closer to grassroots, but as it is a politicised process, no use is made of professional expertise on the effective use of available agricultural sector transformation resources. Investments in agricultural sector development, and in particular, in capacity building, get low priority over more visible opportunistic investments such as the distribution of inputs. The limited resources allocated at county level for the agricultural sector do not go into public service delivery. At national level, there is a lack of leadership to realise the cross-ministerial coherence in actions needed to steer effective implementation of agricultural sector transformation. The opportunity for change lies in support to GoK to provide clarity to employees about varying levels of responsibilities, and support to the development of a culture that uses professional expertise and evidence in budget allocation and implementation. An important opportunity for improved implementation and delivery lies in collaboration with the private sector and national and international development partners. Such collaboration in implementation is hampered by the lack of accountability and transparency on government expenditure, and poor M&E by the public institutes.

In general, coordination of agricultural sector policies and interventions show room for improvement. The most important step would be to improve the formality of coordination platforms already in existence to improve their leverage on policies, budget allocation and implementation. Coordination is required within the government itself, but also between agricultural sector stakeholders.

Accountability of GoK for its efforts and achievement in agricultural sector transformation can be improved further. CAADP and the Kenyan Constitution's emphasis on public participation and access to information are practical anchor points for improving accountability. The establishment of a statistics department within the Ministry of Agriculture also offers a core team to collaborate with.

Table 9: Strengths, weaknesses and opportunities in policy and state capability

Dimensions	Actors	Current strengths	Current weaknesses	Root cause of weakness	Strategic opportunities for improvement	Priority for improvement
1. Political commitment						
<ul style="list-style-type: none"> • Agricultural transformation is high on political agenda 	<ul style="list-style-type: none"> • The presidency, cabinet secretaries, principal secretaries, council of governors and the legislators 	<ul style="list-style-type: none"> • High political support from the presidency and the executive. • Agricultural transformation is the basis of the Big Four Agenda of the President • Enthusiasm of the legislature to debate agricultural issues, and to sponsor and advocate for required policy changes 	<ul style="list-style-type: none"> • Limitations in evidence-based policy making, due to poor availability of data • Political rhetoric not followed by political commitment • Corruption and vested interests • Weak rule of law 	<ul style="list-style-type: none"> • Weak institutional capacity 	<ul style="list-style-type: none"> • Support to institutional capacity building • Improving information and data access for evidence-based decision-making • Advocacy to assure political rhetoric is translated into commitment 	<ul style="list-style-type: none"> • Provision of evidence-based decision-making
2. Agriculture transformation policies						
<ul style="list-style-type: none"> • Clear vision and strategy for agricultural transformation 	<ul style="list-style-type: none"> • MoALF, Ministry of Planning, the National Treasury, development 	<ul style="list-style-type: none"> • Wide consultative process thus resulting document acceptable to 	<ul style="list-style-type: none"> • Time given for stakeholder involvement is limited 	<ul style="list-style-type: none"> • There is no policy document guiding the involvement of counties and other 	<ul style="list-style-type: none"> • Guide for stakeholder selection to participate in policy forum with clear 	<ul style="list-style-type: none"> • Policy to guide participant selection to policy development forums

	partners and private sector	<ul style="list-style-type: none"> majority stakeholders Experts to drive the process 	<ul style="list-style-type: none"> Questionable selection of genuine representation of stakeholders 	stakeholders in policy processes	indications of timelines for consultations	
Policy coherence	<ul style="list-style-type: none"> ASTGS is clear and focused High level of policy reform-related activities with low capacity to handle reforms Political opportunism interfering with policy consistency, at national and county level 	<ul style="list-style-type: none"> There are many competing policy, institutional, legislative, regulatory frameworks to govern the operations of the agriculture sector National and county politics favour rhetoric over constructive action 	<ul style="list-style-type: none"> Establishment and maintenance of policy coordination frameworks Stakeholder and expert participation in policy development and implementation 	<ul style="list-style-type: none"> Political accountability at the national and county level Development of overarching agricultural policy that is consistent with the Constitution 		
Policy responsiveness	<ul style="list-style-type: none"> Gok is willing and acting to address policy issues 	<ul style="list-style-type: none"> Lack of broader stakeholder involvement in the policy development process 	<ul style="list-style-type: none"> Vested private interests 	<ul style="list-style-type: none"> Knowledge of importance of agricultural reforms and responsive policies 	<ul style="list-style-type: none"> Broader stakeholder involvement and consultations 	
3. Enabling environment						
Legal framework for private sector development	<ul style="list-style-type: none"> Gok, Kenya private sector alliance and legislature 	<ul style="list-style-type: none"> Availability of experts to drive the process Political goodwill 	<ul style="list-style-type: none"> Tax rates and administration Complicated business registration, licensing and permits Poor contract enforcement and dispute resolution mechanisms 	<ul style="list-style-type: none"> Lack of enabling legislation and regulations supportive of private sector growth 	<ul style="list-style-type: none"> Instruments that give equal opportunities to both large firms and MSMEs to thrive 	<ul style="list-style-type: none"> Private sector development strategy and its implementation plan
Economic or regulatory incentives support private sector development		<ul style="list-style-type: none"> Skilled and well-educated work force High labour productivity 	<ul style="list-style-type: none"> Political uncertainty Corruption Insecurity and safety 	<ul style="list-style-type: none"> Investment requirements and limitations that potentially act as disincentives for foreign investment 	<ul style="list-style-type: none"> Recognition of business as being part of the solution to development economic, social and environmental 	<ul style="list-style-type: none"> Building an efficient agricultural value chain

- Flexible labour laws
 - High consumer population
 - Well-connected cartels that create barrier to entry
- challenges through investments, and implementation of best practices and inclusive and sustainable policies

4. Rural infrastructure

5. Implementation and delivery

<ul style="list-style-type: none"> • Organisational structures for policy implementation and service delivery 	<ul style="list-style-type: none"> • Gok 	<ul style="list-style-type: none"> • Strong staff training and high professionalism at all levels of service 	<ul style="list-style-type: none"> • Lack of review and feedback on performance of established structures • Inadequate financial support to established structures to perform • Agricultural professionals poorly involved in budget decision-making 	<ul style="list-style-type: none"> • Lack of goodwill in establishing effective structures • Political opportunism overriding desire for sector transformation 	<ul style="list-style-type: none"> • Improving operational efficiency by providing clarity to employees at all levels of the government on their duties and responsibility • Development of a culture of using professional expertise and evidence in policy making 	<ul style="list-style-type: none"> • Development of an organisational structure that is aligned to the ASTGS so as to enhance service delivery • Support engagement by agricultural professionals in policy making, budgeting and implementation
<ul style="list-style-type: none"> • Organisational capacity for implementation and service delivery 	<ul style="list-style-type: none"> • Gok 	<ul style="list-style-type: none"> • Skilled and well-educated work force 	<ul style="list-style-type: none"> • Lack of conducive environment for civil servants to perform their duties • Low budgetary allocations to enable good performance 	<ul style="list-style-type: none"> • Poor governance • Lack of coherent, cross-ministerial policies and leadership on agriculture • Weak M&E system of county governments • Sector transformation not a priority at county level 	<ul style="list-style-type: none"> • Undertaking strategic exercises (i.e., priority setting, reform) within agricultural institutions, universities, ministries and departments, and counties 	<ul style="list-style-type: none"> • Establishment of performance teams
<ul style="list-style-type: none"> • Mobilisation/ leveraging of private sector and donor investments for 	<ul style="list-style-type: none"> • Gok and development partners 	<ul style="list-style-type: none"> • Good rapport between the government and 	<ul style="list-style-type: none"> • Misallocation of budgeted funds 	<ul style="list-style-type: none"> • Lack of accountability and transparency on 	<ul style="list-style-type: none"> • Private sector and donor engagement strategy 	<ul style="list-style-type: none"> • Policies for private-sector development, and

implementation and service delivery

- | | | | |
|---|---|------------------------|---------------------|
| development partners | • Lack of proper M&E system and oversight | government expenditure | donor harmonisation |
| • Donors are buying into or aligning with government policies | | | |

6. Coordination

- | | | | | | | | | |
|--|-----------------------------------|---|---------------------------------|--|---------------------|--|---|---|
| • Different government agencies/units at national and local levels coordinate on agricultural transformation | • National and county governments | • AGRA is funding inter-ministerial meetings and facilitating discussions on agricultural sector transformation | • Lack of peer review mechanism | • Mistrust between the national and county governments | • Weak institutions | • Coordination platforms created are not enshrined in law, and are not recognised, meaning they have little leverage | • Strengthening the coordinating agencies | • Recognition of the coordination platforms |
| • Existence of a joint agricultural sector secretariat and agricultural sector working group | | | | | | | | |

- | | | | | | | |
|---|--------------------------------|--|--|---|---|--|
| • Government coordinates with stakeholders, including development partners and the private sector | • Gok and development agencies | • Good relationship among agricultural sector development partners | • Poor coordination among sector players | • Lack of an institution to coordinate efforts across sectors | • Effective and efficient agricultural sector | • Establishment of an institution to coordinate efforts across sectors, including with the private sector, development partners and the government |
|---|--------------------------------|--|--|---|---|--|

7. Accountability

- | | | | | | | | |
|---|--|---|---|---|---|---|--|
| • Policies on agricultural transformation are developed based on feedback from stakeholders | • Gok, development partners and private sector | • Several stakeholder consultative forums established | • Constitution's emphasis on public participation | • Weak stakeholder forum | • Poor strategies for stakeholder engagement and feedback | • Lack of strong stakeholder forums to articulate sector needs and keep government in check | • Emphasis on effective citizenship engagement and public participation |
| • Policies and results on agricultural transformation are published and accessible | • Gok | • Expressed need for information sharing | • Constitution's emphasis on | • Poor communication and information sharing among sector players | • Lack of an appropriate communication strategy | • Improving the level of cooperation and working relationships with all sector players | • Development and implementation of agricultural sector communication strategy |

- access to information
- **Results-driven M&E of agricultural transformation**
 - Gok and development partners
 - Establishment of statistics department in MoALF
 - Willingness to share information among actors
 - Poor sharing of data and information among stakeholders
 - Poor data management and coordination mechanisms
 - Weak M&E systems
 - Lack of an effective M&E system for agriculture sector
 - Policies are monitored based on specific objectives, performance indicators and targets to measure the accomplishment of objectives
 - Support to MoALF to develop M&E framework for the sector

6.2 AGRA system change ambitions

AGRA works with governments to strengthen the agricultural sector through support in the following areas (AGRA, 2018):

- Stimulating strong political will. Under this line of support, AGRA endeavours to help build political will at all levels so that agricultural transformation becomes a demonstrably high priority in the national development agenda;
- Enhancing country visions, sector strategies and/or plans and flagship programmes. This line of support requires AGRA to work with governments and partners to ensure a country has a sector strategy that aligns to its vision, and that has a prioritised and costed investment plan, with flagship programmes to drive sector growth;
- Creating an enabling policy environment. This entails AGRA supporting governments to articulate alternative policy options through cost-benefit analyses of reform strategies, thus making them better placed to assess and approve policy changes based on reliable and relevant evidence;
- Strengthening government capacity for programme implementation and delivery. Under this area, AGRA works with governments to strengthen their capacity and capability to increase service delivery, and execute on commitments made in national sector strategies and investment plans;
- Supporting stronger sector coordination. AGRA works with development partners and other sector stakeholders to strengthen intra and inter-ministerial coordination, as well as strengthening key coordination platforms, such as the donor working groups and the agriculture sector working groups;
- Enhancing accountability mechanisms. Under this component, in collaboration with other in country partners, AGRA works to support governments as they put in place mechanisms and systems to recognise and appreciate the performance of their agricultural sector against key commitments, especially the Malabo Declaration. Based on international best practice publications (e.g., USAID, 2013; Boettinger et al., 2017; 2017; IFPRI, 2019) and AGRA's own resources (AGRA, 2018).

Table 10 shows a list of projects aimed at improving the agricultural policy and state capability in Kenya. Many of the investments are relatively small in nature, supporting the Kenyan Ministry of Agriculture in hosting coordination, learning and policy-making meetings. Much of the activities have been assisted with in-kind support to the Kenyan national government, to support its engagement in international debates and organising national meetings. In addition, AGRA is supporting technical assistance to the Ministry of Agriculture in addressing policy inconsistencies, advising on private sector friendly policies, and ensuring that policies and regulation are aligned with national law.

AGRA is aligning its change ambitions squarely with the strategic choices made by GoK. As such, AGRA's change ambitions cannot be separated from GoK's ambitions. Within the whole spectrum of necessary changes in the agricultural policy, regulatory and public service delivery spectrum, however, AGRA is forced to be selective with its support, as its human and financial resources available for Kenyan support are limited. AGRA has chosen a number of priorities areas, which are shown in Table 10.

Table 10: Country support projects

Organisation name	Project title	Year	Grant amount (US\$)
McKinsey	ASTGS	2018	1,160,000
AGRA-organised meeting	MicroReforms for Agricultural Business planning meeting for Kenya, 3-5 July 2019, Kenya	2019	11,968
Joint Agricultural Sector	Intergovernmental Forum for Agriculture meeting	2019	47,448
The council of governors	Agriculture side event at the 6 th Annual Devolution Conference on 4-7 March, 2019, in Kirinyaga County	2019	30,000
MoALF	ASTGS	2019	50,000
Kenya National Chamber of Commerce and Industry	Technical support in identifying SMEs' challenges and opportunities	2019	86,218
MoALF	CAADP biennial review reporting for Kenya	2019	16,858
Ministry of Agriculture and Kilimo Trust	Meeting support to host the Kenya rice value chain forum meeting	2019	3,055
AGRA-organised meeting	Flagship learning meeting on sharing experiences to strengthen country cooperation	2019	38,515
AGRA-organised meeting	High-level meeting with bankers on WRS regulations and invitation to incorporate stakeholders' views on WRS and Collateral Management Agreement regulations in July 2019, Nairobi, Kenya	2019	2,500
AGRA-organised meeting	Core meeting - agricultural sector transformation and growth strategy prioritisation workshop, Maanzoni, Machakos	2018	14,070
AGRA-organised meeting	Machakos agricultural sector transformation and growth strategy prioritisation workshop, Maanzoni, Machakos	2018	12,022
AGRA-organised meeting	Nyeri agricultural sector transformation and growth strategy prioritisation workshop, Maanzoni, Machakos	2018	25,398
AGRA-organised meeting	Inter-ministerial meeting	2018	1,060
AGRA-organised meeting	MP and senator meeting	2018	2,037
Kenya Private Sector Alliance	2018 speakers' roundtable	2018	50,000
Eastern Africa Grain Council (EAGC)	Capacity building on WRS legislation	2018	83,300
Total			1,634,449
Other category of investment			
AgCK	Domestication of potato sector policy and regulation	2018	248,465

AGRA is focusing on maintaining political commitment at the current high level, and further increasing buy-in of higher-politicians into the ASTGS. Practically, AGRA supports CAADP-related meetings and activities and invests its efforts into high-level advocacy. The advocacy focus is not on increasing budget allocation, but for a better quality use of the resources already being allocated.

Regarding agricultural policies, AGRA has been supporting the development of the ASTGS by providing technical assistance and financial support. In response to the politically-driven Big Four agenda, AGRA has supported the alignment of the strategy. The next ambition of AGRA is to get this strategy into implementation – not the development of new strategies. At a more detailed level, AGRA is assisting MoALF in finalising the priority process of pending policies and regulations. The main objective of AGRA's policy support is to realise a legal framework that facilitates private sector development, but specifically, the priorities are as follows: i) WRS; ii) the seed sector; iii) fertiliser; iv) mechanisation; v) irrigation; vi) crop insurance; vii) the potato sector; and viii) strategic food reserves. AGRA is supporting this by providing grants to different organisations who work on policy reform, and is also funding regulatory impact assessments and legal analyses. A full-time technical assistant is supporting MoALF policy officers in nudging the policy processes forward.

Besides solving policy and regulatory inconsistencies, AGRA is also focusing on piloting, learning and adapting policies and regulations. Considering these are long-term processes, the ambition of AGRA is to see initial application of the WRS regulation, implementation of the potato sector regulation at county level, implementation of the strategic food reserve changes and the introduction and mainstreaming of the e-voucher fertiliser subsidy system, with a clear exit strategy in place.

In relation to the development of a legal framework and incentives for private sector investment, specific points of ambition for AGRA include the movement of government out of procurement and distribution of agricultural goods and services. These are better provided by the private sector – particularly input subsidies which do not disturb the market, but actually involve competing private sector actors, and support market development. A reduction in politically-motivated non-tariff barriers is also an ambition of AGRA. The elimination of regulatory issues discouraging investments by seed potato companies is another aim. A final ambition is realising PPPs investing in larger-scale agriculture, irrigation facilities and mechanisation.

The development of rural infrastructure is not a priority for AGRA, as the scale of investments required is of a different magnitude to the resources AGRA has at its disposal.

To support the implementation of the agricultural strategy, AGRA has supported the establishment of the Agricultural Transformation Office, which it hopes will be fully functional by 2022. In general, AGRA's intervention model is implemented through existing structures. Investments are offering technical assistance, aimed at on-the-job capacity building of MoALF staff. In addition, AGRA is steering on donor and private sector buy-in for the implementation of the agriculture sector transformation strategy. By 2022, funds earmarked for the implementation of ASTGS must have been used effectively and transparently.

In addition to supporting policy implementation at the national level, AGRA is also investing in policy domestication at county level. The grant to the AgCK (discussed also in section 4.2) specifically aims to facilitate implementation of the already endorsed potato policy and its associated regulations at county level.

AGRA is placing emphasis on improving sector coordination, by funding different coordination meetings and fora. By 2022, AGRA aims to have established seven PPPs for agricultural sector development. It would be a desirable development if the sector working groups of the Joint Agricultural Sector Communication and Coordination Mechanism (JASCOM) were fully functional by 2022, but this falls outside of the scope of AGRA's investments and ambitions.

Finally, AGRA support for policy and state capability development does invest in improving accountability of public investment in agricultural sector development. A first ambition is to have had satisfactory and effective stakeholder consultation in the eight policy priorities mentioned above. To realise this, AGRA is supporting consultation workshops at the county level. The second ambition is to assure publication of final products of policy processes in a manner accessible for all stakeholders. The third ambition is the establishment of an M&E framework to monitor progress of the ASTGS's implementation and agricultural sector performance, which builds up from county level to national level, and feeds into national biennial CAADP reporting. To realise this, AGRA is supporting the MoALF with a grant.

Table 11: AGRA's change ambitions in policy and state capability in Kenya

Indicators	AGRA investment	Score 2009	Score 2019	Description of desired performance at the end of PIATA 2022	Score 2022
1. Political commitment					
<ul style="list-style-type: none"> • Agricultural transformation is high on the political agenda 	<ul style="list-style-type: none"> • Funding and provision of technical assistance for biennial scorecards for the agricultural transformation agenda (Malabo Declaration) • AGRA invested time in advocacy with the presidency, cabinet minister and principal secretaries of agricultural departments • Hosted an Agricultural Green Revolution Forum meeting in Kenya • Hosted the Global Open Data in Agriculture and Nutrition Continued support to biennial review process of CAADP 	3	4	<ul style="list-style-type: none"> • Maintain high commitment over elections 	4
	<ul style="list-style-type: none"> • Government to increase total expenditure on agriculture 	<ul style="list-style-type: none"> • Support Gok to revise monitoring framework of agricultural investment at national and county level • Support the African Union's agricultural transformation scorecard development for CAADP • Support CAADP to review and develop new generation of National Agriculture and Investment Plans; support Gok to develop 10-year agricultural investment plan • Advocate for nationwide agricultural subsidy to access inputs through e-vouchers • Support high profile advocates for increased funding to agriculture sector 	2		
2. Agriculture transformation policies					
<ul style="list-style-type: none"> • Clear vision and strategy for agricultural transformation 	<ul style="list-style-type: none"> • Support development of agricultural sector transformation and growth strategy • Align agricultural transformation with the President's Big Four agenda • Support technical advisor to MoALF 	3	4	<ul style="list-style-type: none"> • Much change has happened. The vision and strategy are clear. There is need to move from strategy to implementation 	4
	<ul style="list-style-type: none"> • Policy coherence 	<ul style="list-style-type: none"> • Support Gok to align funders behind government priority agenda • Assist in the development of a well-articulated strategy • Support CAADP biennial review • Capacity building on M&E to counties to assist government in effective reporting 	1		

	<ul style="list-style-type: none"> Liaise with MoALF to identify areas AGRA can support to facilitate change Assist Gok to develop digital agricultural strategy Pick policies that need priority attention to enable the business of agriculture from the Big Four agenda and ASTGS 				
Policy responsiveness	<ul style="list-style-type: none"> Grant to increase awareness on the sector transformation strategy Reform strategic food reserves 	1	3	<ul style="list-style-type: none"> Plotting of the fertiliser subsidy has been done, strategic food reserve changes have been put into motion, WRS policy put into use, potato policy is being implemented. Input subsidy based on e-vouchers to be mainstreamed 	4
3. Enabling environment					
Legal framework for private sector development	<ul style="list-style-type: none"> Focus on input supply (seed and fertiliser) Reform the fertiliser and seed subsidy programme Support development of laws and regulations to allow banks to make warehouse receipts tradeable and regulated Support reform of the National Cereals and Produce Board Support to legal analysis of proposed laws Grant to MoALF – Directorate of Crop Resources, Agribusiness and Market Development to repeal the old Fertiliser and Animal Feeds Act to separate fertiliser from feeds and establish an inspection authority Grants to different organisations to work on policy and regulation reform Capacity building of staff in the Directorate of Agricultural Policy, Research and Regulation through training US\$1.4 M grant approved to the Kenya Institute for Public Policy Research and Analysis to carry out regulatory impact assessment, cost-benefit analysis and legal consistency checks Specific ad-hoc funding for government demands 	2	3	<ul style="list-style-type: none"> Government moving out of procurement of goods and services in agriculture, and leaving it to private sector. The private sector role in inputs subsidy programme has improved Politically-motivated non-tariff barriers have reduced Discouraging regulatory issues for seed potato companies have been eliminated 	3
Economic or regulatory incentives to support private sector development	<ul style="list-style-type: none"> Provided technical assistance to MoALF through a private sector advisor Implementation of PROFIT programme Pushing for the development of an agricultural finance policy 	2	2	<ul style="list-style-type: none"> Ensure that subsidies do not disturb private sector development, but facilitate it Profile opportunities for joint engagement by public and private sector Risk-sharing facility for large-scale agriculture Establishment of agricultural mechanisation fund Establishment of a fund for investment in private large-scale irrigation 	

<ul style="list-style-type: none"> Rural infrastructure 				
4. Implementation and delivery				
<ul style="list-style-type: none"> Organisational structures for policy implementation and service delivery 	<ul style="list-style-type: none"> AGRA picks flagship projects that are key to accelerating economic growth and development to demonstrate impact 	2	3	<ul style="list-style-type: none"> ATO created to coordinate and facilitate implementation of the ASTGS. By 2022, it should be fully functional In general, AGRA intervenes through existing structures
<ul style="list-style-type: none"> Organisational capacity for implementation and service delivery 	<ul style="list-style-type: none"> Provide access to specific technical expertise to assist Gok Support county-level implementation of policies and regulation, with potato policy as a case-in-point 	2	2-3	<ul style="list-style-type: none"> Intervention strategy is to improve capacity in the MoALF at national level. It is expected that the national government will then build county capacity County-level implementation of potato policy and regulation realised
<ul style="list-style-type: none"> Mobilisation/leveraging of private sector and donor investments for implementation and service delivery 	<ul style="list-style-type: none"> Mainly at high level. AGRA assists in developing flagship projects for Gok to float for donor support Provision of technical assistance to Gok, and support matchmaking between Gok priorities and donor investments 	2	3	<ul style="list-style-type: none"> Effective use of donor and private sector funds earmarked for ASTGS implementation
5. Coordination				
<ul style="list-style-type: none"> Different government agencies/units at national and local levels coordinate on agricultural transformation 	<ul style="list-style-type: none"> Funding intergovernmental meetings Support council of governors Financing devolution conference Finance inter-governmental agricultural forum 	2	3	<ul style="list-style-type: none"> Improved functioning of sector working groups of JASCOM
<ul style="list-style-type: none"> Government coordinates with stakeholders, including development partners and the private sector 	<ul style="list-style-type: none"> Develop an institution that coordinates efforts across sectors, including with the private sector, development partners and the government 	2	2	<ul style="list-style-type: none"> Seven PPP deals for sector development agreed
6. Accountability				
<ul style="list-style-type: none"> Policies on agricultural transformation are developed based on feedback from rural stakeholders 	<ul style="list-style-type: none"> Advocacy on taxation Prioritisation workshops at county level, with stakeholders 	2	3	<ul style="list-style-type: none"> Satisfactory stakeholder involvement in finalisation of the policy process in the six areas AGRA works on

<ul style="list-style-type: none"> • Policies and results on agricultural transformation are published and accessible 	<ul style="list-style-type: none"> • Articulation of government strategies • Ensure final products are available and shared with all stakeholders 	2	4	<ul style="list-style-type: none"> • All relevant documents regarding the ASTGS, CAADP, Vision 2030, and the National Constitution available 	4
<ul style="list-style-type: none"> • Results-driven M&E of agricultural transformation 	<ul style="list-style-type: none"> • Support MoALF to develop M&E framework to monitor agricultural strategy implementation. This should build up from county level and feed into the national scorecard (US\$240,000 grant provided) 	1	3	<ul style="list-style-type: none"> • National biennial CAADP reporting fed by county level data collection 	4

6.3 AGRA system change results

Based on the KIIs and the information gathered from AGRA, the efforts to improve the agricultural policy and state capability are well received by stakeholders and are well on track. AGRA does seem to have a good leverage within the Ministry of Agricultural and is able to add significant value with a fairly modest budget. Further documentation and learning from the approach used in Kenya, during continuation of the annual outcome monitoring, is highly recommended.

The specific preliminary results of AGRA's investments in policy and state capability in Kenya cannot be established in enough detail to report on at this stage. Much of the work is on-going. The work of AGRA is hard to isolate from the efforts made by different departments of the MoALF and other relevant ministries at national level. Also, accessing the relevant resource persons in MoALF with best insight into effectiveness of the support provided by AGRA, turned out to be difficult. A systematic assessment of results will follow in two years.

6.4 Analysis of AGRA system interventions

Position in the intervention landscape

In the area of policy support, AGRA appears to play a pivotal role in Kenya. Other development partners investing in agriculture-related policy and state capability are the Danish International Development Agency, FAO, the Swedish International Development Cooperation Authority and USAID, while the World Bank and IFAD are important financiers of GoK investments in agricultural transformation.

The position and approach of AGRA is unique, and is not being played by any other actor. AGRA is not just another funder of GoK's ambitions for agricultural transformation. AGRA is actively partnering in realising the agricultural transformation ambitions of the government, and directly providing expertise embedded within the Ministry of Agriculture, offering hands-on pragmatic support and direct buy-in for the daily required activities of the ministry.

Relevance

The choice for policy and state capability as a focus area in Kenya is an appropriate choice, considering the intervention landscape, and the unique position of AGRA as a close partner to GoK in developing and implementing the ASTGS.

AGRA is using the CAADP process as a structure on which to build its support, which ensures its policy work resonates at a high level. AGRA offers support to GoK to develop its M&E and performance measurement system, up to county level, to be able to respond to CAADP accountability demands. This will contribute to building a comprehensive monitoring and accountability system, allowing performance assessment of the government at national and devolved level, in contributing to agricultural transformation.

The devolvement of government has significantly weakened implementation power in agricultural development. Focusing mainly on national level implementation will not realise

change in agricultural transformation at the grassroots. Significant efforts also need to be provided at the county level. Much of the work supported by AGRA is at national level, while implementation is at county level. In this light, it is relevant that AGRA is funding potato policy implementation at the county level as this will act as a case-in-point to demonstrate the move from policy making to effective implementation. The potato policy implementation work of AGRA is also highly relevant for its future investment decisions, and good documentation of the project's lessons learned is of high interest.

There does seem to be a tendency in Kenya to want to document everything in policies, while there are components of the agricultural sector that may not need policy and regulation. Collaborative learning and behaviour change by sector actors is, at times, more appropriate to achieve change.

Expected impact

Through its unique role in offering support to national level policy development, AGRA manages to have significant influence on agricultural sector development in the country, with modest resources. AGRA has managed to have good relationships up to the highest decision-making levels in the country. As a result, AGRA has developed a unique position of close advisor offering well received and appreciated support by GoK. AGRA offers tailored and responsive support to the MoALF, allowing the ministry to improve its performance in spite of its internal administrative weaknesses.

AGRA is managing to offer support deep into the Ministry of Agriculture, thus contributing to its performance and capacity. Capacity building is done on-the-job, by tackling policy constraints and building coordination and reporting systems.

AGRA's impact can be highly significant if its support contributes to improving a culture of professional and evidence-based decision-making within the Kenyan Government system, its Ministry of Agriculture and the counties. A major constraint is political opportunism at national and devolved government level in budget allocation decisions, leaving no funding for longer-term agricultural development. The professional opinion of experts is not used enough in decision-making, resulting in sub-optimal results from agricultural transformation investments. Addressing the culture of 'fact-free' politically motivated decision-making is a priority concern. AGRA is well positioned to contribute to change in the culture of investment decision-making, and its impact will be significant. A practical challenge for AGRA is that such impact is hard to substantiate and attribute.

Policy coherence is not the only problem, and probably also not the main problem. Policy implementation is an even more serious issue. Even though policy implementation receives attention, the balance is still skewed towards policy and regulation development. To optimise AGRA's impact through improved policy and state capability, further investment in policy implementation and learning from current efforts, is recommended.

Sustainability

Care has to be taken to ensure that stakeholder participation in policymaking is not done mechanistically to tick-off the legal requirement and allow for finalisation of the policy process.

This approach does little for enhancing the practicality of policies as facilitators of agricultural transformation. The quality of stakeholder participation and decision-making is important during policy and regulation development, but also during implementation and adaptation. Careful study of the experiences of the potato policy's domestication at county level will demonstrate the importance of building room in the processes for piloting and adaptation.

7 SME performance

AGRA considers SMEs as important drivers of growth. They account for up to 90% of all businesses in sub-Saharan African markets. In many agricultural commodity value chains, SMEs also take up many of the downstream activities of processing, storage, transportation, wholesale and retail that are necessary to send farmers' produce to the end market.

An important pathway for change of the PIATA programme is supporting the development of SMEs operating in, and providing support services to, agricultural value chains. AGRA works to stimulate both demand and supply sides of technical assistance and financial products for SMEs. Core interventions focus on:

- Identifying high-potential SMEs and supporting them with business and technical advisory services to scale up operations. These advisory services involve a performance-based model, which requires the service providers to produce business plans and achieve results through effective support to SMEs;
- Matching grants for emerging medium-sized aggregation/storage businesses in under-served areas where smallholder farmers are increasing their yields, and marketing greater surpluses;
- Providing access to working capital finance for SMEs;
- AGRA influences the ecosystem within which SMEs operate by supporting the development of business, enabling goods and services such as packaging, commodity handling and processing machinery, as well as payment processing services and market data.

To assess changes in the performance of SMEs benefitting from the AGRA-PIATA programme, a rapid survey instrument has been designed, and baseline data collection was implemented; both are reported on here.

In the design of the monitoring tool, the following needs were taken into consideration:

- A rapid and affordable tool to monitor SME performance;
- A tool which can be tailored to different SMEs, but still allow comparison and use across very different SME types;
- A tool which can be used for different SME, including micro enterprises;
- A tool which can monitor SME performance change of over time;
- A tool which can offer an immediate overview of SME performance;
- A tool which is simple, openly accessible, and can be implemented across countries by enumerators with a reasonable level of education.

To answer to all these demands, KIT has developed a simple SME performance scorecard.

7.1 Methodology

The scorecard for SME performance is based on monitoring four dimensions of performance:

- Business resilience: indicates the ability of the SME to adapt to disruptions while maintaining business operations, employment and asset. Variables used to determine business reliance are:
 - Years in business
 - Number of services offered
 - Diversity of clients
- Financial stability: indicates the financial health and access to financial services of an SME. The variables used to determine financial stability are:
 - Estimated total annual turn-over
 - Proportion of capital need covered with formal credit
 - Capital investments made over the last three years
- Human capital: indicates the education level and gender diversity of the SME workforce. The variables used are:
 - The proportion of staff having received a form of tertiary education
 - The proportion of staff with a permanent contract
 - The proportion of casual workers
 - The proportion of women among staff with a permanent contract
- Technology/assets: indicates the SME assets and investments in R&D. The variables used are:
 - Investments in R&D
 - Value of buildings
 - Value of equipment

For all of the above indicators, four levels are predefined, either numeric or descriptive, representing progression, with one being the lowest score and four the highest. In a way, the highest level represents what could be considered the desired state of the SME for that particular variable. The average of the scores gives the total score for each dimension. Performance scorecards are presented in Annex 2. An overview of all SME indicators and associated descriptive statistics is also presented in Annex 3.

7.2 Sampling

Sampling was carried out among SMEs benefitting from AGRA support only as SMEs not benefitting are not expected to be willing to answer questions about the performance of their enterprise. Also, the objective is monitoring the performance improvement of SMEs receiving support from AGRA, over time.

The targeted sample in each country consisted of:

- 10 commercial seed producers
- Five seed companies
- 10 traders
- 10 processors
- 10 agro-dealers
- Five input supply companies

Sampling was done randomly from a list of SMEs provided by AGRA, which was validated with the local AGRA team. The sample distribution of SME types was only considered a guideline, and adapted based on the investment portfolio of AGRA in each country.

In Kenya, 46 SMEs participated in the survey:

- Three commercial seed producers
- Three seed companies
- 24 agri-value chain actors (processors and aggregators)
- 12 input supply/agro-dealers
- Four input companies

Due to incomplete information in the SME list, it was difficult to distinguish between input supply agro-dealers and input companies. The number of permanent employees was used as the defining factor, i.e., the SMEs with more than three employees have been classified as input companies. More information about the SMEs participating in the interviews is found in Annex 4.

7.3 Performance scorecard

This section summarises the average performance per category of SME sampled in performance dashboards. A colour coding is used to indicate poor performance (red, score 1-2), average performance (orange, score 2-3) and good performance (score 3-4). A similar scoring has been calculated for each separate SME, but this is too much information to present in this report.

The data presented are to be interpreted as a baseline of performance of the selected SMEs benefitting from AGRA interventions.

Seed companies

Three seed companies were sampled in Kenya. The summary results are presented in 2. They received an average score for business resilience, mainly due to the fact that they are young enterprises, having been in business for four years on average (Table 12). The enterprises offer some diversity of products (see Table 19) and serve a considerable diversity of clients (see Table 18).

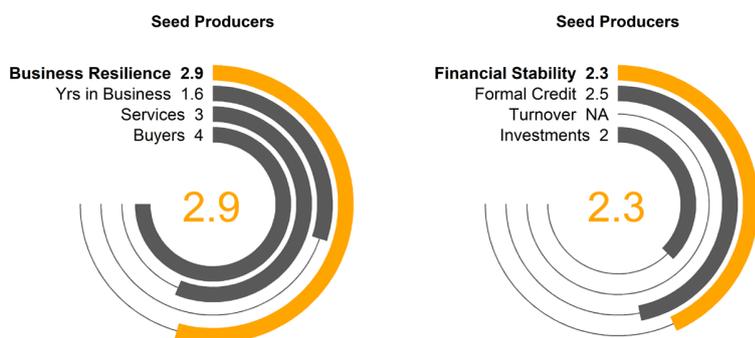
Financial stability of these SMEs appears to be good. The companies have an average annual turnover of around US\$85,140 (Table 13). Formal credit only covers a small proportion of the annual capital needs (Table 21). The SMEs have made considerable investments in the last three years (Table 20). With regard to human capital, the enterprises show a good balance between skilled staff and non-skilled staff. The enterprises have a significant proportion of full-time employed staff, and women represent a good proportion of the work-force. The companies own few assets, and their investments in R&D are limited.



Figure 2: Seed companies' performance scorecard

Seed producers

Three seed producers were interviewed, with the results presented in Figure 3. They received an average score for business resilience, mainly as they have been in business for just five year on average. They offer a number of services to a diversity of client segments. Financial stability is average and offers room for improvement. No estimates of annual turn-over were able to be obtained. Formal credit was used by two out of the three seed producers. All three seed producers owned assets, equipment and had invested in R&D. Data on the composition of their workforce was not obtained.



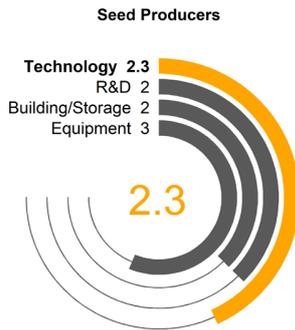


Figure 3: Seed producers' performance scorecard

Input suppliers or agro-dealers

Twelve agro-dealers were sampled. Their business resilience seems weak, mainly as a result of the limited time they have been in business. The diversity of services on offer is average, and the diversification of client segments is good, as all seed producers sell to the four different client segments identified in the scoring system.

The financial stability of these SMEs is relatively weak, mainly owing to low annual turn-over and limited proof of investments made over the last three years. The use of formal credit is also limited. With regard to human capital, it can be concluded that the permanent staff are often skilled. The proportion of women in the labour force is low. Agro-dealers own few assets, and do not invest in R&D.

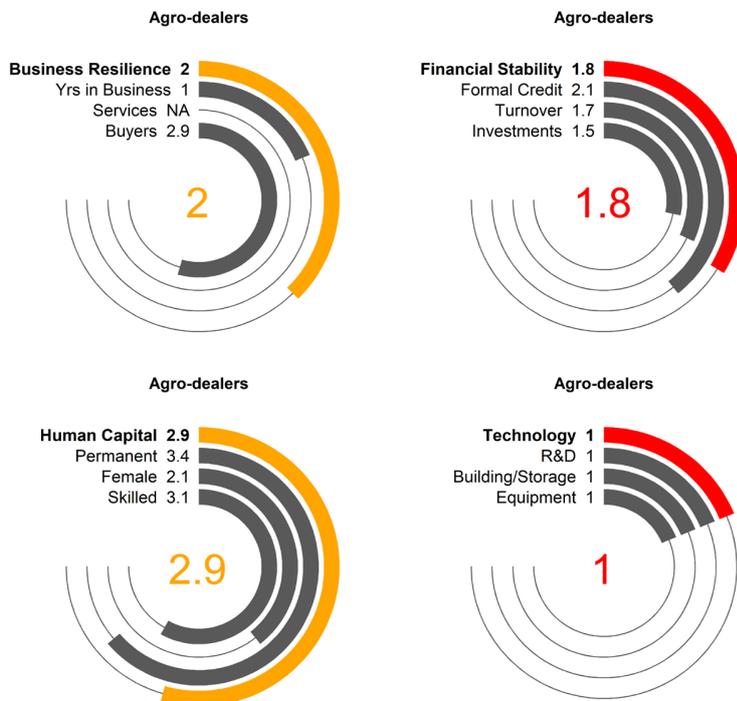


Figure 4: Input supply or agro-dealers' performance scorecard

Input companies

Four input supply companies were sampled. The business resilience score of the input companies is low (Figure 5), which may be due to the fact that the sampled SMEs have only been in business for two years on average. They offer few services and supply a limited client portfolio. Their financial stability seems average, but no information on financial turnover was obtained. The input companies do use formal credit and have made investments in their business over the last three years. With regard to human capital, the low employment of skilled employees is particularly notable. These SMEs do have assets, but invest little in R&D.

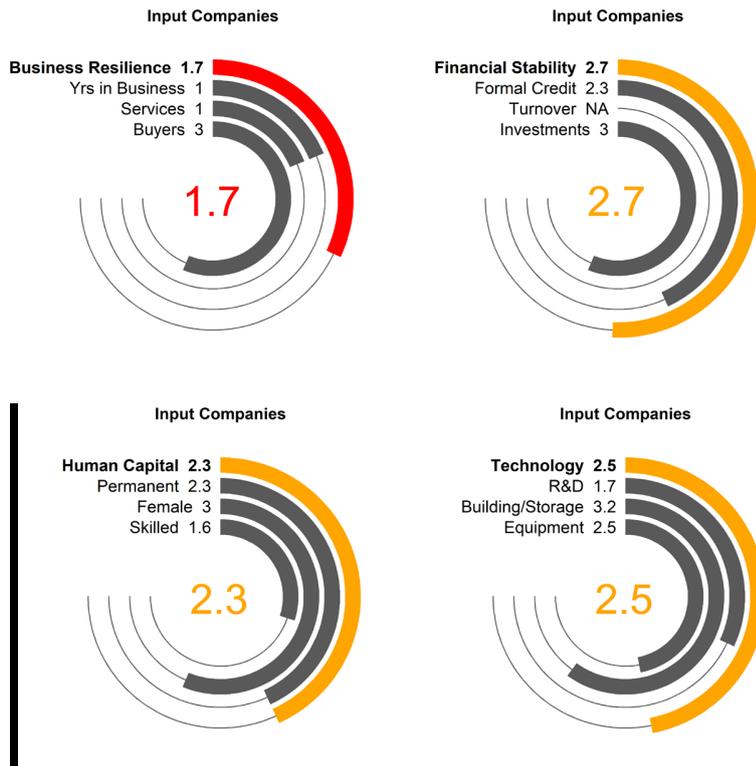


Figure 5: Input companies' performance scorecard

Agri-value chain actors

Twenty-four SMEs operating in the agricultural value chain sector as aggregators or processors were interviewed, with the results summarised in Figure 6. As most processors are also aggregators, they were considered as one group. The average business resilience score was fairly low at 2.2. The businesses had been operating for four years on average, and most offered produce aggregation as their sole service. Mostly, these SMEs do have a well-diversified portfolio of clients.

The financial stability of the agri-value chain actors was fairly good, with an average score of 2.7. They have a fairly large annual turnover of US\$772,118 on average. The proportion of their capital need that is satisfied with formal credit is relatively low with the majority obtaining less than 10% through the formal system. The enterprises have on average made two significant capital investments in the last three years. In relation to human capital, the proportion of skilled staff among the workforce is low, and the proportion of women employees is relatively low.

Companies do own equipment, but fewer fixed assets such as buildings. They do tend to invest in R&D related to their business.

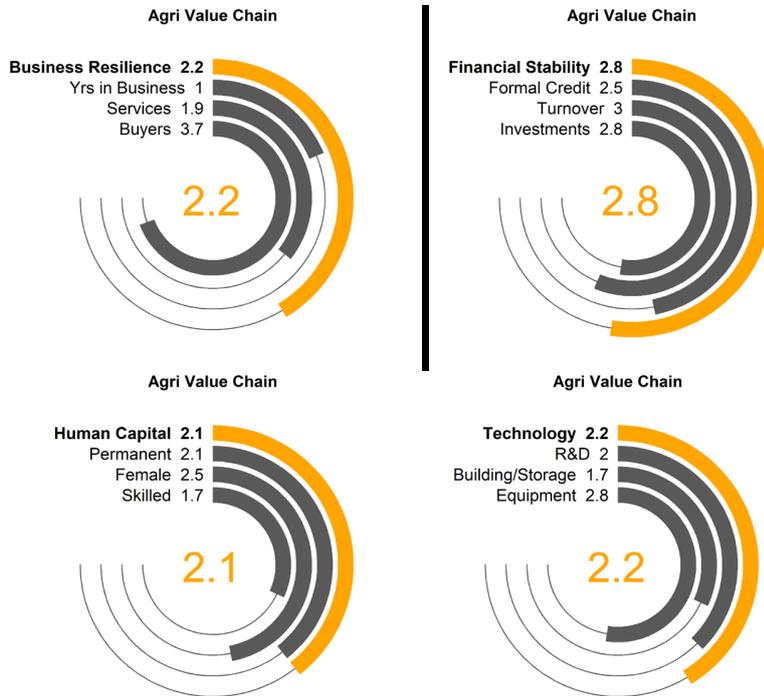


Figure 6: Agri-value chain actors' performance scorecard

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Annex 1: List of persons interviewed

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34.	Patrick Mogaka	Member	Kayonet Ak Boisionik Community Based Organisation	+ 254 700 090 270
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39.	Raymond Lagat	Treasurer	Produce Buying and Selling - Muren Boi Posho Mill, Mosoriot, Nandi	
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Annex 2: Performance scorecards

Table 12: Business resilience performance scorecard

Business resilience		Performance category 1	Performance category 2	Performance category 3	Performance category 4
Years in business	Ranges (Years)	1-5	5-10	10-15	>15
	Score	1	2	3	4
Number of services	Ranges (#)	1	2	3	>3
	Score	1	2	3	4
Number of buyers	Ranges (#)	1	2	3	>3
	Score	1	2	3	4

Table 13: Financial sustainability performance scorecard

Financial sustainability		Category 1	Category 2	Category 3	Category 4
Percentage using formal credit	Ranges (%)	0%	0%-33%	33%-66%	>66%
	Score	1	2	3	4
Annual turnover (US\$)	Ranges (thousands)	1-10	10-25	25-50	>50
	Score	1	2	3	4
Number of investments	Ranges (#)	0	1	3	>3
	Score	1	2	3	4

Table 14: Human capital performance scorecard

Human capital		Category 1	Category 2	Category 3	Category 4
% Female	Ranges (%)	0%	0%-33%	33%-66%	>66%
	Score	1	2	3	4
% Skilled	Ranges (%)	0%	0%-33%	33%-66%	>66%
	Score	1	2	3	4
% Permanent	Ranges (%)	0%	0%-33%	33%-66%	>66%
	Score	1	2	3	4
% Casual	Ranges (%)	0%	0%-33%	33%-66%	>66%
	Score	1	2	3	4

Table 15: Technology performance scorecard

Technology		Category 1	Category 2	Category 3	Category 4
Investments in R&D	Ranges (#)	0	-	-	1
	Score	1			4

Building storage	Ranges (#)	0	-	-	1
	Score	1			4
Equipment	Ranges (#)	0	-	-	1
	Score	1			4

Annex 3: SME descriptive statistics

Table 16: General SME characteristics

General SME Characteristics	Seed Companies	Seed Producers	Input Companies	Input Supply Agro-Dealers	Agri Value Chain
Years of business	4 (1.73)	5 (1.73)	3 0	2.91 (0.99)	3.91 (1.17)
Average number of commodities					
<i>Commercialized/traded</i>	1.33 (0.57)	1.3 (0.57)			2.37 (2.12)
<i>Processed</i>		-			1.5 (1.61)
<i>Transported</i>		-			1.66 (1.71)
Main Commodities commercialized/traded					
<i>Beans</i>		33.33%			28.57%
<i>Green Gram</i>					14.29%
<i>Tea</i>					57.14%
<i>Maize</i>	33%				
<i>Sorghum</i>	33%				
<i>Cowpea</i>	33%				
<i>Potatoes</i>		66.67%			
Permanent staff	9 (1.41)	NA	30 (21.65)	1.16 (0.83)	77 (234)
Casual staff	30 (42.42)	NA	103 (83.51)	0.75 (1.48)	171 (891)
Total annual turnover (USD)*	85140 (19601)	NA	NA	14355 (11072)	772118 (1610535)
Observations	3	3	4	12	24

Standard Deviation in parenthesis. *Incomplete information for Annual Turnover

Seed companies: Observations total annual turnover: 66%

Seed producers: Observations total annual turnover: 0%

Input supply/agro-dealers: Observations total annual turnover: 58%.

Agri-Value Chain Actors: Observations total annual turnover: 50%.

Table 17: SME employees

Employees	Seed Companies	Seed Producers	Input Companies	Input Supply Agro-Dealers	Agri Value Chain
Permanent Staff	9 (1.41)	NA	30 (21.65)	1.16 (0.83)	77 (9.14)
Casual Staff	30 (42.42)	NA	103 (83.51)	0.75 (1.48)	21.66 (48.23)
<i>% Female(over total)</i>	56%	NA	45%	31%	40%
<i>% Skilled(over total)</i>	55%	NA	11%	68%	12%
<i>Annual Salary</i>	10791	2265		3451	10166
<i>Permanent (USD)*</i>	(12740)	(1742)	NA	(3008)	(11921)
<i>Annual Salary Casual (USD)*</i>	19800 (-)	1100 (620)	NA	1113 (919)	5875 (9716)
<i>Daily Wage Casual (USD)*</i>	2.97 (-)	2 (0.60)	5.61 (0.57)	3.58 (1.58)	4.50 (1.57)

Standard Deviation in parenthesis. *Incomplete information for Annual Salary and Daily wage. Detailed information reported below.

Seed Companies: Obs salary permanent workers: 66%; Obs salary casual workers 33%; Obs daily wage 33%

Seed Producers: Obs salary permanent workers: 33%; Obs salary casual workers 33%; Obs daily wage 66%

Input Companies: Obs salary permanent workers: 0%; Obs salary casual workers 0%; Obs daily wage 100%

Input Supply Agro-dealers: Obs salary permanent workers: 83%; Obs salary casual workers 33%; Obs daily wage 33%

Agri-Value Chain: Obs salary permanent workers: 58%; Obs salary casual workers 66%; Obs daily wage 83%

Table 18: SME buyers

Buyers	Seed Companies	Seed Producers	Input Companies	Input Supply Agro-Dealers	Agri Value Chain
Projects, programs and government	100%	100%			8700%
Farmer organizations, coops, associations	100%	100%	100%	100%	91%
Individual buyers / producers	100%	100%	100%	100%	95%
Traders, input suppliers, wholesalers	100%	100%	100%	91%	87%
Average number of buyers	4 (0)	4 (0)	3 (0)	2.91 (0.28)	3.78 (0.73)
Observations	3	3	4	12	24

Standard Deviation in parenthesis

Table 19: SME services

SME Services	Seed companies	Seed Producers
Variety development	33%	100%
Breeder seed production	33%	33%
Production of early generation seed / foundation seed	33%	33%
Production of improved / certified seed	33%	100%
Production of noncertified seed		33%
Sales of improved / certified seed	66%	66%
Sales of non certified seeds		
Sales of early generation seed / foundation seed		
Average number of services provided	2 (1)	3.66 (2.08)
Observations	3	3
SME Services	Input companies	Input supply agro dealers
Retail (sales) of improved / certified seed	100%	75%
Retail (sales) of chemical fertilizers and pesticides	25%	100%
Advisory services / extension	25%	33%
Import of inputs	25%	
Wholesale and country-wide distribution	25%	
Manufacturing of inputs	25%	
Average number of services provided	1 (0)	2.08 (0.79)
Observations	4	12

SME Services	Agri Value Chain
Aggregation of farmer production (transport, bulking and storage)	83%
Agri-food processing (transformation of produce)	54%
Transport	41%
Mechanization	12%
Average number of services provided	1.91 (0.88)
Observations	24

Table 20: SME investments

Investments	Seed Companies	Seed Producers	Input Companies	Input Supply Agro-Dealers	Agri Value Chain
Expansion of land area	66%	33%	50%	8%	33%
Expansion of buildings and/or storage	33%	33%	75%		25%
Upgrading of equipment	66%		50%		62%
Research & Development	33%	33%	25%		16%
Training of staff	66%	33%	75%		20%
Increase / injection for working capital	33%		75%	50%	54%
No Investment	33%	66%	25%	41%	12%
Average number of investments	3 (2.64)	1.33 (2.30)	3 (2.64)	0.58 (0.51)	2.12 (1.56)
Observations	3	3	4	12	24

Table 21: Percentage of credit from formal sources

Access to formal credit	Seed Companies	Seed Producers	Input Companies	Input Supply Agro-Dealers	Agri Value Chain
0%			25%		4.17%
<10%	66.66%	50%		91.67%	50%
10-25%			50%		4.17%
25-50%			25%		25%
50-75%		50%			12.50%
75%-90%					
>90%	33.33%			8.33%	4.17%
Observations	3	2	4	12	24

Table 22: AGRA support services

AGRA Services	Seed Companies	Seed Producers	Input Companies	Input Supply Agro-Dealers	Agri Value Chain
Grant	60%		25%		12%
Loan/Credit					
Training	40%		50%	50%	25%
Technical Assistance	60%	22%	50%		12%
No Service	20%	77%	25%	50%	70%
Average Number AGRA Services	1.33 (1.52)	1.33 (1.15)	1.25 (1.25)	0.5 (0.52)	0.37 (0.49)
Observations	3	3	4	12	24

Standard Deviation in parenthesis

Annex 4: SMEs participating in the interviews

Seed producers	Seed companies	Input companies	Input supply/agro-dealers	Agri-value chain actors
ADC Molo	Faida Seeds	Agree Sal Enterprises	Abos Agrovet	Blessed hope group
Agroscience Park Seed Unit, Egerton university	Katamani Karlo	Nafics Grain Trading	Armazes Graciano Tomas	Caroline Senet
Kisima Farm	Seedco Kenya Ltd	Safe Produce Solutions Ltd	Evodia Agrovet	Cheptarit star Ltd
		ETG	Kennedy Olooso	Crossfield Promotions Ltd
			Kenpol Agrovet	ETG
			Laibuywa Agrovet	Kabansora Millers
			Mama Nkatha Agrovet	Kamili Packers Ltd
			Nyota Agrovet	Kings Commodities
			Owaka Agrodealers	Koech enterprises
			Pamu Muinde	Mama Justus
			Pendeza Agrovet	Mwananchi Ltd
			Thrisons Investment	Mwika CBO
				Nakumatt Holding
				Ntete LTD
				Paul Kipsiele
				Phelimon
				Richard enterprises
				South West Kano Irrigation Scheme
				Tea
				Tegemeo Cereal Aggregators Ltd
				Unga Ltd

Wamu Investments
Ltd

Western Kenya Rice
Millers

Zero 2 heroes
