DFID FoodTrade East and Southern Africa
Evaluation Management Unit

Portfolio Review

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Results in development

Disclaimer

The views expressed in this report are those of the evaluators. They do not represent those of any of the individuals and organisations referred to in the report.

Contents

Acronyms

ACTESA	Alliance for Commodity Trade in East and Southern Africa
AR	Annual report
CF	Challenge Fund
COMESA	Common Market for Eastern and Southern Africa
DF	Development Fund
DFID	Department for International Development (UK)
EAC	East African Community
EAGC	East African Grain Council
EBW	Early Bird Window
EMU	Evaluation Management Unit
FA	Farm Africa
FAM	Farmer Aggregation Model
FBO	Farmer Based Organisation
FR	Final report
FTESA	FoodTrade East and Southern Africa
FtMA	Farm to Market Alliance
GAP	Good agricultural practices
GBP	British pound
GRN	Goods Received Note
G-Soko	Grain Soko (market)
JI	Joseph Initiative
KPD	Kaderes Peasants Development PLC
KSH	Kenyan shilling
M4P	Making Markets Work for the Poor
M&E	Monitoring and Evaluation
MIS	Market information system
MMML	Mt. Meru Millers Ltd.
MoU	Memorandum of Understanding
MR	Mission report
MRM	Monitoring and results measurement
MT	Metric tonne
MTE	Mid-term evaluation
PHH	Post-harvest handling

PICS	Purdue Improved Crop Storage
PMU	Programme Management Unit
QDS	Quality Declared Seed
QR	Quarterly report
RGL	Raphael
RMCU	Rice Millers' Council of Uganda
RWF	Rwandan franc
ToR	Terms of Reference
ToT	Training of trainers
TZS	Tanzanian shilling
USD	US dollar
USH	Ugandan shilling
VAC	Village Aggregation Centre
VfM	Value for Money
VR	Verification report
WFP	World Food Programme
WRS	Warehouse Receipt System
ZMW	Zambian kwacha

Executive Summary

Purpose

This report presents the final portfolio review of Food Trade East and Southern Africa (FTESA) and forms a major part of the programme's overall final evaluation. FTESA was a five-year trade (2013–18) enhancement and promotion programme funded by DFID (£35 million) to support food staples market development and tackle market failures.

The Portfolio Review explores 20 of the FTESA grants/interventions to provide a broad coverage and assessment of the grant portfolio and performance against the evaluation questions. The unit of analysis is the grants. The Portfolio Review attempts to answer all evaluation questions for the final evaluation drawing exclusively on secondary evidence. It is a key input to the Final Evaluation Report along with other modules.

Methodology

The Portfolio Review has drawn on secondary information, including monitoring data and reports prepared by the Programme Management Unit (PMU) and grantees. We assessed the quality of evidence, scoring grantee reports for completeness and level of detail, readability and quality of analysis—the average score was 76%. We reviewed the evidence against the evaluation questions (EQs).[1] We then used a process of thematic coding, noting the frequency of themes emerging within each evaluation question category, to give a sense of the strength of evidence underpinning the different data patterns we found. We also looked for data that contradicted these patterns. We then brought together these findings to answer the evaluation questions as thoroughly as possible in narrative form. Limitations to this review include some issues with the quality of evidence (e.g. some grantee reports have been incomplete). This has limited the certainty with which we can discuss some of the grantees results to date.

Portfolio Overview

The total portfolio includes six Development Fund (DF) and 16 Challenge Fund (CF) grants, with two grants cancelled in the 2015-2016 programme year. DF grants comprise the majority (59%) of the total value of FTESA funds disbursed. The World Food Programme (WFP) grant is the largest in the FTESA portfolio, and Sosoma Industries the smallest. The average size of a CF grant is £536,818, and the average size of a DF grant is more than twice as large at £ 1,779,941.

A grant can cover more than one of FTESA's three output areas: Output 1 (improved post-harvest markets — storage and aggregation, market information, value chain coordination, credit, standards and grades); Output 2 (improved input markets – seeds and fertiliser); and Output 3 (improved policy and regulatory framework). Most grants (14) fall under both Output 1 and Output 2.

Within Output 1, several grants implemented one of four Farmer Aggregation Models (FAM). The WFP facilitated the forward delivery contract model, enabling aggregators to sign contracts with buyers/off-takers. Farm Africa's NGO consortium model facilitated Farmer Based Organisations (FBOs) to enter into supply contracts with local buyers. Kilimo Trust facilitated the lead firm consortium model, that linked smallholder farmers to buyers (a lead firm, including grantees Raphael, Kaderes, Shalem and Musoma), agro-input suppliers, and financial institutions. In the off-taker model, off-takers (including grantees Yak Fair Trade, Sosoma Foods, Seba Foods, Mt. Meru Millers and Joseph Initiative) made agreements with farmer groups, cooperatives or individual farmers to buy aggregated quantities of grain. There was a relatively even split in FTESA funds disbursed between the different types of models.

With respect to geography, 14 are active in Tanzania—the country with the most activity, followed by Kenya and Uganda, both of which have 12 active grantees. Ten grantees are active in Rwanda, and five are active in Zambia. No grantees were active in Mozambique, although Esoko had intended to work there.

[1] Evaluation Questions are from the Evaluation Matrix as presented in the EMU's Final Evaluation Terms of Reference (Feb 2018).

Main Findings

To what extent is FTESA a collection of individual interventions or a coherent portfolio? (EQ1)

There is evidence that synergies between grantees enabled FTESA to achieve results in excess of its component parts. The East African Grain Council (EAGC), Farm Africa and the WFP (all DF grantees) provided supporting functions that aided FBOs and Village Aggregation Centres (VACs), and this support not only benefitted smallholder farmers (as members of FBOs and VACs), but also benefitted the FTESA grantees working with those same FBOs and VACs. The support from these DF grantees meant that private sector grantees (e.g. Sosoma) did not have to provide every trade support function itself (e.g. training in grades and standards).

Synergies between grantees materialised when both parties were committed to their roles in a partnership and/or 'bought in' to a new idea (specifically, a new business model). Geographical proximity between grantees also enabled synergy, though there was concern this could also result in a duplication of effort.

We are uncertain as to the sustainability of these synergies, as the main 'hubs' of support are DF grantees, not private sector actors, and it is unclear what services they will be able to provide without continued funding.

To what extent is FTESA likely to improve the functioning of national and regional staple food markets and generate systemic change? (EQ2)

There are early signs that FTESA has the potential to generate systemic change, as indicated by examples of behaviour change in smallholder farmers and FBOs (e.g. FBOs acting as traders), and buyers (e.g. lead firms and off-takers offering smallholder farmers premium prices). This has had the effect of improving the functioning of localised staple food markets in which these grantees operate. There is also some evidence of changes in supporting rules (in the form of trade regulation) governing regional food trade.

Lead firms appear to have had more success than off-takers in affecting smallholder farmer behaviour change (e.g. adoption of new crops). There are also more examples of lead firms' commitments to change in their own business models (i.e. sourcing from smallholder farmers) as compared to off-takers. Kilimo Trust has likely contributed to this: the support lead firms and the FBOs interacting with them received from Kilimo Trust enabled the changes that off-taker like Joseph Initiative and Mt. Meru, operating without this external assistance, were less capable of achieving or sustaining.

Enablers of behaviour change include transparency and trust between market actors, in many cases aided by a digital platform. The most frequently cited barriers were (i) the absence of supporting rules (in the form of government regulation) and (ii) limited access to working capital.

There are indications that the relationships (and respective changes in behaviour) between smallholder farmers and Kilimo Trust-supported lead firms are sustainable, because there are examples of 'adoption' as well as 'adaptation'/innovation (e.g. VACs becoming services hubs) and copying (e.g. other traders offering premium prices). However, there were also examples of reversals in behaviour (e.g. by the Joseph Initiative) which calls into question whether these changes, particularly among off-takers, are sustainable. There are also indications that those changes related to supporting rules (e.g. export/import regulations) are not sustainable.

To what extent have improved trade support systems (output 1: storage, aggregation, information, value chain coordination, grades and standards, credit) increased production and trade? (EQ3)

There is evidence FTESA has improved trade support in terms of access to storage and aggregation services, and training in post-harvest handling (PHH) and grades and standards. Farm Africa has been the most successful of all grantees in facilitating the greatest volume of trade with respect to smallholder farmer

sales, exceeding trade figures for two larger DF grants, EAGC and WFP. Both Farm Africa and WFP achieved results for volume of smallholder sales by embedding elements of trade support (e.g. contracts, aggregation, access to finance) within farmer organisations, an approach Kilimo Trust also used to the benefit of lead firms dealing with FBOs. However, it was off-takers that seemed most active in cross-border trade. There is less evidence to suggest FTESA has improved smallholder access to information or credit across the portfolio. With respect to access to credit, this indicates that FTESA grantees' attempts to encourage commercial banks to provide credit have been ineffective and project implementers should use a different intervention to secure access to credit in future. Commercial banks' risk aversion to lending to smallholder farmers was the biggest barrier to access to finance. WFP was very successful in securing smallholder farmer access to credit, which most grantees struggled with. WFP facilitated FBOs to collectively access credit from banks, and facilitated farmers' access to microfinance, indicating these interventions may be more successful than alternatives (e.g. facilitating individual farmer's access to commercial credit).

Barriers to storage and aggregation include construction delays, smallholder farmers' preference to be paid immediately in cash (rather than store their crop and receive payment in future), and the high cost of transporting crops. Barriers to trade mostly consisted of liquidity constraints on the part of both buyers and sellers (farmers). Problems in trading across borders primarily stemmed from export bans.

Some signs of behaviour change (by both farmers and buyers) indicate sustainability. For example, training on grades and standards in combination with the incentive of premium prices has enabled and motivated farmers to produce better quality grain. However, DF grantees (e.g. Farm Africa, EAGC) have raised concerns around the sustainability of maintaining VACs and warehouses. It has also become evident that G-Soko is not sustainable because of low uptake by grantees and VACs.

To what extent have improved availability and use of inputs (output 2: inputs) and application of Good Agricultural Practices (GAP) increased production and trade? (EQ4)

Several grantees explicitly state that the combination of training on GAP and better access to inputs (often through FBOs) have resulted in increased smallholder farmer productivity and yields, leading to increased production. Off-takers providing inputs directly to farmers (e.g. Mt. Meru, Seba) appear to have been much less successful than grantees providing inputs through FBOs—the off-takers were either struggling to secure the supply of inputs, and/or struggling to recoup payment for inputs they provided to smallholder farmers on credit. The most commonly reported constraint to production is weather, followed by the late provision of inputs and farmers applying inputs inappropriately, or receiving inappropriate inputs. Lead firms have reported smallholder farmers are often unwilling to pay for better quality inputs. Grantees were split on whether they believe farmers have undergone a change in attitudes because of the projects and will be willing to pay in future.

Grantees have also employed a variety of GAP training techniques (e.g. Training of trainers (ToT)), demonstration plots, and mass trainings). Two grantees reported a problem with the ToT approach, because trainers lacked incentives to train other farmers (e.g. Kilimo Trust and Sosoma), suggesting that this approach may not be sustainable.

To what extent and how has FTESA brought in (or facilitated) smallholder farmers in structured regional markets? (EQ5)

Anecdotal evidence indicates grantees have successfully targeted smallholders to be their beneficiaries, as opposed to targeting farmers with larger landholdings. At least eight out of 13 grantees reported that their FTESA interventions resulted in smallholder farmers receiving higher prices for their produce, and the same number of grantees reported the farmers they work with experienced an increase in income. With respect to female farmers, several lead firms and DF grantees report positive results for women's economic empowerment, in terms of increasing women's access to resources and agency.

The most important enablers to bringing smallholder farmers into structured markets are open communication, trust, and transparency between smallholder farmers and buyers, and other value chain actors. Support from national and local government is also an important enabling factor. The most commonly cited constraint—a lack of trust—can be caused by, or result in, farmers side-selling. An enabler to including women is the use of explicit gender inclusion policies, which several grantees pursued to encourage women to participate in their projects. Barriers to female smallholder farmers benefiting from grantees' interventions included cultural norms and rules, including those preventing female asset ownership.

Some signs of sustainability of the new smallholder-focused business model include new investments (e.g. EAGC-supported VACs investing in infrastructure) and changes in market roles (e.g. a farmers' group becoming an off-taker).

Results by FAM show Farm Africa has been the most successful in bringing smallholder farmers into structured regional markets, as the volume of sales by smallholder farmers under their project demonstrates.[2] The findings from the EMU Farm Africa Case Study also support this.[3] As noted already, Farm Africa established successful mechanisms for structured trade through FBOs. This success may have exceeded WFP's because Farm Africa enabled FBOs to become legal entities, able to sign contracts and so better able to participate in formal trade. G-Soko appears to have been less successful than hoped in enabling smallholder farmer trade because of the reported complicated nature of the trading platform. Farm Africa and several lead firms have achieved the most success with respect to benefiting women smallholder farmers, again through benefits accrued in FBOs.

To what extent has FTESA benefitted consumers? (EQ6)

While FTESA's intended impacts include more stable food prices for consumer households, there is little direct evidence of consumer benefits in grantee reporting. We can assume, but cannot confirm, that grantee sales to WFP are contributing to reducing food security in the region.

There is evidence that grantees are producing staple foods of improved quality (e.g. Shalem), and value-added products (e.g. milled and fortified flour) and selling this at retail outlets (e.g. Musoma). There is also anecdotal evidence of benefits to farmers as consumers of the staple foods they are producing (e.g. farmers supplying Yak, Shalem).

To what extent have FTESA approaches to supporting reform to relevant policies, regulations, etc. contributed to change? (EQ7)

FTESA has supported several policy changes, notably ACTESA's success in influencing seven COMESA member states to adopt harmonised seed policy, the approval of the EAGC's grades and standards and the (temporary) reversal of a Tanzanian export ban. It is worth noting these successes are through grantees funded with the explicit mandate to influence policy (e.g. ACTESA, EAGC). Grantees found that involving sector stakeholders and other 'allies' is important for achieving policy change and so is having the appropriate fora to have 'face time' with policy makers. The sustainability of any policy changes on staple foods is uncertain, as FTESA experience has shown with the reintroduction of a Tanzanian export ban on maize, staple foods are highly politically sensitive.

[2] See section 3.5.1 in this report and Farm Africa Final Project Progress Report (15 Mar 2018).

[3] This study finds the Farm Africa project has brought 21,855 rice farmers into structured markets in Southern Tanzania; and there is evidence to suggest that these gains are sustainable in that farmers appear to have adopted the aggregation and collective marketing model. Source: Farm Africa Qualitative Case Study (Sept 2018).

Does FTESA offer Value for Money in the results it achieves, compared with possible alternatives? (EQ8)

Grantees were best able to report against 'Economy' measures of Value for Money (VfM). Overruns in construction were the biggest negative factor affecting Economy. While most grantees claimed their approach to farmer training was a source of 'Efficiency', in their reporting they do not provide the analysis to demonstrate that their methods of choice had the results (e.g. adoption of GAP, increased production) to show VfM. Nor did grantees provide analysis to demonstrate their 'Effectiveness'. Regarding 'Equity', despite Farm Africa and WFP being strongest in bringing smallholder farmers into structured trade, they do not have the best results for % women among smallholder farmers, instead lead firm Shalem holds that honour. There does not seem to be a strong correlation between grantees having a gender policy and subsequently a better gender inclusion rate, except for Shalem, who had a gender strategy involving 'gender champions.'

1. Introduction

1.1. Purpose

This report presents the final portfolio review of Food Trade East and Southern Africa (FTESA) and forms a major part of the programme's overall final evaluation. FTESA was a five-year trade (2013–18) enhancement and promotion programme funded by DFID (£35 million) to support food staples market development and tackle market failures. It covered mainly four countries (Kenya, Tanzania, Uganda and Zambia) although it originally planned to operate in nine countries (Burundi, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Uganda, Zambia and Zimbabwe). It focused on staple food crops, especially maize, rice and beans (including soya).

The Portfolio Review explores 20 of the FTESA grants/interventions to provide a broad coverage and assessment of the grant portfolio and performance against the evaluation questions. The unit of analysis is the grants. The Portfolio Review attempts to answer all evaluation questions for the final evaluation drawing exclusively on secondary evidence. It is a key input to the Final Evaluation Report along with other modules.

1.2. Methodology

1.2.1. Data sources

The Portfolio Review has drawn on secondary information, including monitoring data and reports prepared by the Programme Management Unit (PMU) and grantees, including:

- Grantee Monitoring and Results Measurement (MRM) plans
- Grantee and Programme Management Unit (PMU) quarterly reports (QR)
- Grantee and PMU annual reports (AR)
- Grantee and PMU final reports (FR)
- PMU mission reports (MR)
- PMU verification reports (VR)

We focused our review on grantee reporting from Q2 2016 onwards. This is because the Mid-term portfolio review had reviewed grantee documents up to and including Q1 2016.

The Portfolio Review also intended to incorporate findings from an online grantee survey; however due to extensions to the survey deadline to collect more responses, we incorporated the survey analysis into the main Final Evaluation report rather than into this Portfolio Review.

1.2.2. Data quality

We assessed the quality of evidence, scoring from 0 to 5, based on completeness and level of detail, readability and quality of analysis (where applicable). We gave deductions for incomplete sections in the report template including missing data (e.g. indicators). The average score for reporting from Q2 2016 to Q1 2018 was 76%, which compares favourably to the mid-term (2016) when reporting scored 60% on average.

1.2.3. Data collation and analysis

We first reviewed the evidence listed above against the evaluation questions (EQs),[4] extracting all relevant data into an analysis grid organised by evaluation question. We then used a process of thematic coding, noting the frequency of themes emerging within each evaluation question category, to give a sense of the

[4] Evaluation Questions are from the Evaluation Matrix as presented in the EMU's Final Evaluation Terms of Reference (Feb 2018).

strength of evidence underpinning the different data patterns we found. We also looked for data that contradicted these patterns. We then brought together these findings to answer the evaluation questions as thoroughly as possible in narrative form.

1.2.4. Limitations

- The analysis in the report is largely dependent on evidence provided by the PMU and grantees. In a few cases, we corroborate with evidence from other evaluation modules which included primary data collection and analysis. However, we do not fully triangulate evaluation modules here as we do this in the Final Evaluation Report.
- We found some issues with the quality of evidence. For example, some grantee reports have been incomplete. In addition, when grantees were not required to systematically report against a certain indicator (e.g. consumer benefits), data against such indicators are anecdotal, if reported at all. We also identified some discrepancies between grantee and PMU reporting on the same results (e.g. Outcome 2, see section 3.5.1). This has limited the certainty with which we can discuss some of the grantees results to date.

2. Portfolio assessment

2.1. Overview

The total portfolio includes six Development Fund (DF) and 16 Challenge Fund (CF) grants, with two grants cancelled in the 2015-2016 programme year. Since the mid-term evaluation in 2016, the PMU awarded two additional CF grants in the **fourth funding round** (Seba Foods and Classic Foods, see Table 1).

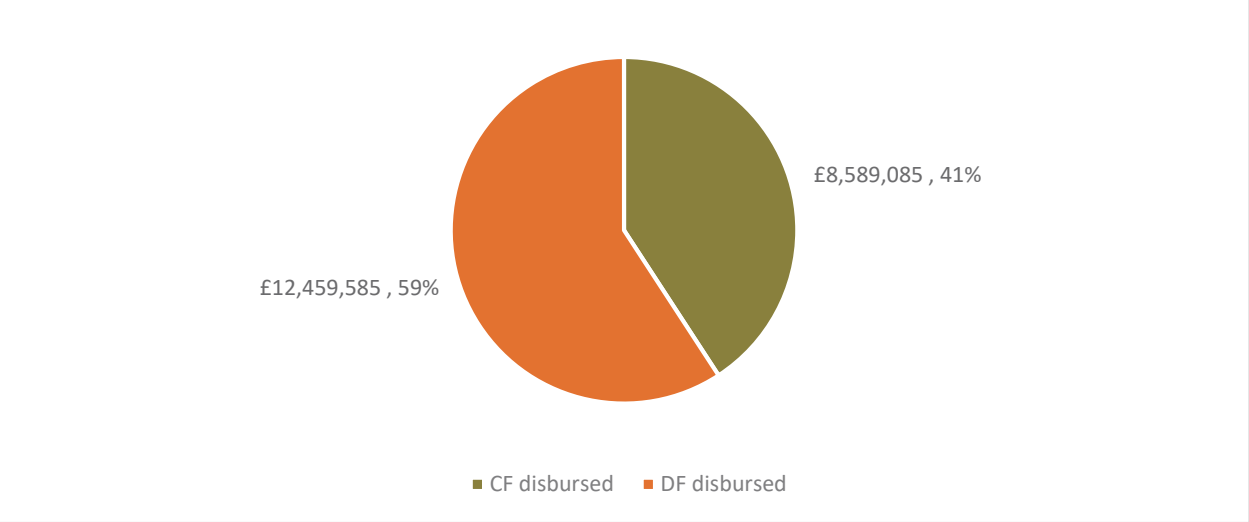
Table 1: Grants by funding round, modality, output area and model

Grant	Round[5]	CF/DF	Funds disbursed £	Output	Model
Esoko	early bird	CF	387,048	Output 1	Market information system (MIS)
Mount Meru	early bird	CF	933,302	Output 1, 2	Off-taker
Virtual City	early bird	CF	566,978	Outputs 1, 2	Trade platform
Joseph Initiative	round 2	CF	981,311	Output 1, 2	Off-taker
Kaderes	round 2	CF	450,000	Output 1, 2	Lead firm consortium
Victoria Seeds (cancelled)	*round 2*	*CF*	*511,762*		
ENAS	round 2	CF	955,633	Output 1, 2	Retail/services (fertiliser)
Pee Pee	round 2	CF	500,003	Output 1	Retail/services (storage)
Afritec	round 2	CF	449,220	Output 1, 2	Retail/services (seed)
Technoserve (cancelled)	*n/a*	*DF*	*279,309*		
ACTESA	n/a	DF	1,057,922	Output 3	Policy
EAGC/G-Soko (2 phases)	n/a	DF	3,647,720	Outputs 1, 3	Storage, Policy, trade platform
Kilimo Trust	n/a	DF	1,300,243	Output 1, 2	Lead firm consortium
WFP - Farm to Market Alliance	n/a	DF	3,772,760	Output 1, 2	Forward delivery contract
Musoma Food Co. Ltd	round 3	CF	329,451	Output 1, 2	Lead firm consortium
Yak Fair Trade	round 3	CF	542,153	Output 1, 2	Off-taker
Sosoma Industries Ltd	round 3	CF	103,463	Output 1, 2	Off-taker
Shalem Investment	round 3	CF	250,034	Output 1, 2	Lead firm consortium
Raphael Group Ltd	round 3	CF	444,351	Output 1, 2	Lead firm consortium
Farm Africa (consortium NGOs)	n/a	DF	2,401,631	Output 1	NGO consortium
Seba Foods Ltd.	round 4	CF	754,021	Output 1, 2	Off-taker
Classic Foods Ltd.	round 4	CF	430,355	Output 1, 2	Off-taker

[5] Challenge Fund Rounds: According to the PMU, the Early Bird Window (EBW) invested in new technologies; the second round on the inputs market; the third round on Farmer Aggregation Models (FAM), and the fourth round on the soybean value chain (PMU Final Report, April 2018).

Figure 1 shows the DF grants comprise the majority (59%) of the total value of FTESA funds disbursed.

Figure 1: FTESA grant disbursements by funding modality at programme end (2018)[6]

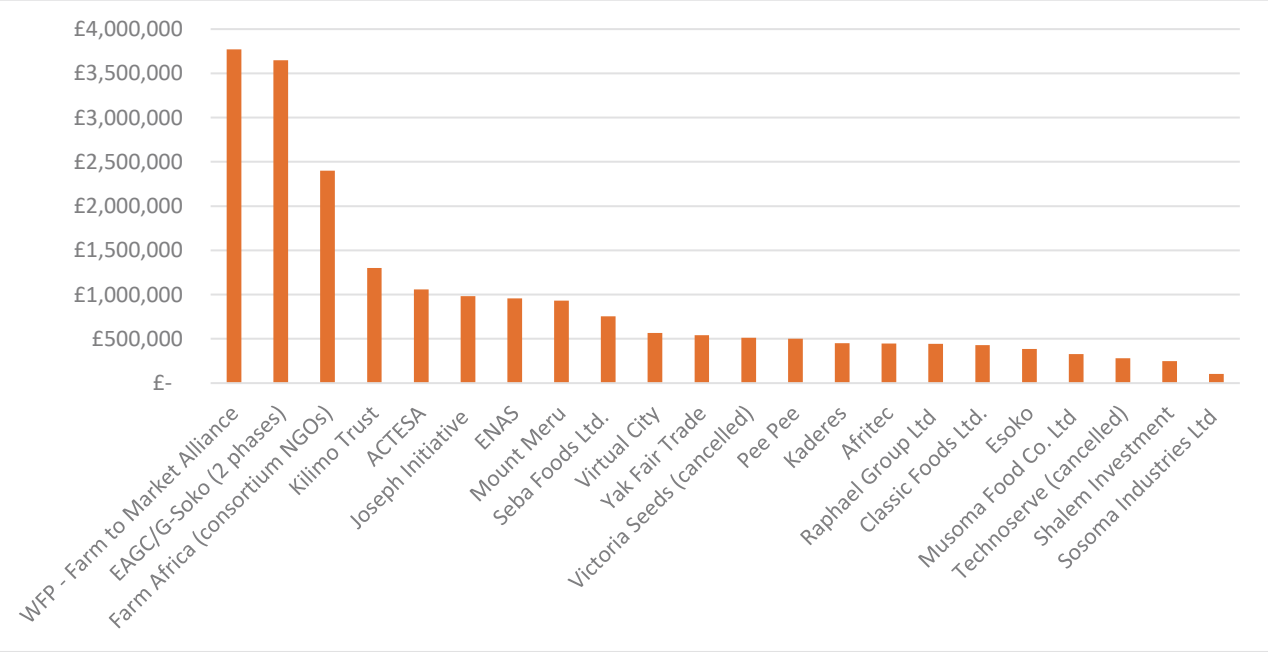


Data source: FTESA VfM data, 2018

2.2. Grant size

The chart below shows that the WFP grant surpassed the EAGC grant as the largest in the FTESA portfolio, and Sosoma Industries remains the smallest. The average size of a CF grant is £536,818, and the average size of a DF grant is more than twice as large at £ 1,779,941.

Figure 2: FTESA grant disbursements by size (GBP) at project end (2018)



Data source: FTESA VfM data, 2018

[6] Disbursement values include funds disbursed to cancelled grants Victoria Seeds and Technoserve.

2.3. Output areas

As Table 1 shows, a grant can cover more than one of FTESA's three output areas. Three grants fall only under **Output 1** (**improved post-harvest markets** — storage and aggregation, market information, value chain coordination, credit, standards and grades). A further 14 fall under both Output 1 and **Output 2** (**improved input markets** – seeds and fertiliser). Only one grant (ACTESA) falls under Output 2 and **Output 3** (**improved policy and regulatory framework**), and the East African Grain Council is the only grantee to fall under both Output 1 and Output 3.

2.4. Grantee models

Within **Output 1,** several grants implemented **Farmer Aggregation Models (FAM)**:[7]

- **World Food Programme (WFP) forward delivery contracts:** Under the Farm to Market Alliance (FtMA) project, WFP facilitated the signing of forward delivery contracts between aggregators (e.g. FBOs) and buyers/off-takers. These contracts included a pre-set 'floor price' (a minimum price) which can be reviewed later, at the time of sale, to reflect current market prices.[8] WFP also linked aggregators to agro-dealers to improve smallholder farmers' access to services and inputs.[9]
- **Farm Africa (FA) NGO consortium**: In this model, Farm Africa's intervention facilitated FBOs to enter into supply contracts with local buyers.[10] Farm Africa's project partner RUDI facilitates consortia between farmer organisations, input suppliers, buyers, and banks.[11] Farm Africa also linked FBOs to the EAGC's G-Soko trading platform to enable them to aggregate and sell grain using the platform.[12]
- **Lead firm consortium model:** Kilimo Trust formed 12 trading consortia — formalised with Memoranda of Understanding (MoUs) – that linked smallholder farmers to buyers (a lead firm), agro-input suppliers, and financial institutions.[13] Within each consortium, FBOs signed supply contracts with buyers.[14] Lead firms include Raphael Group, Kaderes, Shalem Investments and Musoma Foods.
- **Off-taker model**: In this model, off-takers made agreements with farmer groups, cooperatives or individual farmers to buy aggregated quantities of grain. In most cases, off-takers also provided farmers support with post-harvest handling and access to inputs. Off-takers include Yak Fair Trade, Sosoma Foods, Seba Foods, Mount Meru Millers, Joseph Initiative and Classic Foods[15].

Other grantees falling under Output 1 but not involved in Farmer Aggregation Models include Esoko (providing access to **market information**), Virtual City (developing **trading platforms**), Pee (**a retailer** of Purdue Improved Crop Storage (PICS) bags), and the EAGC which is involved in promoting grades and standards, certifies warehouses, supports VACs and has the trading platform, G-Soko.

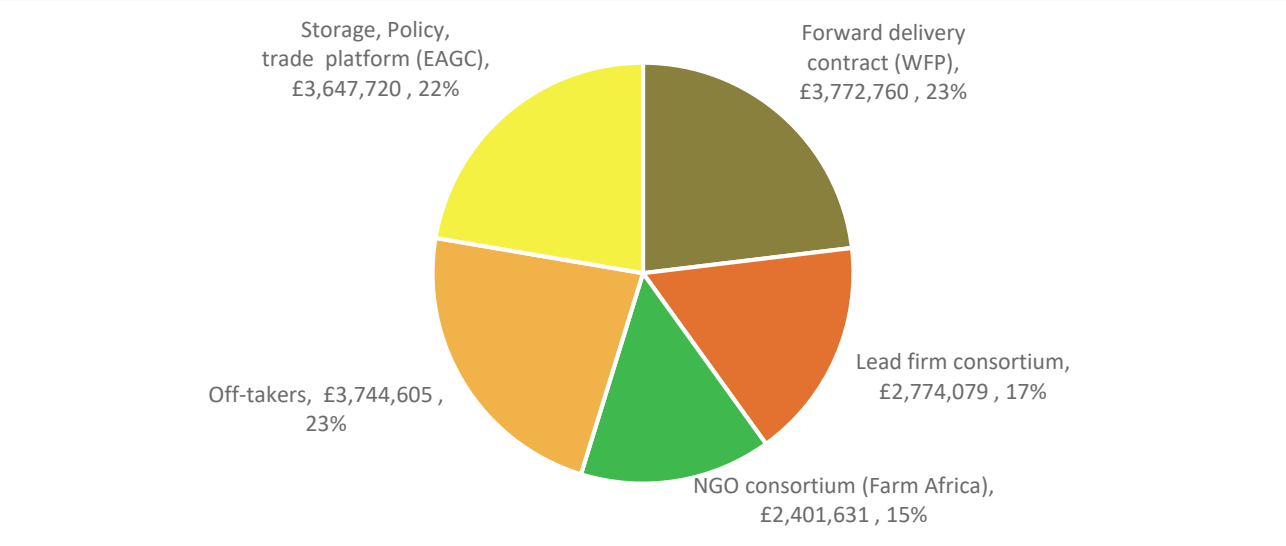
We have also classified grantees that do not fall under Output 1 differently: under Output 2, both ENAS and Afritec are **retailers/service providers** in the inputs market, and under Output 3 both ACTESA and the EAGC are working to change staple food **policy**.

The figure below shows funds disbursed, by Farmer Aggregation Model and with EAGC included as well because of its important role in interventions in storage, aggregation and linking buyers and sellers. The figure shows a relatively even split in funds disbursed between the different types of models. However,

[7] FTESA PMU Final Report (May 2018)
[8] WFP FR.
[9] WFP AR 2016-17.
[10] FA QR: Q3 2016.
[11] FA FR.
[12] FA QR: Q4 2016.
[13] KT FR.
[14] KT QR: Q4 2016.
[15] Not listed as an off-taker in the PMU report, but we believe this is the most appropriate category.

EAGC, WFP and Farm Africa are individual grants, whereas the off-taker category is comprised of six grantees, and the lead firm category is comprised of five grantees, meaning individual grants falling within these two categories of course received only a portion of funds allocated to these models.

Figure 3: Funds disbursed by Farmer Aggregation Model



Data source: FTESA VfM data, 2018

2.5. Geographic areas

Table 2 presents the geographical reach of each grantee, with colour coding to indicate the nature of this activity.[16] Fourteen (14) grantees are active in Tanzania—the country with the most activity, followed by Kenya and Uganda, both of which have 12 active grantees. Kenya was the most popular export destination for grantees. Ten grantees are active in Rwanda, and five are active in Zambia. More grantees have their headquarters in Tanzania than in any other country, with the next greatest number in Kenya. No grantees were active in Mozambique, although Esoko had intended to work there. Esoko was the most ambitious of all the grantees, with plans to work in eight FTESA countries, but in implementing its project it only worked in three, indicating it encountered some difficulties during implementation. ACTESA has the broadest reach, operating in seven countries over the course of implementation; while ENAS and Raphael have the narrowest coverage, operating only in the countries in which they are headquartered.

[16] The location of a grantee's HQ is indicated by dark green cells; countries where grantees are active are indicated in lime green. Orange cells indicate countries which a grantee is exporting to, and golden cells indicate countries which a grantee is importing from—this mostly applies to lead firms and off-takers. Grey cells indicate countries where a grantee had intended to work, as expressed in plans either at design stage or at mid-term, but in which they have not been active.

Table 2: Grid of grantee country reach

Grantee	Kenya	Rwanda	Tanzania	Uganda	Zambia	Burundi	Malawi	Mozambique	Zimbabwe
ACTESA	Grantee active	Grantee active		Grantee active	Grantee HQ	Grantee active	Grantee active		Grantee active
Afritec	Grantee HQ		Grantee active	Grantee inactive					
Classic	Grantee HQ			Grantee active					
EAGC	Grantee HQ		Grantee active	Grantee active					
ENAS		Grantee HQ				Grantee inactive			
Esoko	Grantee inactive		Grantee active	Grantee inactive	Grantee inactive	Grantee inactive	Grantee active	Grantee inactive	Grantee active
Farm Africa	Export destination		Grantee HQ	Grantee active					
Joseph	Export destination	Export destination		Grantee HQ					
Kaderes	Grantee inactive		Grantee HQ						
Kilimo Trust	Grantee active	Grantee active	Grantee active	Grantee HQ					
Mount Meru	Export destination		Grantee HQ		Grantee active				
Musoma	Export destination	Export destination	Grantee HQ	Export destination					Export destination
Pee Pee	Grantee active	Grantee active	Grantee HQ	Grantee active		Grantee active			
Raphael			Grantee HQ						
Seba					Grantee HQ		Export destination		
Shalem	Grantee HQ		Import source	Import source					
Sosoma		Grantee HQ	Grantee active	Grantee active					
Virtual City	Grantee HQ	Grantee active	Grantee active	Grantee active					
WFP	Grantee active	Grantee active	Grantee active		Grantee active				
Yak Fair	Grantee inactive	Grantee HQ		Export destination	Import source	Grantee inactive			

3. Findings

3.1. To what extent is FTESA a collection of individual interventions or a coherent portfolio? (EQ1)

Main findings

- There is evidence that synergies between grantees enabled FTESA to achieve results in excess of its component parts. EAGC, Farm Africa and the WFP (all DF grantees) provided supporting functions that aided FBOs and VACs, and this support not only benefitted smallholder farmers (as members of FBOs and VACs), but also benefitted the FTESA grantees working with those same FBOs and VACs. The support from these DF grantees meant that private sector grantees (e.g. Sosoma) did not have to provide every trade support function itself (e.g. training in grades and standards).
- The EAGC (G-Soko), WFP, Kilimo Trust and WFP are hubs connecting numerous grantees. These 'hubs' have helped smallholder farmers increase access to training and other services, as well as increased trading opportunities for both the smallholder farmers and grantees. The fact that these four grantees are all DF grantees suggests the development sector may be more effective at providing these services than the private sector.
- Synergies between grantees materialise when both parties are committed to their roles in a partnership and/or 'bought in' to a new idea (specifically, a new business model). Geographical proximity between grantees also enables synergy, though can also result in a duplication of effort.
- We are uncertain as to the sustainability of these synergies, as the main 'hubs' of support are DF grantees, not private sector actors, and it is unclear what services they will be able to provide without continued funding.
- Use of G-Soko by grantees to buy and/or sell was lower than anticipated. It seems unlikely that G-Soko will be sustainable given problems with its low coverage and uptake, and ultimately it has not provided 'proof of concept' to those grantees who have used it to date (e.g. Farm Africa).

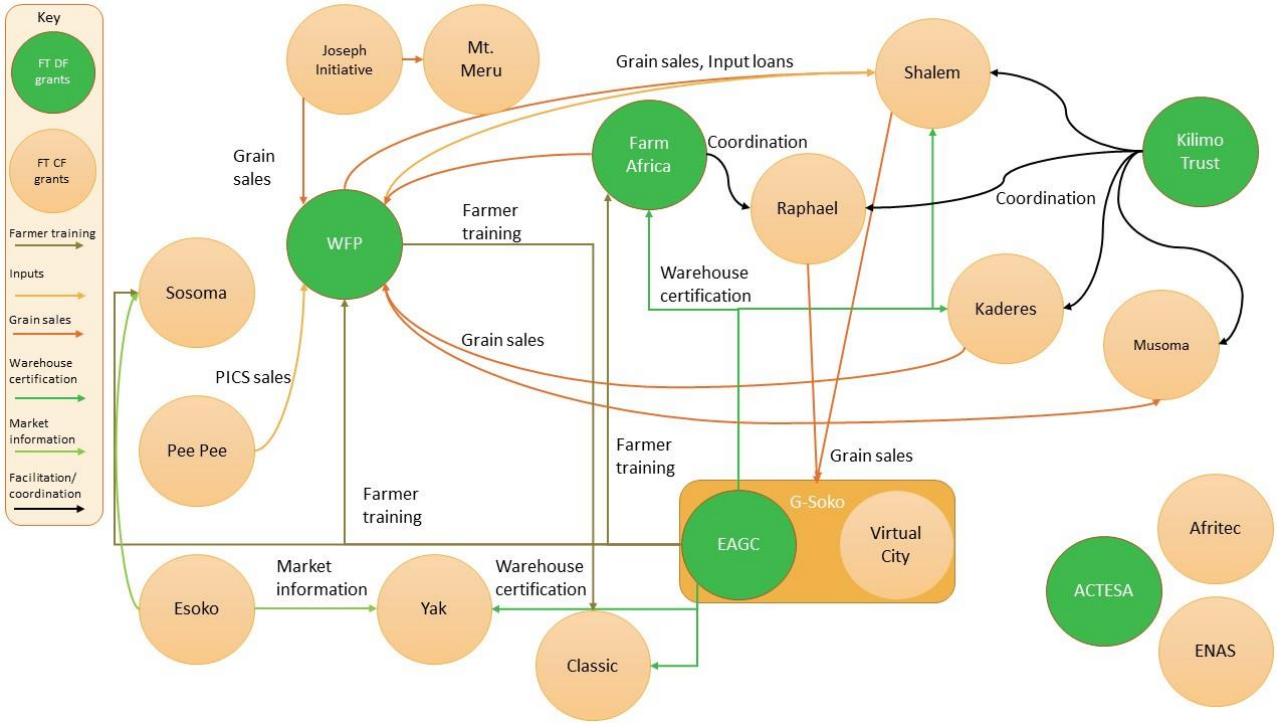
3.1.1. What: To what extent has the combination of interventions generated results in excess of the programme's component parts?

There is evidence that synergies between grantees enabled FTESA to achieve results in excess of its component parts. EAGC, Farm Africa and the WFP (all DF grantees) provided supporting functions that aided FBOs and VACs, and this support not only benefitted smallholder farmers (as members of FBOs and VACs), but also benefitted the FTESA grantees working with those same FBOs and VACs. The support from these DF grantees meant that private sector grantees (e.g. Sosoma) did not have to provide every trade support function itself (e.g. training in grades and standards).

Synergies between FTESA grantees

The diagram below maps the connections between the different grantees based on the grantees' own reporting, which may not provide an exhaustive account of all connections between grantees. Below we provide examples of some of the main connections and relationships between FTESA grant.

Figure 4: Map of relationships between grantees



EAGC and G-Soko

The EAGC **inspects and certifies warehouses** of other FTESA grantees, including **off-takers** Yak and Classic and **lead firms** Shalem and Kaderes[17]. The EAGC also provided **training to smallholder farmers** working with other FTESA grantees. For example, the EAGC provided **post-harvest handling training and equipment** to Village Aggregation Centres (VACs) in Uganda and support to farmer groups in Kenya, as a result, both were able to increase the **quality** of their grains. This helped the former to sell to the off-taker Joseph Initiative and the latter to sell to WFP.[18] The EAGC also provided off-taker Sosoma's smallholder farmers with training in grades and standards.[19]

The EAGC is responsible for the online grain trading platform **G-Soko**. Some FTESA grantees have used the platform for trading. For example, lead firm Shalem sold 33.3MT of maize via G-Soko. **Off-taker** Classic has registered on G-Soko, but it is unclear as to whether they have made trades using it.[20] **Farm Africa** directed market actors in its consortium — including VACs and lead firm Raphael — to G-Soko.[21] Raphael subsequently **piloted G-Soko** in several farmer cooperatives it works with;[22] and Raphael bought 10 Metric Tonnes (MT) from a farmers' organisation using G-Soko.[23] The EAGC provided training to warehouses in Farm Africa's consortium on how to use G-Soko.[24] However, Farm Africa reported that the EAGC's delays in setting up G-Soko meant delays in trading for Farm Africa consortium members.[25] Even once installed in VACs and warehouses, members/staff in there lacked the capacity to effectively use the platform (see this discussion under EQ3 in section 3.3).

[17] Yak QR: Q3 2017; Classic QR: Q4 2016; Shalem AR 2016-17; KT QR: Q4 2017.

[18] EAGC QR: Q2 2016; PMU VR Oct-Nov 2016.

[19] Sosoma QR: Q2 2016.

[20] Shalem AR 2016-17; Classic FR.

[21] FA QR: Q2 2017.

[22] RGL QR: Q3 2017.

[23] FA AR 2016-17.

[24] FA QR: Q3 2016.

[25] FA QR: Q4 2016.

World Food Programme

The WFP collaborated with other grantees to give smallholder farmers access to **post-harvest handling training and finance**. In some cases (e.g. Joseph Initiative, Kaderes, Farm Africa) WFP also made agreements to buy grains from other grantees/farmers supported by other grantees; and in other cases, WFP arranged for a grantee (Musoma) to buy grains from its FtMA farmers, or supported farmers already supplying a grantee (e.g. Shalem). Joseph Initiative partnered with the WFP to train (Joseph Initiative-targeted) farmers on how to reduce post-harvest loss.[26] WFP, Pee Pee, RUDI and others trained smallholder farmer in post-harvest handling, which also involved Pee Pee supplying FBOs with PICS bags; and Classic Foods partnered with WFP FtMA and Syngenta to provided farmers **training in GAP**.[27] Lead firm Shalem partnered with WFP and Capital SACCO to give contracted farmers **input loans**,[28] and FtMA is supporting farmers to produce soy to supply to Shalem.[29] Musoma bought **9,000MT of maize** from WFP farmers when Musoma could not source enough from its own farmers.[30] Joseph Initiative signed a contract with the WFP to supply them with 8,000MT of maize within Uganda; Kaderes has previously held two contracts to supply WFP with sweet beans; [31] and, as noted below, Farm Africa connected VACs to WFP to supply grain.

Farm Africa

Farm Africa connected Raphael (in Tanzania) to **G-Soko**, as noted above; and **RUDI** (a Farm Africa partner) collaborated with EAGC to promote the use of G-Soko and upgrade the G-Soko system installed in several VACs in southern Tanzania, addressing some of the problems farmers had registering on the system and uploading data. Farm Africa also connected VACs to supply grain to the **WFP** under the 'Agriculture and Market Support' project.[32] Farm Africa's partnership with WFP also enabled Farm Africa to procure materials (metal and plastic) at 50% reduced costs. Farm Africa also partnered with **EAGC** and others (Tanzania Warehouse Licensing Board, Uganda National Bureau of Standards and Uganda Export Promotion Board) to build farmers' PHH capacity and upgrade warehouses.[33]

Kilimo Trust

In its role as coordinator of the lead firm consortium model, Kilimo Trust **brokered supply contracts** between FBOs and lead firm grantees: Raphael (also benefiting from support from Farm Africa), Kaderes, Shalem and Musoma. Kilimo Trust's engagement with Raphael and Shalem had the effect of convincing these two buyers to adopt a business model centred on smallholder farmers as suppliers (also discussed under EQ2 in section 3.2). Kilimo Trust also provided **technical assistance on good agricultural practices (GAP) and post-harvest handling** to lead firms such as Kaderes.[34] Collaboration between Kilimo Trust, Kaderes and the Agricultural Research Institute (ARI) Maruku resulted in Kaderes producing **Quality Declared Seed (QDS)** for use by Kaderes' farmers;[35] and Kilimo Trust linked Kaderes, in Tanzania, with the off-taker Cheptarit Star in Kenya, resulting in **cross-border trade** of 20MT of beans.[36]

[26] JI FR.
[27] PP QR: Q3 2017; Classic FR.
[28] Shalem QR: Q3 2017.
[29] Shalem FR.
[30] Musoma QR: Q3 2017.
[31] JI AR 2016-17; KPD QR: Q4 2015.
[32] FA QR: Q2 2017.
[33] FA FR.
[34] KPD AR 2016-17.
[35] KPD FR.
[36] KT QR: Q2 2017.

Esoko

The PMU reported that off-takers Yak and Sosoma both sourced market information from FTESA grantee Esoko.[37]

Synergies between FTESA grantees and other actors

Several grantees formed partnerships with other actors (e.g. banks, research centres, government actors, and other donors). In some cases, this improved smallholder farmers' access to inputs and services, except for access to finance. We provide examples below.

Financial service providers

Several grantees formed partnerships with financial service providers, most of them banks. In a few cases, this resulted in improved access to finance for smallholder farmers (see EQ3 for further discussion). Kilimo Trust partnered with Equity Bank in Kenya resulting in farmers in the Busia Cross Border Beans Trade Consortium receiving payments electronically, and accessing **input loans**.[38] However, this is in contrast with the Kilimo Trust Qualitative Case Study[39] which found that within the Lead Firm Consortia, 'apart from DFCU Bank, which has a strong agricultural component under its portfolio, there was no dedicated effort made by the rest of the banks to provide the needed financial services for the smallholder farmers.'

Off-taker Classic Foods partnered with Kenya Commercial Bank to provide smallholder farmers with access to **input financing**, resulting in 1,700 farmers signing up for loans.[40] The WFP partnered with ICCO Terrafina Microfinance, who facilitated FtMA cooperatives' access to finance.[41] Lead firm Shalem partnered with APA Insurance to provide smallholder farmer with **crop insurance**, resulting in 267 farmers receiving compensation for crop failure.[42] Shalem also partnered with the Common Fund for Commodities to access funds to construct a factory.[43]

Universities and research centres

Grantees in the seed and fertiliser markets have not made connections with other grantees. Instead, grantees benefited from connections with research institutions and universities to enable access to improved inputs. In several cases collaborations between grantees (lead firms in these examples) and universities/research institutes helped improve smallholder farmer access to **inputs and GAP training**. Kaderes partnered with ARI Maruku to identify appropriate **drought-resistant beans**;[44] and Kilimo Trust, Raphael and ARI Uyole partnered to provide smallholder farmers with **GAP training** and **links to input suppliers**.[45] Shalem reported it partnered with 'IPRA and IPA' to introduce farmers to the product 'Aflasafe', designed to prevent aflatoxins. [46] Shalem also partnered with the University of Greenwich, Wageningen University, and APA Insurance to conduct research on smallholder farmer **credit and insurance**.[47] ENAS partnered with the Christian University of Rwanda — ENAS will train students in soil sampling (suggesting this training has not yet started), and the university offered ENAS staff opportunities to attend courses to 'upgrade their skills and knowledge'.[48]

[37] PMU VR Rwanda, Mar 2017.
[38] KT QR: Q4 2016.
[39] Kilimo Trust Qualitative Case Study (August 2018).
[40] Classic FR.
[41] WFP AR 2016-17.
[42] Shalem FR.
[43] Shalem QR: Q3 2017.
[44] KPD QR: Q 2016.
[45] PMU MR Tanzania July-Aug 2016.
[46] Aflasafe, https://aflasafe.com/aflasafe/ (accessed 22 August 2018); Shalem AR 2016-17.
[47] Shalem FR; Shalem AR 2016-17.
[48] ENAS FR.

Government actors

There are several cases of grantees working with government. For example, Farm Africa-partner RUDI approached **Local Government Authorities** (LGAs) in Tanzania to request support for introducing G-Soko to local warehouses. Kaderes sought local government help to access seeds.[49] Shalem partnered with the Kenyan Ministry of Agriculture, the latter has been advising farmers on how to tackle pests,[50] which Shalem reports resulted in farmers applying appropriate pesticides and preventing the spread of pests.[51]

Other donors

Both WFP and Kaderes reported collaboration with **AGRA** in Tanzania. AGRA provided FtMA farmers with **post-harvest handling training and equipment**; and Kaderes will signed an MoU with a consortium of AGRA service providers, in which Kaderes will commit to becoming one of the **main off-takers** of beans in Kagera and Kigoma regions.[52] The WFP also collaborated with the USAID-funded Private Sector Driven Agriculture Growth project in Rwanda—the USAID programme provided farmers with PHH training and equipment.[53] Seba and Farm Africa also reported collaborating with other donor-funded programmes, discussed in EQ8.

3.1.2. How and why have these complementarities/synergies materialised?

Synergies between grantees materialise when both parties are committed to their roles in a partnership and/or 'bought in' to a new idea (specifically, a new business model). Geographical proximity between grantees also enables synergy, though can also result in a duplication of effort.

We could characterise some of these synergies as a result of '**commitment'** or **'buy-in'** by different actors. Kilimo Trust's relationship with lead firm Kaderes in its consortium has resulted in synergies because both parties exhibited a *commitment* to their shared MoU: Kilimo Trust focused on improving access to QDS and training Kaderes staff, while Kaderes focused on training its farmers and buying their beans.[54] The Kaderes Qualitative Case Study (August 2018) found that because of this partnership, 'farmers reported notable improvements in yield since using improved seeds.' Conversely, if a consortium member is *not* committed and doesn't perform, there are no synergies nor subsequent results. For example, Kilimo Trust reported '**dormant partners'** are a challenge to its 'Lead Firm Consortium' model, and they provided the example of Naseco Seed. Like Kaderes, Naseco signed an MoU with Kilimo Trust; but unlike Kaderes, Naseco was not active within its consortium and never promoted its seed to the consortium farmers.[55] As an example of 'buy-in', RUDI engaged local government in Tanzania to support the G-Soko initiative and some LGAs subsequently requested G-Soko access in their warehouses (e.g. in Kilombero),[56] indicating the LGAs had 'bought-in' to the idea of G-Soko and were willing to promote it.

Overlapping geographies have certainly aided in achieving complementarities and synergies. For example, Raphael, Farm Africa and WFP all in Mbeya, Tanzania. However, this can also have a downside, as the PMU raised the risk of '**duplication of efforts'** because these three grantees all work in Southern Tanzania.[57] Seba also reported a concern that it and Mt. Meru were duplicating efforts by working with the **same farmers** in Zambia.[58]

[49] FA QR: Q3 2017; KPD FR.
[50] Shalem FR.
[51] Shalem QR: Q2 2017.
[52] WFP QR: Q2 2016; KPD FR.
[53] WFP QR: Q2 2016.
[54] KT QR: Q3 2016.
[55] KT QR: Q4 2016.
[56] FA QR: Q3 2017. FA QR: Q4 2017.
[57] PMU VR July-Aug 2016.
[58] Seba FR.

Farm Africa, and several other grantees, have raised several constraints they faced in working with the EAGC to use G-Soko. Farm Africa reported the **delays** in establishing G-Soko meant that Farm Africa could not use the trading platform for sales in the first year of its project.[59] Because of G-Soko's **low coverage** (it was only available in 30-40% of Farm Africa's target areas)—another example of the importance of overlapping geographies; Farm Africa started looking for alternative trading opportunities.[60] Farm Africa also reported that because G-Soko's users did not understand market dynamics, they posted **uncompetitive prices** on the platform; and in addition, warehouses did not have **the capacity** to operate the G-Soko system.[61] Shalem also expressed concern that transactions on G-Soko were **difficult to monitor** and they were unable to reverse transactions, and Virtual City reported warehouse managers were unwilling to sign up to G-Soko for fear of 'exposing' their data.[62]

3.1.3. What indications are there of sustainability? What is the likelihood these will be sustained after direct support has ended?

We are uncertain as to the sustainability of these synergies, as the main 'hubs' of support are DF grantees, not private sector actors, and it is unclear what services they will be able to provide without continued funding. There are also few signs that donor-funded services will transition to become self-sustaining private enterprises. EAGC's G-Soko is very unlikely to make this transition. It seems unlikely FTESA grantees will continue to use G-Soko, given the low number of trades that they have undertaken, and the number of challenges they reported with using the platform. It is unclear if financial service providers will continue to provide their services or expand them.

We do have a couple of examples of private sector actors' expressed wishes to continue to collaborate after FTESA's end: lead firm Shalem reports it will continue to give smallholder farmer information from the Ministry of Agriculture, inputs providers and insurers after the FTESA, via group leaders and aggregators, after the FTESA programme has ended.[63] Virtual City reports it has signed a 'Strategic Alliance Framework' with an organisation named Global Financial Partners, providing its Agro Voucher platform to banks across sub-Saharan Africa.[64] This is an encouraging sign that its promotion and use will continue post FTESA.

[59] FA QR: Q2 2016.

[60] FA QR: Q4 2016.

[61] FA FR.

[62] Shalem QR: Q3 2017; VC QR: Q2 2016.

[63] Shalem FR.

[64] VC QR: Q2 2017.

3.2. To what extent is FTESA likely to improve the functioning of national and regional staple food markets and generate systemic change? (EQ2)

Main findings

- There are early signs that FTESA has the potential to generate systemic change, as indicated by examples of behaviour change in smallholder farms (e.g. adopting new crops), FBOs (e.g. acting as traders), and buyers (e.g. lead firms and off-takers offering smallholder farmers premium prices). This has had the effect of improving the functioning of localised staple food markets in which these grantees operate. There is also some evidence of change in supporting rules (in the form of trade regulation) governing regional food trade.
- Enablers of behaviour change include transparency and trust between market actors, in many cases aided by a digital platform. The most frequently cited barriers were (i) the absence of supporting rules (in the form of government regulation) and (ii) limited access to working capital.
- There are indications that the relationships between smallholder farmers and Kilimo Trust-supported lead firms (and respective changes in behaviour) are sustainable because there are examples of 'adoption' as well as 'adaptation'/innovation (e.g. VACs becoming services hubs) and copying (e.g. other traders offering premium prices). However, there were also examples of reversals in behaviour (e.g. by the Joseph Initiative) which calls into question whether these changes are sustainable. There are indications that those changes related to supporting rules (e.g. export/import regulations) are not sustainable.

3.2.1. What: To what extent is FTESA likely to improve the functioning of national and regional staple food markets and generate systemic change? (EQ2)

We discuss systemic change in terms of behaviour change in pivotal actors – smallholder farmers, FBOs, VACs, off-takers and other traders as well as changes in the market's supporting functions and in its rules. We use M4P concepts of systemic change.[65]

There are early signs that FTESA has the potential to generate systemic change, evidenced in multiple cases of adoption of new practices by smallholder farmers, FBOs, VACs, lead firms and off-takers. This has had the effect of improving the functioning of national, localised staple food markets. There is also some evidence of change in supporting rules (in the form of trade regulation) governing regional food trade.

Smallholder farmer, FBO and VAC behaviour change

Across the portfolio, smallholder farmers showed a willingness to adopt **new practices** in GAP and post-harvest handling. Several lead firms and off-takers reported that smallholder farmers were willing to **swap the crops** they were farming and to **adopt new crops** promoted by the grantee. For instance, the off-taker Classic Foods reported that farmers changed from tobacco farming to soy.[66] The PMU reported that lead firm Musoma's intervention persuaded an association of farmers to switch from tobacco to maize instead.[67] The PMU also reported that a 'significant number' of farmers in Nyamira, Kenya, switched from tea to soy to supply lead firm Shalem.[68] Lead firm Kaderes persuaded its farmers to grow beans in addition to coffee.[69]

[65] Daniel Nippard, Rob Hitchins and David Elliott, 'Adopt-Adapt-Expand-Respond: a framework for managing and measuring systemic change processes' (Springfield Centre, 2014).

[66] Classic QR: Q3 2017.

[67] PMU VR Sept-Oct 2016.

[68] PMU MR Feb 2017.

[69] KT AR 2016-18.

However, **off-takers** Seba and Joseph Initiative reported some farmers were **reluctant** to grow certain crops. Seba reported farmers were not confident about investing in soy after a large surplus in Zambia, presumably because this depressed soy prices; and Joseph Initiative reported farmers discouragement to plant maize because of risks posed by climate change.[70]

Shalem reported **more women** registering to grow soy[71] and that it has attracted **youth** to farming maize and beans. They also reported smallholder farmers adopting the practices of **collective production and marketing**.[72]

For more on smallholder farmer adoption of/investment in GAP see EQ4 (section 3.4), and for adoption of post-harvest handling see EQ3 (section 3.3).

Farm Africa reports that its project enabled FBOs to take on **new roles**, previously played by middlemen, by either (i) collecting grains on behalf of a buyer or (ii) leasing their VAC to a trader—receiving a commission in both cases.[73] There is also evidence of VACs making **investments** in their storage infrastructure (see EQ5). However, there are also examples of VACs **lacking resources** to maintain their structures and equipment (see EQ3). There are also some examples of VACs **trading on G-Soko**, but there were numerous constraints to doing so (see EQ1).

Lead firm and off-taker behaviour change

Among grantees, a mixture of lead firms and off-takers reported that they offered smallholder farmers **premium prices** in exchange for a supply of improved-quality grain in greater quantities (see EQ3). Lead firms Raphael and Shalem expressed their commitment to continue sourcing their grains from smallholder farmers in the new model introduced under FTESA. Shalem reported that adopting the lead firm model had benefited them by reducing their logistical costs.[74] Raphael reported that their business is flourishing since adopting their smallholder-focused business model, and attributed this to support from Kilimo Trust:

> *"We never thought working with smallholder farmers based on pre-agreed supply contracts was profitable. Ever since Kilimo Trust (KT) linked us to the farmers, we have never looked back and our beans business has been growing tremendously since then" (RGL management, quoted in RGL Final Report)*

Changes in supporting functions and rules

Supporting functions in the staple food market include the inputs and financial markets. EQ4 includes a discussion of access to inputs (see section 3.4) and EQ3 discusses access to finance (see section 3.3). The **means of distributing** inputs and equipment is also an important supporting function, and one that is often lacking. For example, retailer Pee Pee reported distribution systems are not functional at the rural level, where most village retailers do not have the capital required to buy and stock **PICS bags** (PP FR).

At a regional level, ACTESA and the EAGC are the two grantees that actively worked to change the **rules governing staple food trade**. The EAGC promoted the **EAC grades and standards**, and there is some evidence this was successful (see EQ3); and the EAGC engaged with senior government officials on the Warehouse Receipts System Bill and Crops Act and Regulations in Kenya.[75] ACTESA worked to harmonise seed trade regulations across Common Market for Eastern and Southern Africa (COMESA) countries.

[70] Seba QR: Q2 2017; JI QR: Q2 2017.
[71] Shalem AR 2016-17.
[72] Shalem FR.
[73] FA FR.
[74] Shalem FR.
[75] EAGC QR: Q2 2016.

ACTESA launched the **COMESA Harmonized National Seed Regulations**[76] leading to the domestication of harmonised regulations in all seven targeted countries and improvements in the predictability of rules and standards.[77] ACTESA also launched the COMESA Seed Variety Catalogue, on which six companies have registered varieties.[78]

3.2.2. How, why, for whom and in what circumstances: How and why have changes materialised, or are likely to materialise?

Transparency and trust between smallholder farmers and buyers (off-takers and lead firms) are the most important mechanisms to enable systemic change in localised market systems. At the level of regional markets, the absence of supporting rules (namely regulations allowing for cross-border trade) is the biggest contextual factor preventing systemic change.

Mechanisms for behaviour change

Grantee reports frequently mention the importance of **transparency** and **trust** in encouraging market actors to change behaviour, in many cases aided by a **digital platform**. For example, the WFP reported that in their forward delivery contracts off-takers make payments directly to a cooperative's **bank account**; if the cooperative owes the off-taker for inputs or service provided up front, the off-taker can first deduct these costs before making payment. In this way the use of the bank account means the off-taker can be assured the cooperative will settle its debts.[79] Similarly, Virtual City reports its **Agro Voucher system** allows agro-companies to track credit they have issued.[80] Off-takers Mt. Meru and Joseph Initiative report that their introduction of **digital weighing scales** (see EQ3 and EQ5) have fostered smallholder farmer trust in them as a buyer who will not try to cheat them. In these cases, a **digital platform** makes transactions more **transparent**. While not specific to digital technology, **Kilimo Trust** also emphasised the importance of trust between lead firms and smallholder farmers in its Lead Firm Consortium model.[81]

Barriers to systemic change

The most predominant barrier to systemic change was the **absence of supporting rules** (for example, export and import bans). Musoma, the WFP and the EAGC all reported problems posed by the Tanzanian grain export ban, including limiting the use of **G-Soko** for cross-border trade.[82] The WFP also reported that purchases by **state food reserve agents** undercut FtMA buyers in some FtMA countries.[83] Mt. Meru reported that Tanzania's **ban on importing seed** from Zambia made it very difficult to secure inputs for its soy outgrower scheme. Afritec reported that the Kenya Plant Health Inspectorate Service was very slow in registering its new seed variety, resulting in significant knock-on delays.[84]

As noted above, problems with **access to capital** were also a barrier to behaviour change, for VACs and village agro-dealers, and for smallholder farmers (we discuss this latter issue under EQ4 in section 3.4).

[76] ACTESA QR: Q3 2017.
[77] FTESA PMU Final Report (May 2018).
[78] ACTESA FR.
[79] WFP QR: Q2 2016.
[80] VC FR.
[81] KT AR 2016-17.
[82] Musoma QR: Q2 2017; EAGC QR: Q2 2017.
[83] WFP FR.
[84] MMML AR 2016-17; Afritec QR: Q2 2017.

3.2.3. What indications are there of sustainability? What is the likelihood these will be sustained after direct support has ended?

This discussion incorporates concepts of systemic change.[85] There are indications that the relationships between smallholder farmers and lead firms (and respective changes in behaviour) are sustainable because there are examples of 'adoption' as well as 'adaptation'. However, there are indications that some changes are not sustainable, including those related to supporting rules (e.g. export/import regulations).

In some cases, it appears grantees' **adopted behaviour change** will continue. As mentioned previously, Raphael's management expresses commitment to its new business model — as does **lead firm** Shalem — which reports it will continue to trade with large buyers and give farmers a guaranteed market.[86] In contrast, **off-taker** Joseph Initiative reports that it has not operated its Joseph Centres at full capacity due to '**limited access to working capital'** and they were **operating at a loss**.[87] Joseph Centres did not operate for the past four buying seasons (or two years), suggesting that Joseph Initiative's model for sourcing from smallholder farmers was not sustainable.[88]

There are several examples of **'adaptation'**, or **'innovation'** by market actors — lead firms, off-takers and VACs. Musoma, when faced with the Tanzanian grain export ban, pivoted to sell *flour* to off-takers instead of grain. Lead firm Shalem has **invested** in a new milling plant, creating a **new revenue stream** for the company, and transforming them from a trader to a processor. Off-taker Joseph Initiative reports that it has expanded into **sales of a new crop –** soy bean seed, the piloting of which was very successful. Farm Africa reports the VACs in its consortium are gradually **expanding** to become **service hubs**, attracting providers of seeds, other inputs, and packaging. According to the PMU, VACs also began seeking **non-FTESA sources of funding**, one group submitted a proposal to the FAO, and another to a Kenyan county government.[89]

The PMU reported that **other traders** offered smallholder farmers higher prices to compete with the Joseph Initiative.[90] While this is a good sign of '**copying'** by other market actors, there is evidence that this was not sustainable. According to the Joseph Initiative Qualitative Case Studies, when the Joseph Initiative ceased to buy directly from smallholder farmers, traders lowered the prices they were offering back to original levels.

Shalem reported that its intervention in Meru Country, Kenya resulted in the growth of 'related enterprises' (i.e. a sign of '**crowding-in'**),[91] although they do not provide details. Virtual City reported that it is working with the Kenyan government to '**replicate**' the G-Soko system in the Social Investment Focused Agenda (SIFA) project for dairy and soy value chains, which is part of a public-private partnership between the Office of the President and the Kenya Private Sector Alliance,[92] though it is unclear why the G-Soko model would work in these value chains when it has not proven itself in grain value chains.

It seems unlikely that systemic change will occur/be sustainable in the '**supporting rules'** e.g. regulations governing regional staple food trade. ACTESA acknowledges that there is 'inertia' in non-ACTESA-supported COMESA states with respect to adopting the Harmonized National Seed Regulations (ACTESA FR), meaning it is unlikely these states will 'copy' the regulations adopted by direct beneficiaries of ACTESA's intervention. With respect to export bans, the EAGC was successful in achieving a **temporary removal** of Tanzania's export ban,[93] but these bans continue to be a major obstacle to cross-border trade.

[85] Including 'Adoption', 'Innovation', 'Copying by other businesses', 'Crowding in', 'Coping successful practices', and changes in the 'Business regulatory environment' (see Annex 2 for further details).

[86] Shalem FR.

[87] JI AR 2016-17.

[88] Joseph Initiative Qualitative Case Study (August 2018).

[89] Musoma QR: Q2 2017; Shalem FR; JI QR: Q3 2017; FA FR; PMU VR Oct-Nov 2016.

[90] PMU MR Nov 2016.

[91] Shalem FR.

[92] VC AR 2016-17.

[93] EAGC QR: Q3 2016.

3.3. To what extent have improved trade support systems (output 1: storage, aggregation, information, value chain coordination, grades and standards, credit) increased production and trade? (EQ3)

Main findings

- There is evidence FTESA has improved trade support in terms of access to storage and aggregation services, and training in PHH and grades and standards. There is less evidence to suggest FTESA has improved smallholder access to information or credit across the portfolio.
- Barriers to storage and aggregation include construction delays, smallholder farmers' preference to be paid immediately in cash rather than store their crop and receive payment in future, and the high cost of transporting crops.
- Training on grades and standards in combination with the incentive of premium prices has enabled and motivated farmers to produce better quality grain.
- Commercial banks' risk aversion to lending to smallholder farmers is the biggest barrier to access to finance.
- Barriers to trade mostly consisted of liquidity constraints on the part of both buyers and sellers (farmers). Problems in trading across borders primarily stemmed from export bans.
- Some signs of behaviour change (by both farmers and buyers) indicate sustainability. However, DF grantees (e.g. Farm Africa, EAGC) have raised concerns around the sustainability of maintaining VACs and warehouses. It has also become evident that G-Soko is not sustainable.

Main findings by Farmer Aggregation Model

- The WFP Forward Delivery Contracts enabled trade and access to finance for thousands of smallholder farmers — more than any other grantee, by enabling FBOs to access loans from banks.
- Farm Africa NGO Consortium enabled national and cross-border trade, in volumes larger than any other grantee, through contract farming. Farm Africa provided smallholder farmers, in FBOs, training in post-harvest handling and access to the trading platforms (e.g. G-Soko), although the former underdelivered. Farm Africa has prepared VACs and warehouses for the project's exit, but has reservations about sustainability (e.g. that best practice management will continue at warehouses).
- The Lead Firm Consortium model, coordinated by Kilimo Trust, did not achieve its target for volume of staple food traded, but all lead firms did engage in cross-border trade. Through engagement with FBOs, lead firms offered smallholder farmers inputs on credit (though experienced problems in trying to extend credit through warehouse receipt systems), training in grades and standards and post-harvest handling, access to market information through Whatsapp and access to VACs and warehouses (although some lead firms experienced delays in construction). Several lead firms are convinced their new business model is sustainable and smallholder farmers have successfully adopted a new cash crop (e.g. soy).
- Off takers: most off-takers report cross-border trade. Few off-takers successfully enabled smallholder farmer's access to finance, because banks were reluctant to lend to farmers, and those that did provide loans often saw very high default rates (e.g. Seba). It seems unlikely these firms will continue interventions in access to finance. Most also provided post-harvest handling training, but only one off-taker provided VACs (the Joseph Initiative built Joseph Centres, but struggled to keep them open). The crop choice may be unsustainable in the case of soy, for which Mt. Meru experienced high levels of side selling.

3.3.1. What: To what extent has FTESA improved trade support systems?

There is evidence FTESA has improved trade support in terms of access to storage and aggregation services, and training in PHH and grades and standards. There is less evidence to suggest FTESA has improved smallholder access to information or credit across the portfolio (although there are a few exceptions, e.g. WFP enabled access to credit).

Storage and aggregation, grades and standards

EAGC inspected 159 warehouses (some belonging to FTESA-grantees) across Kenya, Tanzania and Uganda (EAGC FPR, 2018). Several FTESA grantees built their own warehouses:

- **Lead firm** Shalem built two certified warehouses, lead firm Kaderes reported in its final report that it expected its 10,000MT-capacity warehouse would be operational by June 2018.[94]
- **Off-taker** Yak built a 5,000MT-capacity warehouse with close supervision from the EAGC.[95] Off-taker Sosoma built a 1,200MT-capacity warehouse; Mt. Meru built warehouses in Tanzania and Zambia, but these are not yet fully operational.[96]

Grantee Pee Pee supplies Purdue Improved Crop Storage (PICS) bags. Pee Pee supplied more than two million bags to countries in East and Southern Africa[97] by developing its own **vendor network**.[98]

Several grantees were involved in supporting **aggregation** at the **village level:**

- **EAGC**, as noted under EQ1 (see section 3.1.1), provided PHH training and equipment to VACs.
- **WFP** supported aggregation through its FtMA digital app.[99]
- **Farm Africa** reported a change in **local aggregation strategies** in which FBOs trade collectively because of its consortium model involving formal contracts between FBOs and buyers.[100]
- Several **lead firms** promoted aggregation by constructing **VACs:** Raphael constructed 22 VACs that provide farmers with inputs, training, and aggregation for beans and other crops; Musoma rehabilitated 12 aggregation centres; and Shalem also supported VACs by training agents and equipping the centres with basic grading equipment.[101]
- **Off-taker** Joseph Initiative built 80 VACs, called 'Joseph Centres'.[102]

Both **off-takers** (Yak, Seba, Classic, Joseph Initiative, Mt. Meru) and **lead firms** (Musoma, Kaderes, Raphael, Shalem) trained farmers in post-harvest handling. Lead firms (Musoma, Raphael Group and Shalem) all reported **reductions in post-harvest loss** in their final reports. The EAGC also reported some VACs reducing post-harvest loss from 20% to 10% of produced aggregated.[103] **Off-taker** Classic Foods reports its project 'contributed significantly to reduction of post-harvest losses' but does not report a numerical value.[104]

The EAGC promotes the adoption of **East African Community (EAC)** grades and standards for cereals and pulses. The EAGC reported that grains sourced from EAGC-certified warehouses were of better quality and

[94] Shalem FR; KPD FR.
[95] PMU Verification Report, March 2017.
[96] Sosoma QR: Q2 2017; MMML FR.
[97] PP FR.
[98] PP AR 2016-17.
[99] WFP FR, 2018.
[100] Farm Africa Final Report (Mar 2018).
[101] RGL FR; Musoma FR; Shalem FR.
[102] JI FR.
[103] EAGC FR.
[104] Classic FR.

provided an example of a Kenyan miller that bought 'zero aflatoxin maize' from one such warehouse.[105] Several grantees, mostly **lead firms** (Kilimo Trust, Musoma, and Shalem), as well as **off-taker** Yak, reported in their Final Reports that smallholder farmers were producing higher quality grain, for which they were receiving higher prices. Only Farm Africa reported that adherence to EAC standards did not guarantee higher prices because:

> *'most grain end-buyers within the region focus on only a few critical parameters such as aflatoxins level, grain colour and the level of contamination in the sample when buying grain' (Farm Africa FR, Mar 2018).*

Grantees cite a variety of ways in which they (or others) promoted the adoption of grades and standards. **Farm Africa** notes the Uganda National Bureau of Standards trained farmers on the EAC standards.[106] Several grantees trained farmers in grades and standards, including the **WFP**, **off-taker** Sosoma, **lead firm** Musoma and Kilimo Trust.[107] **Lead firm** Shalem also established a **laboratory** as part of their project which they used to check maize for **aflatoxins**.[108] **Off-taker** Sosoma included compliance with EAC standards in its contracts with farmers.[109] **Off-taker** Mt. Meru installed weigh scales at villages so farmers could sell exact weights as set by EAC standards.[110]

Market information

Esoko provided **off-takers** Yak and Sosoma with market information.[111] Esoko reports 105,000 farmers in three countries (Malawi, Zimbabwe and Tanzania) subscribed to its service and receiving messages with market information and GAP information.[112] The **G-Soko platform** allows warehouses to communicate with farmers by sending bulk SMSs.[113]

Kilimo Trust is using **Whatsapp groups** for each of its consortium so that members can pose trade and production-related questions. Kilimo Trust reported use of these groups to arrange some trades.[114]

Linking buyers and sellers

The EAGC's **G-Soko system** consists of an aggregator tool, warehouse reception tool, online trading platform and a clearing and settlement process. The platform has 6,492 farmers, 52 warehouses, 16 buyers, 16 VACs and two banks registered to transact on it.[115] As mentioned previously (see EQ1), EAGC linked VACs and warehouses to G-Soko.

Farmer Aggregation Models

As noted in section 2, grantees working in Output 1 areas have pursued a variety of FAMs, incorporating different elements of Output 1, with some grantees providing support 'end-to-end' along the entire value chain (some of the details below we also mention in earlier sections). The WFP and Farm Africa FAMs seem

[105] EAGC FR.
[106] FA QR: Q3 2016.
[107] WFP QR: Q3 2017; Sosoma QR: Q2 2016; Musoma QR: Q2 2017; Kilimo Trust QR: Q4 2017.
[108] Shalem AR 2016-17.
[109] PMU VR Rwanda, Mar 2017.
[110] MMML FR.
[111] PMU VR Rwanda, Mar 2017.
[112] Esoko FR.
[113] VC QR: Q2 2016.
[114] KT QR: Q2 2016.
[115] EAGC FR, 2018.

to be the most successful in increasing trade, though off-takers are notable for their success in achieving cross-border trade.

- **WFP Forward Delivery Contracts:** this model involves forward delivery contracts between FBOs and buyers. In addition, this model enabled FBOs to access credit, and smallholder farmer training in GAP and grades and standards.
- **Farm Africa NGO Consortium**: this model also involves contracts between FBOs and buyers, and links FBOs to input suppliers and financial institutions. Farm Africa, in addition to linking farmer organisations to G-Soko,[116] also linked nine warehouses in Uganda to FIT Uganda's electronic trading systems[117] and FIT has been sending thousands of SMSs to farmers.[118]
- **Lead Firm Consortium model:** these consortia consisted of a lead firm (that signed supply contracts with FBOs), FBOs, input suppliers and financial institutions. In addition, lead firms built warehouses and/or VACs for storage and trained farmers in post-harvest handling. KT linked some lead firms to G-Soko, and some lead firms provided smallholder farmers with inputs on credit.
- **Off-taker model**: off-takers made agreements to buy grain from smallholder farmers, either in groups or individually, mostly through signed contracts. In addition, two constructed warehouses and one VACs. Almost all trained farmers in post-harvest handling, some linked farmers to financial institutions and others provided input financing directly to smallholder farmers. Several provided smallholder farmers with training in GAP.

Credit

Most FTESA grantees working on improving smallholder farmer access to credit focused on access to **commercial credit** from formal banking institutions. The EAGC, Kilimo Trust and the WFP enabled **FBOs** to access commercial credit,[119] whereas off-takers Classic Food and Joseph Initiative enabled **individual farmers** to access commercial credit.[120] The WFP also facilitated access to credit from micro-finance institutions.[121] Off-taker Yak negotiated with Kenya Commercial Bank so that farmers could get loans at a lower interest rate.[122] Lead firm Shalem trained farmers on village savings and loans.[123] Results by FAM are as follows:

- The **EAGC** reported 1,032 farmers accessing warehouse receipts and supplier credit out of a target of 5000. Anecdotal evidence from a farmer cooperative member indicates that cooperatives used grain stored using G-Soko as collateral to secure bank loans. It is unclear if this example is of credit secured through EAGC's warehouse receipt system (WRS), which it implemented in Kenya only.[124]
- **WFP FtMA:** In Rwanda 36 FBOs (7,336 farmers) were able to secure 42 loans valued at 372 million (USD 465,276 / GBP 372,221)[125] with a loan repayment rate of 90%.[126] In Tanzania, WFP built a network of buyers, input providers and banks working with farmer-based organisations, increasing the number of farmer-based organisations accessing input loans from 21 (2015/16 season) to 69 (2017/18 season).[127]

[116] FA QR: Q4 2016.
[117] FA QR: Q3 2016.
[118] FA QR: Q3 2017.
[119] WFP FR; KT FR; EAGC FR.
[120] Classic FR, JI FR.
[121] WFP FR.
[122] Yak QR: Q3 2017.
[123] Shalem FR.
[124] EAGC FR.
[125] WFP AR 2016-17.
[126] WFP FR.
[127] *Ibid.*

- **Farm Africa**: Doho SACCO lent a total of USH 314,496,000 to 565 rice farmers,[128] and Bugaya FBO secured a loan from FINCA Bank for USH 50 million (approx. USD 13,889) in 2017.[129]
- **Lead firms:** Kaderes offers seed on credit, and Musoma offers 50% pre-financing for inputs[130]
- **Off-takers:** Through Joseph Initiative, 216 farmers obtained credit from Opportunity Bank; 1,700 farmers have signed up for input loans from Kenya Commercial Bank with Classic Foods' off-take contract acting as collateral; and, Seba provided 1,202 farmers inputs on 50% financing but default was very common. Afritec provided rice seed on credit, and almost half of recipients were female smallholder farmers, but only 10% of recipients repaid the cost of the seed.[131]

Volumes stored, aggregated and sold

We present available data on the volume of staple food sold by FTESA farmer beneficiaries' under EQ5 in section 3.5.1. However, grantee reporting on sales is not systematic. Nevertheless, there are some examples of volumes aggregated, stored and/or sold:

- **EAGC** reported **G-Soko** recorded 84,125MT of grain on the system, 10,183MT of which registrants offered for sale on the platform.[132]
- **WFP:** FtMA farmers sold 53,047MT of staple food; FtMA's digital app recorded farmers had deposited 5,000MT of grain in Kenya and Tanzania.[133]
- **Farm Africa** reports 108,840MT traded under its project.[134]
- **Lead firms**: **Kilimo Trust** reported 19,883MT trade in beans through its lead firm consortia: **Raphael** bought/aggregated 9,540MT from smallholder farmers; **Kaderes** did not contribute to volumes stored because they did not complete construction of their central warehouse during the FTESA programme timeframe; **Shalem** bought/aggregated 11,794MT of grain from contracted farmers; **Musoma** reported that farmers aggregated/supplied Musoma with **26,250MT** of maize.[135]
- **Off-taker Yak** purchased and supplied 4,000MT of maize and 4,000MT of soybeans to local markets; Mt. **Meru** purchased 88MT of soy from its contract farmers. **Classic** sold 29MT of soya beans and 38MT of maize within Kenya.[136]

Cross-border trade

Most reports of **cross-border trade** came from **off-takers**: Yak, Seba, Mt. Meru, Classic and Joseph Initiative.[137] **Lead firms** Musoma, Raphael, Shalem and Kaderes also reported trading across borders.[138] Musoma, for example, exported 3,053MT of maize to Kenya and Uganda and 605MT of maize flour to Rwanda. **Farm Africa** reported instances in which FBOs they supported established long-term trading relationships with cross border traders,[139] including an example of two Ugandan FBOs who sold grain to traders who then exported the grain to Kenya.[140]

[128] FA QR: Q4 2017.
[129] FA FR.
[130] KPD QR: Q2 2017; Musoma FR.
[131] JI FR; Classic FR; Seba AR; Seba FR; Afritec FR.
[132] EAGC FR.
[133] WFP FR.
[134] FA FR.
[135] KT FR. RGL FR. KPD FR. Shalem FR. Musoma FR.
[136] Yak FR. MMML FR. Classic FR.
[137] Yak FR; Seba FR; MMML FR; Classic FR; JI QR: Q3 2017.
[138] RGL FR; Shalem AR 2016-17; KT QR: Q2 2017; Musoma FR.
[139] FA FR.
[140] Farm Africa QR: Q3 2017.

3.3.2. How, why, for whom and in what circumstances: How and why have these changes materialised?

Storage and aggregation, grades and standards

Barriers to storage and aggregation include construction delays, smallholder farmers' preference to be paid immediately in cash rather than store their crop and receive payment in future, and the high cost of transporting crops.

There were many more reports of constraints to improved storage and aggregation than of enablers. Barriers to **constructing warehouses** included natural disasters, such as the earthquake that affected Kaderes' warehouse, or rains that affected Mt. Meru's silo construction. The EAGC also reported that the high cost of meeting their standards prevented some warehouse operators from making upgrades.[141]

According to Farm Africa and the EAGC, barriers to farmers **aggregating** their crops included an increased demand from traders and farmers' preference for immediate cash payment rather than deferring payment, which also contributed to low uptake of WRSs by farmers.[142] Shalem intended to implement a WRS but there was 'low acceptance level at the farmer level'.[143]

The most frequently mentioned barrier preventing farmers from **transporting their crops** either from the farm to a VAC, or from the VAC to a certified warehouse, was the **high cost of transport**.[144]

Farm Africa cites project warehouse upgrades as an enabler to farmers using warehouses because farmers have more confidence in upgraded warehouses. Similarly, the EAGC reported that trust plays a key role in encouraging farmers to aggregate.[145]

Training on grades and standards in combination with the incentive of premium prices has enabled and motivated farmers to produce better quality grain. Training on grades and standards contributed to building trust among the members of VACs.[146] Kilimo Trust's interventions in **post-harvest handling and GAP training** improved the quality of some groups produce previously rejected.[147] Yak reported that humidity was a major constraint to achieving the desired maize quality, because the moisture content was too high. Classic Foods reportedly addressed this issue through training farmers on grades and standards. The EAGC attributes reports of reductions in post-harvest loss to post-harvest handling training and equipment.[148]

Shalem reports that the incentive of **higher prices** for improved quality has motivated the farmers to produce higher quality produce to sell to the lead firm.[149]

Market information

Esoko reported challenges with uptake of its MIS include problems with ICT infrastructure, interrupting the platform's functioning. They have also have questioned the sustainability of the service, which farmers are unwilling to pay for the service.[150]

[141] KPD FR; MMML FR; EAGC FR.

[142] EAGC QR: Q2 2016; FA QR: Q4 2017; EAGC FR

[143] Shalem AR 2016-17.

[144] JI FR, Mission Report 2016, EAGC FR, FA FR

[145] FA FR; EAGC FR.

[146] EAGC FR.

[147] PMU VR, Rwanda, Mar 2017.

[148] Yak FR; Classic FR; EAGC FR.

[149] Shalem FR.

[150] Esoko FR.

Linking buyers and sellers

As noted in section 3.1, EAGC's **G-Soko** has struggled to link buyers and sellers, and one of the reasons cited by Farm Africa was that those posting grains for sale **did not understand market dynamics**, and so they posted uncompetitive prices on the platform.[151]

Farmer Aggregation Models

- **WFP Forward Delivery Contracts:** to ensure buyers would source from FtMA-supported farmers, in Rwanda WFP asked all buyers to sign a **pledge**, which required buyers to absorb excess supply in the event of another buyer defaulting.[152]
- **Farm Africa NGO Consortium:** Farm Africa reported that **contract farming** gave farmers the *confidence* to aggregate.[153]
- **Lead Firm Consortium model**: Kilimo Trust facilitated linkages between lead firms and buyers by holding **business-to-business meetings** resulting in several deals being made.[154]
- **Off-taker model**: Yak signed agreements with 89 cooperatives after **'sensitising'** them; Mt. Meru has encouraged farmers to join its soybean contract farmer scheme through **advertising** on the radio; Classic Foods attributes its 'structured trainings' with enabling them to recruit farmers to supply them with soybeans.[155]

Credit

Commercial banks' risk aversion to lending to smallholder farmers was the biggest barrier to access to finance. Grantees provided examples of barriers to farmer's access to finance, including banks' reluctance to take on risks associated with smallholder farmers (e.g. Mt. Meru); banks charging very **high interest rates** (e.g. WFP); and FBOs' inability to **raise collateral** for a bank loan (e.g. PMU).[156] EAGC reports cooperatives used grains stored in EAGC-certified warehouses as collateral to access credit from banks.[157] Kilimo Trust found that farmers' **lack of financial literacy** led to them defaulting on repayments to commercial banks.[158] Kilimo Trust reported that '[a] **group guarantee** in accessing funds from financial institutions is the most effective for farmer groups that might not have physical collateral'.[159] The Kilimo Trust Qualitative Case Study[160] finds that smallholder farmers had difficulty accessing credit because of the 'lack of credible security and bank guarantees that can reduce the smallholder farmers' risk profile.' Seba reported that loan recovery was a challenge because farmers were not available to attend Seba's meetings,[161] although the report does not elaborate, presumably this is the forum in which Seba collects/prompts repayment. Joseph Initiative reported it was unable to get a **reliable financial institution** to lend to farmers.[162] WFP presents a success story, in which the high loan repayment rate by its farmers in one season encouraged other financial institutions to **'copy'** and provide loans to FtMA farmers in subsequent seasons.[163] Through farmer-based organisations' exposure to formal aggregated sales, quality input utilisation and training opportunities, this

[151] FA FR.
[152] WFP FR.
[153] FA FR.
[154] KT FR.
[155] Yak FR. MMML FR. Classic FR.
[156] MMML QR: Q2 2017; WFP QR: Q4 2016; PMU MR, Feb 2017.
[157] EAGC FR.
[158] KT AR 2016-2017.
[159] KT QR: Q4 2016.
[160] Kilimo Trust Qualitative Case Study (August 2018).
[161] Seba QR: Q4 2017.
[162] JI FR.
[163] WFP FR.

enhanced their bankability and, along with good repayment rates, raised the confidence of financial institutions in doing business with smallholder farmers.

Volumes stored, aggregated and sold

Off-taker Sosoma reported that having a warehouse was an enabler to trade, as it meant they could buy more produce from farmers.[164] The PMU reported that farmers had an incentive to sell to Yak, also an off-taker, because Yak would process the farmers' maize and sell back a portion of maize to the farmers as flour.[165]

Barriers to trade mostly consisted of **liquidity constraints** on the part of both buyers and sellers (farmers). Traders may not have the cash to buy all produce, they may delay payments to farmers, or offer low prices or not show up to buy at all. Farmers may side-sell when others offer higher prices.[166]

G-Soko was less successful than expected for several reasons. For example, the EAGC reported that the warehouses and aggregation centres did not have the **technical know-how** to operate the G-Soko platform; some warehouses operated a **parallel-intake** whereby they did not register all grain on G-Soko; in addition, EAGC reported **low volumes** of aggregated grain at VACs and warehouses prevented them from trading on G-Soko.[167]

Cross-border trade

Problems in trading across borders centred on **export bans**: Tanzania's export ban meant that Kenya sources maize from Mexico, at a cheaper price than maize from Uganda, undercutting Ugandan maize traders. MMML also struggled with Zambia's export ban on soy. Classic Foods reported successful cross-border trade because it has a subsidiary in Uganda.[168]

3.3.3. What indications are there of sustainability?

As discussed under EQ2, some signs of behaviour change (by both farmers and buyers) indicate sustainability. However, DF grantees (e.g. Farm Africa, EAGC) have raised concerns around the sustainability of maintaining VACs and warehouses. It has also become evident that G-Soko is not sustainable.

Grantee EAGC reports that it plans to take over G-Soko from Virtual City.[169] A G-Soko Feasibility Study Report, presented in November 2017, found that G-Soko cannot feasibly exist as an independent, commercial entity.[170] This is both acknowledging the G-Soko intervention itself is not sustainable without external support (from EAGC/Virtual City), while also trying to ensure it can continue after the FTESA programme has ended.

Farm Africa reports its activities for ensuring sustainability include working with warehouses and VACs to develop business plans for them and identifying district and village officials to take on aggregator roles.[171] Having a business plan is not a guarantee of sustainability: other concerns include the ability to **maintain** these structures, which was a problem Sosoma reported concerning cooperatives' warehouses; the EAGC also reported this concerning VACs' ability to maintain its equipment. Farm Africa expressed concern that

[164] Sosoma FR.

[165] PMU VR Rwanda, March 2017.

[166] EAGC FR; WFP FR; PMU KT VR, Sept 2016; MMML QR: Q4 2016.

[167] EAGC QR: Q4 2017; EAGC FR.

[168] FA FR; KT FR; MMML QR: Q2 2017; Classic FR.

[169] 'Project Assets Transfer Plan: EAGC to take over GSoko ICT System from Virtual City and continue to operate it' in EAGCF FR.

[170] EAGC QR: Q4 2017

[171] FA FR; FA QR: Q3 2017.

warehouse management might not maintain **best practice** after the project ends, when there is no donor to insist on it.[172]

There are signs of **behaviour change** amongst smallholder farmers, where grantees report adoption of new practices. WFP reports smallholder farmers adopting post-harvest handling practices, and Pee Pee reports their healthy sales indicate smallholder farmers have adopted the use of PICS bags.[173] Kilimo Trust and Kaderes report an important change in thinking in smallholder farmers, who have come to accept beans as an important new crop that can serve as a source of household income.[174] Kilimo Trust has several success stories of participating farmers making large investments in bean production.[175] However, Kilimo Trust also has examples of smallholder farmers 'dis-adopting' beans in cases where their crops failed, and they saw no return on their investments.[176] Other grantees report signs that farmers have been **resistant to adopting a new crop**, especially soy (also noted under EQ2). Seba attributes this to the short timeframe in which to encourage adoption; while Mt. Meru reports it is because smallholder farmers see soy as a food crop and not a cash crop.[177]

As mentioned under section 3.2.3 in some cases, it appears **buyers' (grantees') adopted behaviour change** will also continue. Lead firms Raphael and Shalem both express their commitment to the new business model and will continue to trade with large buyers and give farmers a guaranteed market. In contrast, off-taker Joseph Initiative seems unlikely to continue with a smallholder-focused business model, for reasons noted previously.

Except for WFP, it seems unlikely that access to finance will be sustainable, given how unwilling commercial financial institutions have been to lend to smallholder farmers unless they are in FBOs.

[172] Sosoma QR: Q2 2017; EAGC FR; FA QR: Q4 2017

[173] WFP QR: Q4 2017; PP FR.

[174] KPD FR.

[175] KT AR 2016-17; KT FR.

[176] KT AR 2016-17.

[177] Seba FR; MMML QR: Q3 2017.

3.4. To what extent have improved availability and use of inputs (output 2: inputs) and application of GAP increased production and trade? (EQ4)

Main findings:

- Several grantees explicitly state that the combination of training on GAP and better access to inputs (often through FBOs) have resulted in increased smallholder farmer productivity and yields, leading to increased production.
- The most commonly reported constraint to production is weather, followed by late inputs and farmers applying inputs inappropriately, or receiving poor inputs. Several lead firms and off-takers have provided inputs directly to smallholder farmers on credit but have sometimes struggled to secure the input supply (e.g. Mt. Meru and Joseph Initiative).
- Grantees have employed a variety of GAP training techniques (e.g. Training of trainers (ToT)), demonstration plots, and mass trainings). Two grantees reported a problem with the ToT approach, because trainers lacked incentives to train other farmers (e.g. Kilimo Trust and Sosoma).
- Sustainability: Lead firms have reported smallholder farmers are often unwilling to pay for better quality inputs. Grantees are split on whether they believe farmers have undergone a change in attitudes because of the projects and will be willing to pay in future.

3.4.1. What: To what extent has FTESA improved availability and use of inputs and application of GAP?

Several grantees explicitly state that the combination of training on GAP and better access to inputs (often through FBOs) have resulted in increased smallholder farmer productivity and yields, leading to increased production.

Access to quality inputs

At the regional level, ACTESA reports that seed companies have registered 40 varieties on the FTESA-funded COMESA Seed Variety Catalogue which allows companies to trade registered varieties in all COMESA member states.[178] However, it is not clear how much **trade in seed** is due to the catalogue.

With respect to **seed production**, Afritec is the one grantee purely focused on producing **hybrid seed** for onward sale. Two other grantees, Kaderes and Raphael (lead firms), have tasked some of the smallholder farmers in their respective consortia with producing **QDS**.[179]

Numerous grantees report that smallholder farmers accessed inputs (e.g. seeds and chemicals) through **farmer collectives**. This was more the case for the **lead firm** model rather than the **off-taker** model. Virtual City reported receiving orders for inputs from farmer cooperatives, and Kaderes reported smallholder farmer receiving **improved seed** through SACCOs.[180] Farm Africa and the PMU reported that this collective way of accessing inputs is especially important for **women smallholder farmers**.[181] VACs also provided an effective channel for smallholder farmers to access inputs.[182] For some (e.g. **Farm Africa**), aggregation centres are becoming service hubs attracting different service providers (e.g. for inputs) making access to inputs easier for farmers.[183]

[178] ACTESA FR.
[179] KPD QR: Q3 2016; RGL FR.
[180] VC AR 2016-17; KPD FR.
[181] FA FR; PMU Shalem MR Feb 2017.
[182] PMU VR EAGC Oct-Nov 2016; PMU JI MR Nov 2016.
[183] FA FR.

As noted in section 3.3, several grantees, most of them **off-takers**, offered farmers **inputs on credit**: Afritec, Seba, Classic, and **lead firm** Musoma. Mt. Meru reported it distributed less seed than anticipated, but estimated that 80% of registered farmers were using improved seed and applying GAP.[184]

Training in GAP

Most grantees offered farmers training in GAP, which took different forms. Some grantees (Seba, Afritec, Sosoma and Shalem) trained '**lead farmers'** or engaged in **'training of trainers'** (ToT), with the understanding that these trainees would then pass on learning to other farmers. Other grantees also established **demonstration farms**, including ENAS, Classic, Afritec, Musoma, and Mt. Meru. Another approach included organising one-day **mass farmer trainings** (Seba, Afritec and Joseph Initiative). A minority promoted GAP through **radio**[185] and **television**,[186] and used **brochures** to disseminate GAP messages.[187]

Increased production

Several FTESA grantees reported increases in production,[188] slightly more were participants in the **lead firm** model when compared to other farmer aggregation models. Kilimo Trust reported farmers participating in its consortia increased productivity by an average of 30%.[189] Lead firm Raphael Group reported that farmers increased their bean productivity from 0.3MT/acre to 0.8MT/acre,[190] an increase of 270%. Lead firm Musoma Food reported that its farmers increased production from 3.8MT/ha to 6.0MT/ha,[191] an increase of about 160%. **Farm Africa** reported high yields in the 2017 harvest season,[192] and a Farm Africa consortium farmers' group increased its rice yield by 100%.[193] **Off-takers** Yak Fair Trade and Sosoma report maize yield increases from 150% to 300% in some cases.[194]

Four grantees (WFP, KT, JI and Shalem) reported that **GAP training** and subsequent **adoption of GAP** led to farmers increasing their productivity.[195] Shalem reported adoption of conservation agriculture leading to smallholder farmers' increased yields. Other grantees reported a combination of improved **access to seed and fertiliser** and **GAP** leading to increases in productivity.[196] Joseph Initiative shared an example of how they provided farmers information about how to get rid of Fall Army Worm, and sold them appropriate pesticide at the same time, which meant farmers could bring the infestation under control.[197]

[184] MMML FR.
[185] JI QR: Q2 2017; MMML AR.
[186] ENAS QR: Q3 2016.
[187] Sosoma QR: Q2 2017; MMML FR.
[188] Please note, production values are not reported systematically in grantee reports.
[189] KT FR.
[190] RGL FR.
[191] Musoma FR.
[192] FA FR.
[193] PMU MR, Nov 2016.
[194] PMU Verification Report, March 2017.
[195] WFP QR: Q4 2017; PMU JI MR Nov 2016; Shalem FR.
[196] ENAS FR; PMU KT MR Feb 2017.
[197] JI QR: Q2 2017.

3.4.2. How, why, for whom and in what circumstances: How and why have these changes materialised?

Access to inputs

The most frequently cited **barrier to access** to inputs was on the **supply side** where, for example, the off-taker or agrovet cannot secure the inputs for onward sale/distribution to smallholder farmers.[198] Sosoma reported an instance in which the agrovet provided the incorrect type of input. Three grantees also reported the challenge posed by the proliferation of **fake inputs** on the market.[199] There were also several examples of smallholder farmers receiving **inputs late**, delaying planting.[200] Four grantees cited **government policy** as a hindrance to the supply thus resulting in delays.[201] For example, Afritec experienced delays approving new seed varieties, ENAS faced delays in getting a blending permit for fertiliser, and Mt. Meru struggled with import bans that prevented seed trade.[202] Afritec also provided an example of a serious **conflict of interest** where the individual responsible for issuing Afritec import permits was the owner of a competing seed company.[203] On the **demand side**, several grantees mentioned farmers' inability to pay for inputs.[204]

Government policy has also **enabled access to inputs.** Subsidies provided by the Rwandan Ministry of Agriculture benefited a farmer group in one of the lead firm consortia. Raphael reported that Tanzanian government policy (involving importing fertiliser in bulk and fixing its price) has **lowered the price of fertiliser** for smallholders.[205]

Several grantees also reported that **partnerships with research centres**[206] and extension agencies[207] enabled access to inputs. On the **demand side**, Virtual City reports that its Agro Voucher project, with its **electronic ordering** system, has led to increased demand for agro inputs because the cashless transactions are less risky.[208] Musoma reported it addressed smallholder farmer liquidity constraints by distributing inputs with a 50% pre-financing arrangement.[209]

GAP training and adoption

Kilimo Trust identified a **constraint** to the **ToT** approach where it found that most trainees had not passed on any training to their groups. To encourage them to train others, the project provided the trainers with a 'facilitation package'. Sosoma also encountered this problem, and subsequently offered the trainers stipends so that they would train others.[210]

Several grantees describe the **methods** by which they think their training interventions lead to GAP adoption. For example, Raphael and Musoma report that **demonstration plots** enable farmers to see how to apply GAP in a **practical setting**.[211] Kilimo Trust relies on the **lead farmer** training approach, so that other farmers can **easily access information** on GAP.[212]

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[198] Seba MR Feb 2017; RGL QR: Q4 2016; MMML FR; JI AR 2016-17.
[199] FA AR 2016-17; PMU WFP MR Dec 2016; KT QR: Q2 2017.
[200] WFP FR; Seba FR; Afritec QR: Q3 2017.
[201] WFP FR
[202] Afritec AR 2016-17; ENAS FR; MMML FR.
[203] Afritec AR 2016-17.
[204] Afritec QR: Q3 2017; KPD VR Sept 2016; Musoma AR 2016-17.
[205] KT FR; RGL FR.
[206] KPD QR: Q3 2016; Classic AR 2016-17.
[207] Sosoma AR 2016-17.
[208] Sosoma AR 2016-17.
[209] Musoma FR.
[210] KT QR: Q2 2017; PMU MR Rwanda Sept 2016.
[211] RGL FR, Musoma FR.
[212] PMU VR Sept-Oct 2016.

Increased production

The most commonly reported constraints to production was **unreliable rainfall**; most often **late rains** or **drought**.[213] Kaderes also mentioned negative effects of flooding.[214] Other constraints to production include: **pests**, especially Fall Army Worm,[215] and the **incorrect application of inputs** resulting from inadequate GAP training.[216]

An enabler to production, in addition to adoption of GAP and improved access to inputs, is the use of **customised inputs**. ENAS reports its customised fertiliser blends are more effective, and offers a success story of one farmer who has increased his productivity by 200%. Classic also reports it has prepared inputs for smallholder farmers based on results of soil tests for selected regions. Lastly, Raphael reports that climate smart agricultural methods such as the use of drought-tolerant seed varieties have mitigated the risks associated with unreliable rain.[217]

3.4.3. What indications are there of sustainability?

ACTESA has introduced the COMESA Seed Variety Catalogue, which has seen some use already. However, it is not clear if it has or will result in an increased trade in seed. This needs to happen so that companies can see the benefits of using the catalogue and will continue to use it, and other companies will be motivated to start using it.

Virtual City reports that orders through the Agro Voucher project have resulted in growth in agro input companies.[218] The fact that the project has paid dividends for pilot partners is a good indication that the pilot has been successful.

With respect to smallholder farmer behaviour, there are signs that farmers have internalised GAP messages given their **willingness to pay** for inputs, with grantee interventions delivering 'proof of concept' for the farmers:[219]

- ENAS reports repeat customers for their blended fertiliser.
- Kilimo Trust reports FBOs are demanding fertiliser.
- Yak reports farmers are 'motivated' and recognise the 'importance' of using fertiliser.
- Shalem reports farmers have 'embraced' the use of certified seeds and fertiliser.
- Kaderes describes how farmers have realised that using certified seeds increases their yields.

However, several grantees reported smallholder farmers' **unwillingness to pay** for inputs, including Seba; Afritec, who reported a 90% default rate on repaying the cost of inputs; and Musoma, who reported that farmers were reverting to using local, recycled seeds because they did not have the funds to buy improved seed.[220]

[213] WFP AR 2016-17; Afritec AR 2016-17; MMML AR 2016-17; KT FR; EAGC FR; FA FR; Yak QR: Q2 2016; Musoma FR; KPD AR 2016-17.
[214] KPD QR: Q2 2017.
[215] Farm Africa FR; Classic FR.
[216] PMU Seba MR Feb 2017.
[217] ENAS FR; Classic QR: Q4 2017; RGL FR.
[218] VC QR: Q3 2016.
[219] ENAS QR: Q2 2017; KT FR; Yak FR; Shalem QR: Q4 2016; KPD AR 2016-17.
[220] Seba FR; Afritec FR; Musoma FR.

3.5. To what extent and how has FTESA brought in (or facilitated) smallholder farmers in structured regional markets? (EQ5)

Main findings

- Anecdotal evidence indicates grantee beneficiaries are smallholders as opposed to farmers with larger landholdings. At least eight out of 13 grantees reported that their FTESA interventions resulted in smallholder farmers receiving higher prices for their produce, and the same number of grantees reported the farmers they work with experienced an increase in income. Several lead firms and DF grantees report positive results for women's economic empowerment, in terms of increasing women's access to resources and agency.
- The most important enablers to bringing smallholder farmers into structured markets are open communication, trust, and transparency between smallholder farmers and buyers, and other value chain actors. Support from national and local government is also an important enabling factor. The most commonly cited constraint—a lack of trust—can be caused by, or result in, farmers side-selling.
- Several grantees pursued explicit gender inclusion policies. Barriers to female smallholder farmers benefiting from grantees' interventions included cultural norms and asset ownership.
- Some signs of sustainability include new investments (e.g. EAGC-supported VACs investing in infrastructure) and changes in market roles (e.g. a farmers' group becoming an off-taker).

Main findings by Farmer Aggregation Model

- WFP exceeded its target volume of staple food bought from smallholder farmers, at higher than market price, resulting in an increase in smallholder farmers' incomes from maize. Trade was enabled by the FtMA's digital app which WFP plans to roll out to all FtMA countries. The FtMA model was threatened by the fact that the Farmer Organisations they work with are not legal entities, and so cannot sign contracts with buyers, instead only individual members could sign contracts.
- Farm Africa far exceeded its target sales volume (though very little was through G-Soko), at above farmgate prices, resulting in an increase in income for VACs. These successes were enabled by the formal registration of FBOs, which enabled them to sign contracts. Farm Africa's project also brought women into leadership positions, despite cultural barriers.
- Lead firms, except for Kaderes, exceeded their targets for volume purchased from smallholder farmers, bought at above farmgate, market or competitor price. Kilimo Trust reported that farmers participating in the lead firm consortia saw a 44% increase in income. Several lead firms report an increase in women's access to financial resources (despite barriers to female asset ownership), which in Shalem's case may be a result of its gender policy. Lead firms Raphael and Shalem are very enthusiastic about continuing to source from smallholder farmers after FTESA's end.
- Off-takers: at least half of the grantees (from different funding rounds[221]) have not met their targets for volumes bought, though all report they pay a competitive or above-market price. Classic Food are the only grantee to report on smallholder farmer incomes, which they claim increased. Most have contracts with FBOs. It is unclear if women have benefited from off-taker projects, even though some have gender policies (e.g. Classic). It is also unclear if their market relationships with smallholder farmers are sustainable.

[221] Mt Meru was in the Early Bird Window, Yak in Round 3 and Seba in Round 4.

3.5.1. What: To what extent has FTESA brought smallholder farmers into structured regional markets?

Smallholder farmer inclusion

Almost all grantees refer to the farmers they work with as smallholder farmers, but few report the size of these farmers' landholdings. At least five grantees provide anecdotal evidence indicating the farmers they work with are--by definition— 'smallholders', with a range of landholdings from one acre to 20. Three of these grantees reported that their interventions enabled farmers to increase their acreage for growing staple food crops. There is evidence that at least three grantees who either struggled to target smallholder farmers (Mt. Meru), or offered examples of working with farmers with larger landholdings (Shalem, Yak).

- **WFP** reported that it focuses on smallholder farmers whose 'economic endowment is limited'.[222]
- **Farm Africa** provided anecdotal evidence of a female smallholder farmer/cooperative member with **one acre of land** that she inherited from her parents, who has increased her profits from rice as a result of the Farm Africa project.[223]
- **Lead firm consortium model:**[224]
    - **Kilimo Trust** provides anecdotal evidence of a male smallholder farmer/chairman of a cooperation who has increased his land dedicated to bean production from two to eight hectares (or about 5 acres to 20 acres).
    - **Kaderes** reported its project's main beneficiaries are smallholder farmers with plot sizes from **1 to 2 acres**.
    - The PMU reports that **Shalem** was targeting farms of '**large sizes'** to swap from tea to soy farming, suggesting that some of the beneficiaries were not small-holder farmers.
    - **Musoma** provided anecdotal evidence of a female farmer and member of a farmers' association who grew one acre of maize to supply to Musoma. She did however also grow tobacco, though Musoma did not report the area of land she devoted to that crop.
- **Off-taker model:**[225]
    - **Mt. Meru** reported that initially they found it difficult to identify enough smallholder farmers to include in their Zambia project, mostly finding larger-scale farmers, although they did find willing smallholder farmers eventually.
    - **Joseph Initiative** estimates that the average farmer they source maize from has 1.35 acres of land, and provided anecdotal evidence of a benefiting female farmer cultivating 1 acre of land—and increasing this to 2 acres as a result of the Joseph Initiative's project.
    - **Yak** reported it works with smallholder farmers who own 0.5 hectares of land (about 1.2 acres); however, it also provides an anecdote of one of its lead farmers who crops maize and beans on 70 acres, and so would not be classed as a smallholder.
    - **Sosoma** reported anecdotal evidence of one farmer increasing his maize acreage from 2 to 9 acres, and soy acreage from 0.5 to 6 acres.

[222] WFP AR 2016-17.

[223] FA FR.

[224] KT FR; KPD FR; PMU MR Feb 2017; Musoma FR.

[225] MMML FR; JI FR; Yak FR; Sosoma FR.

- **ENAS** reports that by providing fertiliser in small packages (5, 10 and 25kg), this makes it more **affordable** to smallholder farmers.[226]

Smallholder farmer sales

The table below shows grantees' achievements against their targets for volumes sold (outcome 2), organised by the Farmer Aggregation Model where relevant. Farm Africa's results are the most impressive, and are supported by the Farm Africa Qualitative Case Study findings.[227] Two lead firms and at least three off-takers appear to have underperformed. In addition, it appears that most grantee-reported results for outcome 2 do not match the PMU's reporting. In nine cases grantees have reported higher values than the PMU, calling into question the reliability of this data.

Table 3: Grantee Outcome 2 results, compared to targets

Grantee	Outcome 2 Result (Grantee FR)	Outcome 2 Target (Grantee FR or MRM plan)	Outcome 2 Result (PMU end-of-project data, April 2018)
EAGC (G-Soko)	10,680 MT[228]	75,000 MT	6,163 MT
WFP	53,047 MT	49,000 MT	72,895 MT
Farm Africa	108,840 MT	18,156 MT	108,840 MT
Lead Firms			
Kilimo Trust	19,883 MT	30,000 MT	8,869 MT
Kaderes	[blank]	2,612 MT[229]	627 MT
Musoma	26,250 MT of maize	20,000 MT	27,790 MT
Raphael	9,540 MT	7,500 MT	7,340 MT
Shalem	11,794 MT	5,000 MT	7,267 MT
Off-takers			
Classic	126 MT	MRM plan not available	0 MT
Joseph Initiative	44,672 MT[230]	41,400 MT	1,124 MT
Mt. Meru	771 MT of soy	1,900 MT	763 MT
Seba	285 MT of soy	25,000 MT[231]	299 MT
Sosoma	336 MT of maize and soy	100 MT	50 MT
Yak	3,658 MT of maize grain, 2,000 MT of beans	5,000 MT of maize, 3,000 MT of beans[232]	1,050 MT

[226] ENAS FR.

[227] This study finds the Farm Africa project has brought 21,855 rice farmers into structured markets in Southern Tanzania; and there is evidence to suggest that these gains are sustainable in that farmers appear to have adopted the aggregation and collective marketing model. Farm Africa Qualitative Case Study (Sept 2018).

[228] The EAGC reported smallholder farmers sold 10,680MT of grain on G-Soko through VACs (12% of grain recorded on G-Soko), although this was below target (EAGC FR).

[229] From indicator 'Total quantity in metric ton of processed beans per annum' in KPD MRM plan.

[230] This is contrary to the values reported in the Joseph Initiative Qualitative Case Study (August 2018) that found 'JI procured a total of 43,238MT of maize in the period January 2015–December 2017. However, smallholder farmers contributed 18,739MT, representing just 43% of the total volume procured in the project period.'

[231] From indicator '8.2 Volume of grain procured from farmers in MT' in Seba MRM plan.

[232] From indicator 'The optimum production of 5,000 MTs of maize, 3,000 MTs of beans are reached per year' in Yak MRM plan.

In the table above, in the second column from the left, bright red cells indicate a grantee has not met its target, while bright green cells indicate it has, according to the grantee's self-reporting. In the far-right column, pale red indicates that PMU and grantee reporting does not match, while pale green cells indicate the data does match.

Smallholder farmer prices

Twelve grantees (**EAGC, Farm Africa, Joseph, Kaderes, Kilimo, Mount Meru, Musoma, Raphael, Seba, Shalem, Sosoma, WFP**) reported higher prices due to their FTESA-funded interventions, with grantees reporting prices compared to farm-gate or market prices, or increases in prices.

- The **EAGC** reported sales through **G-Soko** resulted in smallholder farmers receiving prices between 15-30% above prices in informal markets.[233]
- **WFP** reported that 95% of farmers interviewed reported they received a maize price above the market price, and provided an example of one group in Rwanda receiving 12 USD/kg more than market price.[234]
- **Farm Africa** reported farmers receiving price increases ranging from 4%-20%[235] and increases of 0.05 USD/kg more than farmgate price.[236]
- **Kilimo Trust** reported the highest price difference recorded between the price given by the off-taker and that offered in the market as 25%[237]; other **lead firms** reported the following:[238]
    - Lead firm **Musoma** reported it paid smallholder farmer prices 0.05 GBP higher than farmgate price.
    - Lead firm **Shalem** reported it paid a price of KSH 2-3/kg more than the current market price.
    - **Kaderes** reported its prices were 26% higher than competitors'. Our quantitative survey that found that the prices for beans increased above inflation rates between 2015 and 2017[239] although Kaderes did not buy beans in the 2017 long season. Kaderes pays a median price – approximately 400 TZS higher than local crop-purchasing agents.
    - **Raphael** reported an increase in net additional farm gate price from the target of 26 GBP/MT to an actual of 54 GBP/MT.
- **Off-takers** reported prices paid to farmers as follows:[240]
    - **Joseph Initiative** offered smallholder farmers 10 USH/kg above market price;[241] however, in 2017 and 2018, Joseph Initiative was only buying very small quantities directly from farmers, and traders had reverted to offering smallholder farmers low prices.[242]
    - **Sosoma** gave farmers a 'top-up' of 15 RWF/kg on maize and soy prices.[243]
    - **Seba** reported it pays farmers ZMW 0.4/kg above the average market price.[244]

[233] EAGC FR.
[234] WFP FR.
[235] FA QR: Q4 2016.
[236] FA FR.
[237] KT FR.
[238] Musoma FR; Shalem FR; KPD FR; RGL FR.
[239] Kaderes Quantitative Survey 2018
[240] Classic Foods did not report the price it paid to farmers in its final report.
[241] JI FR.
[242] Joseph Initiative Qualitative Case Study (August 2018)
[243] Sosoma FR; PMU VR Rwanda Mar 2016.
[244] Seba FR.

- **Mt. Meru** provided guaranteed prices of 1,000 TSH/kg (prevailing market price, 900 TSH) and 4 ZMW /kg (prevailing market price, 2.5 ZMW/kg).[245]

Smallholder farmer income and food security

Although few grantees had the M&E capacity to assess changes in smallholder farmers' income with rigour, at least eight grantees reported the farmers they work with experienced an increase in income. There is only one piece of evidence suggesting smallholder farmer income did not rise, in the case of the Joseph Initiative.

- The PMU reported that because of **EAGC** support, VACs in Eastern Kenya increased sales which enabled them to establish poultry projects to supplement their incomes.[246]
- **WFP** reported that income earned by FtMA-supported farmers engaged in profitable maize sales was higher by 58% than that of fellow farmers.[247]
- **Farm Africa** reported that VACs and beneficiaries are increasing their incomes because they are increasing the volumes traded.[248]
- **Lead firms:** Kilimo Trust reported that smallholder farmers in its lead firm consortia saw a 44% increase in income. Raphael reported an average increase on farmers' income of 691 GBP per farmer. Shalem reports that smallholder farmers' increase in yields from 700-1500 Kgs per acre to approximately 1500-2500 Kgs per acre led to increased incomes. Kaderes reports that beans are now the second biggest contributor to its farmers' household incomes behind coffee.[249]
- **Off-takers:** Classic reported most farmers' income went up by more than 30%. Mt. Meru reported farmers were benefitting from selling soybeans to them and side products like soya tea and soya drinks to the local market to increase their income. One cooperative working with Yak reported that the company's support has increased their yield per hectare and that they now get more income as a result.[250] Joseph Initiative reports that because of farmers' increased incomes they have been able to increase their land under cultivation, send their children to school, and build new houses.[251] However, this is contradicted by the Joseph Initiative Quantitative Case Study (2018), that found that its farmers experienced a decline in maize gross margins between 2015 and 2017.
- With respect to household **food security,** Joseph Initiative reported that during a recent drought most farmers consumed their harvested grain rather than selling it to Joseph Initiative. Mt. Meru reported that smallholder farmers' sales to them were lower because smallholder farmers were keeping soy for **home consumption**.[252]

Results for women

Several grantees report results for women's economic empowerment, in terms of increasing women's **access** to resources and **agency** (the latter defined as the power to make economic decisions).[253] These examples all come from either lead firms or DF grantees. There are no off-takers represented in these results:

[245] MMML FR.

[246] PMU MR July 2016.

[247] IFC 2016 impact survey in WFP FR.

[248] FA FR.

[249] KT FR; RGL FR; Shalem FR; KPD FR.

[250] Classic QR: Q4 2017; MMML QR: Q3 2017; Yak FR.

[251] JI FR.

[252] JI AR 2016-17; MMML FR.

[253] E. Markel (2014) 'Measuring Women's Economic Empowerment in Private Sector Development', DCED, https://www.enterprise-development.org/wp-content/uploads/Measuring_Womens_Economic_Empowerment_Guidance.pdf (accessed 21 August 2018)

- **Access**: The EAGC reported an example of a women-owned **warehouse**.[254] Shalem reported that female smallholder farmers have access to funds through village savings and loans (which Shalem provided training in[255]) and they have opened **bank accounts**.[256] Kilimo Trust reported that members of the Zinduka Women's Group have used proceeds from grain sales to build or improve their **houses,** and that the women's group Cheptarit Star has become **a company** and has traded 300MT of grain cross-border. Kaderes also reports that 90% of its processing **workforce** are female.[257]
- **Agency**: in addition to women-only groups mentioned above, grantees offered other examples of women in **leadership positions**, such as VACs, and farmer cooperatives.[258] Farm Africa reported that women-led FBOs have been better managed than male-led ones.[259]

We present results for the % of women among smallholder farmers engaged in section 3.8 as a VfM measure of 'Equity'.

3.5.2. How, why, for whom and in what circumstances: How and why have these changes materialised?

Below we describe the contextual factors and mechanisms that either enable or constrain the different FAMs[260] that FTESA tested. The most important enablers are open communication, trust, and transparency between smallholder farmers and buyers, and other value chain actors. Support from national and local government is also an important enabling factor. Most commonly cited constraints are unsurprisingly the converse of the enablers, such as a lack of trust—which can be caused by, or result in, side-selling.

WFP Forward Delivery Contracts

The WFP found communication and ICT enabling factors in including smallholder farmers in its model. The WFP **FtMA digital app** links aggregators to agro-dealers in Kenya and Tanzania.[261] WFP, like Farm Africa, reports **'transparent and open communication'** between value chain actors is essential to promote structured trade. WFP reported several 'threats' to the model's success, most of them applicable to the other FAMs. In the context where most **FBOs are informal** and not legal entities (e.g. self-help groups or community-based organisations), individual farmers must sign contracts rather than groups, a problem that Farm Africa addressed by formalising FBOs. WFP also reported that farmer cooperatives **overestimate their future production** volumes, and sometimes sign too many contracts with off-takers.[262] WFP also reported a problem with smallholder farmers **side-selling**; the example given was in Rwanda, where the maize price rose, off-takers delayed payment, and so smallholder farmers sold to others.[263]

Farm Africa NGO Consortium

Farm Africa credits its relationship with **government ministries** in Uganda with enabling farmer cooperatives to formally register, meaning they can do business with other formal organisations. Farm Africa has also supported cooperatives to register with local government in Northern Tanzania.[264] The PMU reported that Farm Africa also invested time in maintaining its partnerships, fostering them through **regular**

[254] EAGC FR.
[255] Shalem QR: Q2 2017.
[256] Shalem FR.
[257] KT AR 2016-17; KPD QR: Q2 2017.
[258] EAGC QR: Q2 2016; FA FR.
[259] FA QR: Q3 2017.
[260] FTESA PMU Final Report (May 2018)
[261] WFP FR.
[262] WFP QR: Q2 2016
[263] WFP QR: Q2 2017.
[264] FA FR.

communication.[265] Farm Africa also linked VACs to G-Soko. EAGC reports VACs linked smallholder farmers to G-Soko.[266] We discuss barriers and enablers to G-Soko's functioning under EQ3.The PMU also places G-Soko in this category.

Lead Firm Consortium model

Lead firms have attracted smallholder farmers to their model through establishing trust between them, and providing farmers with relevant information, and the promise of a stable market.

- Musoma signed contracts with FBOs.[267] Musoma reports that **trust between farmers and buyers** is an important mechanism to enable this model, and these relationships must be based on transparency, accountability and timely communication.[268]
- Shalem is 'encouraging contract farming' (although it is unclear if these contracts are with individuals or groups).[269] Shalem reports it attracted farmers to its contract farming scheme through '**awareness creation, sensitization and information dissemination**'.[270]
- Kilimo Trust reports that it has convinced Raphael to change from spot purchases to supply contracts with smallholder farmers (it does not explicitly state that all contracts are with groups, but at least some are, e.g. with the Zinduka women's group). Raphael reported that farmers continue to sign contracts with them because they have used the Raphael-built VACs, attended Raphael's **Farmer Business School**, and appreciate that Raphael is offering a **stable market**.[271] Kilimo Trust, like WFP, reported that smallholder farmer **side-selling** due to price fluctuation was a threat to the model working as it should.[272]
- **Kaderes** has leveraged its **existing relationship** with smallholder coffee producers to encourage them to grow beans as well, to sell to Kaderes, implying that farmers already trusted Kaderes as a buyer.

Off-taker model

As noted previously, most off-takers signed **contracts/agreements** with **farmer groups** or **cooperatives**: Yak, Seba and Sosoma all took this approach.[273] Classic also made supply agreements with farmers,[274] but appears to have first formed farmer groups then linked these groups to cooperatives.[275] Unlike these four, Mt. Meru signed supply agreements with **individual farmers**.[276] Mt. Meru also set up its own **outgrower scheme** training farmers, supplying them with inputs and buying their produce.[277] There is no indication from Joseph Initiative reports that this grantee used contracts with smallholder farmers, supported by the findings in our case study.[278]

The PMU reported Joseph Initiative's transparency in transactions with smallholder farmers (e.g. by using automated weighing scales at Joseph Centres) contributed to building **farmers' trust** in them.[279] However,

[265] PMU MR Uganda, June 2017.
[266] EAGC QR: Q3 2016.
[267] Musoma AR 2016-17.
[268] Musoma FR.
[269] Shalem QR: Q1 2016.
[270] Shalem FR.
[271] KT FR; RGL FR.
[272] KT QR: Q2 2016.
[273] Yak FR; Seba QR: Q4 2017; Sosoma AR 2016-17.
[274] Classic FR.
[275] Classic QR: Q4 2016.
[276] MMML AR 2016-17.
[277] MMML FR.
[278] Joseph Initiative Qualitative Case Study (August 2018)
[279] PMU MR Nov 2016.

the Joseph Initiative Qualitative Case Study suggests this trust has eroded because Joseph Initiative is no longer buying directly from smallholder farmers. Both Seba and Mt. Meru have sought the involvement of **local leaders** with Seba asking traditional leaders to encourage farmers to grow soy and Mt. Meru writing to village executive officers requesting refunds from smallholder farmers who had defaulted on repaying the cost of seed.[280] It is unclear whether this approach was successful. The PMU reported that in Rwanda the **government** provides a lot of support to cooperatives in the form of warehouses and grants for equipment, which is very likely a contributing factor in a successful cooperative-off-taker relationship for Sosoma and Yak.[281]

Reported threats to the off-taker model focused mostly on a **lack of trust**. Classic reported that farmers are distrustful because of previous, negative experiences with **middlemen**.[282] Classic also reported some perceptions that they are working for **political parties or the government** which generates resistance to their project.[283] Seba reported that they need to rebuild trust with farmers in Northern province of Zambia where an agro-dealer Seba had contracted **failed to deliver** services to the smallholder farmers there.[284] Lastly, Mt. Meru reported that in cases where other buyers offer farmers higher prices, **side-selling** is a threat to this model, as it is to the previous two FAMs.

Grantee focus on gender

Several grantees pursued explicit **gender inclusion policies**.

- **Farm Africa** reported it encouraged women to take up leadership roles.[285]
- **Lead firms:** Lead firm Musoma has a policy that a minimum of 30% of assets and benefits the project offers go to women. Shalem has identified male '**gender champions'** to include women in decision-making. Kaderes reports that its intervention has brought men into bean production, traditionally seen as a woman's crop.[286]
- **Off-takers**: Classic has introduced gender policies to its farmer groups, which also apply to **leadership positions**.[287] Mt. Meru promotes gender inclusion by giving female farmers an additional 5 TSH when they register for a bank account[288] and giving women twice as many seeds as men.[289]

Barriers to female smallholder farmers benefiting from grantees' interventions included **cultural norms** and **asset ownership**:

- **Farm Africa** reported that some communities 'have less belief' in female (and youth) leadership.[290]
- **Lead firms** Musoma and Raphael reported that because **men own and control** most farms and other agricultural resources, this limited the projects' benefits to women.[291]
- **Off-taker** Joseph Initiative reported that their intervention has a low involvement of women because of local cultural expectations that women are 'expected to remain at home'.[292]

[280] Seba AR 2016-17; MMML AR 2016-17.
[281] PMU VR Rwanda Mar 2017.
[282] Classic FR.
[283] Classic AR.
[284] Seba FR.
[285] FA FR.
[286] MFCL FR; Shalem QR: Q2 2017; KPD FR.
[287] Classic QR: Q4 2017.
[288] MMML QR: Q2 2017.
[289] MMML FR.
[290] FA QR: Q4 2017.
[291] RGL FR; Musoma QR: Q3 2016.
[292] JI AR 2016-17.

3.5.3. What indications are there of sustainability?

Some signs of sustainability include **new investments** and changes in **market roles.** One of the VACs (Muvau) supported by the EAGC is investing in better infrastructure and diversifying into poultry production,[293] and **a women's farmer group** is constructing its own warehouse while another is becoming an established **regional off-taker**.[294] These examples suggest that, for at least these groups, they have undergone significant change that indicates they have both adopted and adapted new business models. Farm Africa's intervention to formalise cooperatives also suggests that these groups with legal status might be better able to maintain trade contracts and establish new ones in future.

- **WFP** plans to expand, mainstreaming its digital app across all FtMA countries.[295]
- **Lead firm** Kaderes reports that because it offers smallholder farmers higher prices this has 'pulled up' competitors' prices, indicating they have 'copied' Kaderes' business model.[296] As noted under previous sections, both **Raphael** and **Shalem** has expressed their commitment to continuing to source from smallholder farmers.
- **Off-taker** Seba reports that smallholder farmers will continue producing soy because they have an assured market,[297] but this does not seem to have worked in the case of **Mt. Meru**. The **Joseph Initiative** reported that it experienced losses in Q2 2017 when it sold maize at a lower price than it bought from smallholder farmer,[298] indicating this business model was not sustainable for Joseph Initiative.

3.6. To what extent has FTESA benefitted consumers? (EQ6)

Main findings: There is evidence that grantees are producing staple foods of improved quality (e.g. Shalem), and value-added products (e.g. milled and fortified flour) and selling this at retail outlets (e.g. Musoma); however, there is no systematic reporting on the benefits to the end-consumer. There is only anecdotal evidence of benefits to farmers as consumers of the staple foods they are producing (e.g. farmers supplying Yak, Shalem).

3.6.1. What: To what extent has FTESA delivered benefits for consumers?

Grantees did not report systematically on consumers benefiting from their produce, hence it is difficult to assess the extent to which the portfolio delivered. However, several lead firm and off-taker grantees are producing **value-added** staple food products for consumers. **Lead firms** Musoma and Shalem,[299] and **off-takers** Yak and Joseph Initiative[300] are all producing milled flour. In Shalem's case, they also **fortify** this flour.[301] Kilimo Trust has also brokered sales of bean seed **fortified with iron** in Rwanda.[302] Mt. Meru reports its *intention* to fortify soybean oil and powder, but it has not yet aggregated enough soy to begin

[293] PMU EAGC VR July 2016.
[294] PMU EAGC VR Oct-Nov 2016.
[295] WFP FR.
[296] KPD FR.
[297] Seba AR 2016-17.
[298] JI QR: Q2 2017.
[299] Musoma FR; Shalem QR: Q3 2017.
[300] PMU VR Mar 2017; JI AR 2016-17.
[301] Shalem QR: Q3 2017.
[302] KT QR: Q1 2016.

production.[303] In an example of unintended consequences, Mt. Meru outgrowers have diverted soy to producing soy tea and other drinks for sale locally,[304] as well as soy 'confectionary'.[305]

3.6.2. How, why, for whom and in what circumstances: How and why have these changes materialised?

Several grantees identify their **farmers as consumers**. Yak, as noted previously, sells back processed maize to its supplying farmers, charging only for the cost of milling.[306] Shalem also reports that its supplying farmers are also the consumers of the processed product.[307]

Grantees also report that staple food consumers benefit from their interventions to improve **food quality**.[308] Pee Pee asserts that the use of its **PICS bags** improves food safety because it is not necessary to chemically treat stored maize. Shalem reports that the use of **post-harvest handling equipment** (dryers, moisture metres, and tarpaulins) has resulted in improved quality of grain. We also discuss improved grain quality under EQ3.

Lead firm Musoma reports it has been able to benefit consumers by (i) conducting a market survey on **consumer preferences**[309] and (ii) establishing three **market outlets** in major Tanzanian towns to improve **consumer access** to its product.[310] Shalem packages **small quantities** of pulses for the women and youth sell at local retail outlets.[311]

3.6.3. What indications are there of sustainability?

Shalem concludes benefits to consumers will be sustainable because the status of **farmers as consumers** creates a 'win-win' situation for Shalem and farmers.[312] In the case of **Mt. Meru,** which has collected very low volumes from farmers due to side-selling, it seems very unlikely this enterprise will be sustainable, and may only benefit local consumers (of side-selling) in the short-term.

[303] MMML AR 2016-17.
[304] MMML QR: Q3 2017.
[305] Mt. Meru Qualitative Case Study (July 2018).
[306] PMU VR Mar 2017.
[307] Shalem QR: Q3 2017.
[308] PP FR; Shalem FR.
[309] Musoma QR: Q2 2016.
[310] Musoma FR.
[311] Shalem FR.
[312] Shalem QR: Q3 2017.

3.7. To what extent have FTESA approaches to supporting reform to relevant policies, regulations, etc. contributed to change? (EQ7)

Main findings

- FTESA has seen some policy changes, notably ACTESA's success in influencing seven COMESA member states to adopt harmonised seed policy, the approval of the EAGC's grades and standards and the (temporary) reversal of a Tanzanian export ban.
- Involving sector stakeholders and other 'allies' is important for achieving policy change and so is having the appropriate fora to have 'face time' with policy makers.
- The sustainability of any policy changes on staple foods is uncertain, as FTESA experience has shown with the reintroduction of a Tanzanian export ban on maize.

3.7.1. What: To what extent has FTESA delivered policy change?

Several grantees have contributed to changes in food trade policy:

- ACTESA's intervention resulted in **seven COMESA member states** (Burundi, Kenya, Malawi, Rwanda, Uganda, Zambia and Zimbabwe) completely aligning their national seed regulations with the **COMESA Seed System**.[313]
- The EAGC has introduced **nine EAC standards for cereals and pulses**, approved by the Sectoral Council of Ministers.[314]
- **The EAGC** also successfully lobbied the **Tanzanian Government** to remove its **export ban** on cereals and pulses in 2016;[315] however, the government introduced a temporary export ban on processed maize in Q3 2017.[316]
- **Kilimo Trust** reports the **Tanzanian Government** agreed the exportation of unprocessed beans.[317]
- **Musoma** convinced the Regional Commissioner for Tabora, Tanzania to not prohibit trade in maize in the region and to allow farmers to continue trading with the company.[318]
- **Pee Pee** has pushed for the **Tanzanian Government** to put **tax relief** for its hermetic bags on the agenda.[319]

Policy successes already discussed at MTE include the **WRS Bill** in Kenya, and Soya Policy Action Group efforts in Zambia.[320]

3.7.2. How, why, for whom and in what circumstances: How and why have these changes materialised?

Grantees identified the **'allies'** they worked with to influence policy:

- The EAGC worked with the EAC and National Bureau of Standards to implement the standards.[321]

[313] ACTESA FR.
[314] EAGC QR: Q2 2017.
[315] EAGC QR: Q3 2016.
[316] WFP: QR Q3 2017.
[317] KT FR.
[318] Musoma AR 2016-17.
[319] PP FR.
[320] EAGC QR: Q2 2016.
[321] EAGC QR: Q2 2017.

- ACTESA brought together **seed stakeholders** to keep the pressure on COMESA governments to adopt the COMESA Seed System—these actors included CSOs, NGOs, FBOs and **seed companies**. ACTESA also relied on the **financial support** from **another donor** (USAID) to facilitate this process and lastly, the **'political will'** of lawmakers to carry forward the changes ACTESA lobbied for.[322]
- Farm Africa partner RUDI also worked with **'grain stakeholders'** to advocate for the removal of the Tanzanian export ban.[323] As part of Farm Africa's project, the Rice Millers' Council of Uganda (RMCU) advocated for the Government of Uganda to lower its import tariff on semi-milled rice;[324] although there was no evidence of a resulting change.

Grantees used different **fora** and **tools** to advocate for change:[325]

- To promote the EAC standards, the EAGC held **national consultations** and **regional workshops**.
- ACTESA conducted advocacy in **parliamentary committees**.
- RUDI presented **'live cases'** to the government on the impact of the export ban, and the RMCU presented a **position paper** to the government.

The most frequently mentioned barrier to achieving policy change were delays caused by **elections**. ACTESA reported presidential and parliamentary elections in Zambia and Malawi delayed these countries from finalising the COMESA Seed Trade Harmonisation Regulations, and Pee Pee reported a change in government in Tanzania delayed further action on tax relief.[326]

3.7.3. What indications are there of sustainability?

ACTESA launched the COMESA Seed Harmonisation Implementation Plan (COMSHIP) in 17 COMESA member states,[327] but at the time of ACTESA's close, only seven states had aligned their national regulations with the COMESA Seed System.[328] This suggests, as mentioned previously (see EQ2), that member states that did not receive direct support from ACTESA did not **copy** supported states by adopting the new regulations. Without an example of non-supported changes in policy, it raises doubts as to whether changes will be sustainable.

With respect to export and import bans, there is evidence that certain private sector actors have actively fought against bans harmful to their business (e.g. Musoma and Pee Pee). However, the record of events already shows that the EAGC's work on removing Tanzania's export ban was short-lived, when Tanzania reintroduced a temporary ban on maize. Musoma concluded that in Tanzania *'there is always a threat to ban'* cross-border trade in maize and its products because of the crop's importance as a staple food.[329]

[322] ACTESA FR.
[323] FA QR: Q3 2016.
[324] FA FR.
[325] EAGC QR: Q3 2016; ACTESA QR: Q4 2016; FA QR: Q3 2016.
[326] ACTESA FR; PP FR.
[327] ACTESA QR: Q3 2017.
[328] ACTESA FR.
[329] Musoma AR 2016-17.

3.8. Does FTESA offer Value for Money in the results it achieves, compared with possible alternatives? (EQ8)

Main findings

- Economy: grantees controlled costs through procurement procedures or scaling back their projects. Most common causes of overspending were cost overruns on construction, and macro-economic factors like inflation and FOREX.
- Efficiency: all CF grantees are required to have matched funding. Two grantees serve as examples of using their matched funding to expand their businesses. Many grantees reported efficiencies gained from their smallholder farmer training method of choice.
- Effectiveness: very few grantees reported explicitly on how their Outcomes led to Impacts, but see EQ5 for factors resulting in increases in smallholder farmer income.
- Equity: two grantees (Shalem and Sosoma) had over 50% female smallholder farmer engagement. In the case of Shalem this may be attributed to its use of male 'gender champions'.

3.8.1. What: To what extent has FTESA delivered VfM overall?

On the whole, grantees do not provide quantifiable VfM metrics (4Es: Economy, Efficiency, Effectiveness and Equity) in their reporting, but the reporting templates do not request these metrics. Several seemed to misunderstand the VfM categories in the reporting templates, with Yak reporting its project's 'positive socio-economic impact' under Efficiency, and Musoma discussing 'stakeholder equity' under Equity, rather than issues of inclusion.[330] There are just a few examples of: unit costs (Economy), leveraging funds (Efficiency) and the % of women among smallholder farmers engaged (Equity).

Economy

Pee Pee was the only grantee to report unit costs, and reported that the unit cost for its PICS bag rose from 0.85 GBP/bag in 2015 to 0.91 GBP/bag in 2016 due to inflation and the introduction of VAT.[331]

Efficiency: Leveraging funds

All CF grantees are required to have matching funds. Below are two examples of companies who were able to expand their operations due to **matched funding**:

- **Shalem** set up its milling plant using matching funds, and is processing fortified flour with the brand name 'Asili Plus'.[332]
- The **Joseph Initiative** expanded its milling plant from one that was operational in Kasese to four new milling machines installed in Masindi, and reported they have seen flour sales increase by 266% from 2016 to 2017.[333]

Equity

Many grantees report the % of women among smallholder farmers engaged and/or gender disaggregated results against the logframe indicators. We have used these results to calculate the % of women among smallholder farmers engaged.

[330] Yak FR; Musoma FR.
[331] PP AR 2016-17.
[332] Shalem QR: Q3 2017.
[333] JI QR: Q3 2017.

Table 4: % of women among smallholder farmers engaged, by grantee and FAM

Grantee	% of women among smallholder farmers engaged	Source
WFP	48%	WFP AR 2016-17
Farm Africa	38%[334]	FA FR
Lead firms		
Kaderes	45%	KPD FR
Musoma	27%[335]	Musoma FR
Raphael	49%[336]	RGL FR
Shalem	72.9%	Shalem FR
Off-takers		
Classic	35%[337]	Classic FR
Joseph Initiative	36%[338]	JI FR
Mt. Meru	26%	MMML FR
Seba	45%[339]	Seba FR
Sosoma	57%[340]	Sosoma FR
Yak	46%	Yak FR

3.8.2. How and why: How and why has FTESA delivered VfM (or not)?

Economy

The most commonly reported approach to **control costs** was applying appropriate **procurement procedures**, either those mandated by FTESA (e.g. Seba[341]) or the organisation's own (e.g. WFP and Sosoma[342]). Lead firms Musoma, Shalem and consortium coordinator Kilimo Trust, and off-takers Joseph Initiative and Mt. Meru also reported the importance of procurement procedures. Seba and Raphael also reported reducing costs by **scaling back** the scope of their projects. Seba reduced its geographical reach from four to three provinces, and Raphael reduced the number of VACs it intended to build from 30 to 22.[343] Other examples of cost reduction included Mt. Meru setting up its own outgrower scheme, rather than sub-contracting an external company to do this, and Afritec acknowledging that it underpays its staff and underpays for land.[344]

Grantees also reported reasons for **overspending**. The Joseph Initiative and Kaderes both reported that rises in **construction costs** led to overspending.[345] Kaderes and Pee Pee reported that **increases in inflation**

[334] Calculated from gender disaggregated results for Output 1.3.
[335] As above.
[336] As above.
[337] As above.
[338] As above.
[339] As above.
[340] As above.
[341] Seba FR
[342] WFP FR; Sosoma FR
[343] Seba QR: Q4 2016; RGL FR.
[344] MMML FR; Afritec FR.
[345] JI QR: Q2 2016; Kaderes AR 2016-17.

(in local currencies) and **taxes** increased their costs.[346] Kilimo Trust and Yak reported that the **fall in the value of the British Pound** increased their expenses.[347]

Efficiency

Because we discuss the **smallholder engagement** ratio as a measure of efficiency (please see the EMU VfM Assessment, August 2018), we discuss modes of grantee outreach to smallholder farmers here. The most frequently reported tool for efficiently engaging smallholders was a grantee's training method. Yak and Farm Africa both reported using **lead farmers**, while Farm Africa reported efficiency savings from using **government extension services** as well.[348] Pee Pee reported it was able to reach farmers efficiently by partnering with other extension providers.[349] Classic reported achieving efficiency from holding **large training events**.[350] Both Classic and Shalem reported they were able to reach more farmers because they used the **ToT** approach.[351] Lastly, Kilimo Trust conducted a **training needs assessment** to ensure that training provided was an efficient use of resources.[352]

Farm Africa and Seba reported that they improved efficiency by **collaborating** with other **donor-funded programmes** to avoid duplicating efforts. Farm Africa collaborated with USAID, and Seba with Oxfam and others in the Gendered Enterprise Markets programme.[353]

Effectiveness

Few grantees discussed effectiveness with respect to logframe outcomes to impacts, but those that did noted the importance of **smallholder farmer behaviour change**. Farm Africa reported that the increase in smallholder farmer aggregation lead to an increase in volumes traded, and an increase in smallholder farmer incomes.[354] Also see EQ5 for explanations of factors in increasing smallholder farmer income.

Equity

For the most part grantees discussed equity with respect to efforts to **include women** in their projects, though others also referred to including **youth**. Kilimo Trust reported it actively **recruited women's farmer groups** for its consortia.[355] Classic reported its strategy was to have 70% of women among smallholder farmers engaged, although it did not achieve this.[356] Farm Africa reported its efforts to encourage women to become **leaders**, and Classic reported that it allocated leadership positions to both women *and* youth.[357] ENAS reported that it has **employed** a 'large number of women' in its factory.[358] Shalem, as reported in EQ5, had a gender strategy involving 'gender champions' and had the highest female inclusion rate at 73%.

[346] Kaderes AR 2016-17; PP AR 2016-17.
[347] KT QR: Q4 2016; Yak QR: Q2 2016.
[348] Yak FR; FA FR.
[349] PP AR 2016-17.
[350] Classic AR 2016-17.
[351] Classic AR 2016-17; Shalem FR.
[352] KT FR.
[353] FA FR; Seba FR.
[354] FA FR.
[355] KT FR,
[356] Classic AR 2016-17.
[357] FA FR; Classic FR.
[358] ENAS FR.

4. Conclusions

We organise our conclusions according to Evaluation Question and by Farmer Aggregation Model where relevant.

To what extent is FTESA a collection of individual interventions or a coherent portfolio? (EQ1)

- There is evidence that synergies between grantees enabled FTESA to achieve results in excess of its component parts. EAGC, Farm Africa and the WFP (all DF grantees) provided supporting functions that aided FBOs and VACs, and this support not only benefitted smallholder farmers (as members of FBOs and VACs), but also benefitted the FTESA grantees working with those same FBOs and VACs. The support from these DF grantees meant that private sector grantees (e.g. Sosoma) did not have to provide every trade support function itself (e.g. training in grades and standards). The fact that these grantees are all DF grantees suggests the development sector may be more effective at providing these services than the private sector.
    - WFP has been the most interconnected of all grantees. The FtMA spans more countries than the EAGC or Farm Africa. WFP has also capitalised on its role as one of the biggest grain buyers in the region, setting up contracts to buy from other FTESA grantees.
- Synergies between grantees materialise when both parties are committed to their roles in a partnership and/or 'bought in' to a new idea (specifically, a new business model). Geographical proximity between grantees also enables synergy, though can also result in a duplication of effort.
- We are uncertain as to the sustainability of these synergies, as the main 'hubs' of support are DF grantees, not private sector actors, and it is unclear what services they will be able to provide without continued funding.
    - Use of G-Soko by grantees to buy and/or sell was lower than anticipated. It seems unlikely that G-Soko will be sustainable given problems with its low coverage and uptake, and ultimately it has not provided 'proof of concept' to those grantees who have used it to date (e.g. Farm Africa).

To what extent is FTESA likely to improve the functioning of national and regional staple food markets and generate systemic change? (EQ2)

- There are early signs that FTESA may generate systemic change, as indicated by examples of behaviour change in smallholder farms (e.g. adopting new crops), FBOs (e.g. acting as traders), and buyers (e.g. offering smallholder farmers premium prices). This has had the effect of improving the functioning of national, localised staple food markets. There is also some evidence of change in supporting rules (in the form of trade regulation) governing regional food trade.
    - Lead firms appear to have had more success than off-takers in affecting smallholder farmer behaviour change. There are also more examples of lead firms' commitments to change in their own business models (i.e. sourcing from smallholder farmers) as compared to off-takers. Kilimo Trust has likely contributed to this: the support lead firms and the FBOs interacting with them received from Kilimo Trust enabled the changes that off-taker like Joseph Initiative and Mt. Meru, operating without this external assistance, were less capable of achieving or sustaining.
- Enablers of behaviour change include transparency and trust between market actors, in many cases aided by a digital platform. The most frequently cited barriers were (i) the absence of supporting rules (in the form of government regulation) and (ii) limited access to working capital.
- There are indications that the relationships between smallholder farmers and Kilimo Trust-supported lead firms (and respective changes in behaviour) are sustainable because there are examples of

'adoption' as well as 'adaptation'/innovation (e.g. VACs becoming services hubs) and copying (e.g. other traders offering premium prices). However, there were also examples of reversals in behaviour (e.g. by the Joseph Initiative) which calls into question whether these changes, particularly among off-takers, are sustainable. There are indications that those changes related to supporting rules (e.g. export/import regulations) are not sustainable.

To what extent have improved trade support systems (output 1: storage, aggregation, information, value chain coordination, grades and standards, credit) increased production and trade? (EQ3)

- There is evidence FTESA has improved trade support in terms of access to storage and aggregation services, and training in PHH and grades and standards. Farm Africa has been the most successful of all grantees in facilitating the greatest volume of trade with respect to smallholder farmer sales, exceeding trade figures for two larger DF grants, EAGC and WFP. Both Farm Africa and WFP achieved these results by embedding elements of trade support (e.g. contracts, aggregation, access to finance) within Farmer Organisations, an approach Kilimo Trust also used to the benefit of lead firms dealing with FBOs. However, it was off-takers that seemed most active in cross-border trade. There is less evidence to suggest FTESA has improved smallholder access to information or credit across the portfolio. With respect to access to credit, this indicates that FTESA grantees' attempts to encourage commercial banks to provide credit have been ineffective and project implementers should use a different intervention to secure access to credit in future. WFP was very successful in securing smallholder farmer access to credit, which most grantees struggled with. WFP facilitated FBOs to access credit from banks as collectives, and facilitated farmer access to microfinance, indicating these interventions may be more successful than alternatives (e.g. facilitating individual farmer's access to commercial credit).
- Barriers to storage and aggregation include construction delays, smallholder farmers' preference to be paid immediately in cash rather than store their crop and receive payment in future, and the high cost of transporting crops.
- Training on grades and standards in combination with the incentive of premium prices has enabled and motivated farmers to produce better quality grain.
- Commercial banks' risk aversion to lending to smallholder farmers is the biggest barrier to access to finance.
- Barriers to trade mostly consisted of liquidity constraints on the part of both buyers and sellers (farmers). Problems in trading across borders primarily stemmed from export bans.
- Some signs of behaviour change (by both farmers and buyers) indicate sustainability. However, DF grantees (e.g. Farm Africa, EAGC) have raised concerns around the sustainability of maintaining VACs and warehouses. It has also become evident that G-Soko is not sustainable.

To what extent have improved availability and use of inputs (output 2: inputs) and application of GAP increased production and trade? (EQ4)

- Several grantees explicitly state that the combination of training on GAP and better access to inputs (often through FBOs) have resulted in increased smallholder farmer productivity and yields, leading to increased production. Off-takers providing inputs directly to farmers (e.g. Mt. Meru, Seba) appear to have been much less successful than grantees providing inputs through FBOs--either struggling to secure the supply of inputs, and/or struggling to recoup payment for inputs they provided to smallholder farmers on credit.
- The most commonly reported constraint to production is weather, followed by late inputs and farmers applying inputs inappropriately, or receiving poor inputs.

- Grantees have employed a variety of GAP training techniques (e.g. Training of trainers (ToT)), demonstration plots, and mass trainings). Two grantees reported a problem with the ToT approach, because trainers lacked incentives to train other farmers (e.g. Kilimo Trust and Sosoma).
- Sustainability: Lead firms have reported smallholder farmers are often unwilling to pay for better quality inputs. Grantees were split on whether they believe farmers have undergone a change in attitudes because of the projects and will be willing to pay in future.

To what extent and how has FTESA brought in (or facilitated) smallholder farmers in structured regional markets? (EQ5)

- Anecdotal evidence indicates grantee beneficiaries are smallholders as opposed to farmers with larger landholdings. At least eight out of 13 grantees reported that their FTESA interventions resulted in smallholder farmers receiving higher prices for their produce, and the same number of grantees reported the farmers they work with experienced an increase in income. Several lead firms and DF grantees report positive results for women's economic empowerment, in terms of increasing women's access to resources and agency.
- The most important enablers to bringing smallholder farmers into structured markets are open communication, trust, and transparency between smallholder farmers and buyers, and other value chain actors. Support from national and local government is also an important enabling factor. The most commonly cited constraint—a lack of trust—can be caused by, or result in, farmers side-selling. Several grantees pursued explicit gender inclusion policies to encourage women to participate in their projects. Barriers to female smallholder farmers benefiting from grantees' interventions included cultural norms and asset ownership.
- Some signs of sustainability include new investments (e.g. EAGC-supported VACs investing in infrastructure) and changes in market roles (e.g. a farmers' group becoming an off-taker).
- By FAM, Farm Africa has been the most successful in bringing smallholder farmers into structured regional markets, as the volume of sales by smallholder farmers under their project demonstrates. As noted already, Farm Africa established successful mechanisms for structured trade through FBOs. This success may have exceeded WFP's because Farm Africa enabled FBOs to become legal entities more able to participate in formal trade. G-Soko appears to have been less successful than hoped in enabling smallholder farmer trade because of the reported complicated nature of the trading platform. Farm Africa and several lead firms have achieved the most success with respect to benefiting women smallholder farmers, again through benefits accrued in FBOs.

To what extent has FTESA benefitted consumers? (EQ6)

- While FTESA's intended impacts include more stable food prices for consumer households, there is little direct evidence on consumer benefits in grantee reporting. We can assume, but cannot confirm, that sales to WFP are contributing to reducing food security in the region.
- There is evidence that grantees are producing staple foods of improved quality (e.g. Shalem), and value-added products (e.g. milled and fortified flour) and selling this at retail outlets (e.g. Musoma). There is also anecdotal evidence of benefits to farmers as consumers of the staple foods they are producing (e.g. farmers supplying Yak, Shalem).

To what extent have FTESA approaches to supporting reform to relevant policies, regulations, etc. contributed to change? (EQ7)

- FTESA has seen some policy changes, notably ACTESA's success in influencing seven COMESA member states to adopt harmonised seed policy, the approval of the EAGC's grades and standards and the

(temporary) reversal of a Tanzanian export ban. It is worth noting these successes are through grantees funded with the explicit mandate of doing so (e.g. ACTESA, EAGC).

- Involving sector stakeholders and other 'allies' is important for achieving policy change and so is having the appropriate fora to have 'face time' with policy makers.
- The sustainability of any policy changes on staple foods is uncertain, as FTESA experience has shown with the reintroduction of a Tanzanian export ban on maize.

Does FTESA offer Value for Money in the results it achieves, compared with possible alternatives? (EQ8)

- Grantees were best able to report against Economy measures of VfM. Overruns in construction were the biggest negative factor affecting Economy. While most grantees claimed their approach to farmer training was a source of efficiency, in their reporting they do not provide the analysis to demonstrate that their methods of choice had the results (e.g. adoption of GAP, increased production) to show VfM. Nor did grantees provide analysis to demonstrate their Effectiveness. Regarding Equity, despite Farm Africa and WFP being strongest in bringing smallholder farmers into structured trade, they do not have the best results for % women among smallholder farmers, instead lead firm Shalem holds that honour. There does not seem to be a strong correlation between grantees having a gender policy and a better gender inclusion rate, with the exception of Shalem who had a gender strategy involving 'gender champions.'

Annex 1: Documents and data consulted

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ACTESA MRM Plan (Nov 2014)
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ACTESA QR: Q3 2016
ACTESA QR: Q4 2016
ACTESA QR: Q2 2017
ACTESA QR: Q3 2017
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ACTESA Annual Report (2016-2017)
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Afritec Reports
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Afritec QR: Q2 2016
Afritec QR: Q3 2016
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Classic Foods Ltd. Reports
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KT QR: Q2 2016
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Musoma Food Co. Annual Report (2016-2017)
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MMML Annual Report (2016-2017)
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Annex 2: Assessing systemic change

The following is a guide to assist in answering questions on systemic change, sustainability, etc., drawn from Fowler and Dunn (2014).

Table 5: Evidence of systemic change

Type of systemic change	Description	Example
'Adopt' (Springfield/Katalyst)	'Initial partner(s) has 'invested' in the pro-poor change adopted, independently of programme support'	'Independent investment Target group benefits sustained'
'Innovation' (or Adaptation) (Africa Enterprise Challenge Fund (AECF) indicator)	'The grantee introduces additional innovations that were not in the original business plan, but which were the developed as a result of the [grant]-funded project.'	'The challenge fund provides funding to a pesticide company to develop a new type of organic pesticide for a certain pest. Although the original design did not work, it led to the creation of a new type of pesticide effective against a different pest.'
'Copying by other businesses' (AECF indicator)	'Other businesses see the benefits of the grantee's business model, and so copy the idea.'	'The challenge fund provides seed finance to support an outgrower scheme, which purchases tomatoes from poor smallholder farmers. This is a financial success, and other companies copy the business model and begin to work with smallholder tomato farmers.'
'Crowding in' (AECF indicator)	'Other businesses are encouraged into the space created by the grantee. The distinction between this and the previous category [Copying] is that other businesses do not copy the business model, but offer supplementary services which are only viable because of the…grantee.'	'The challenge fund provides a grant to a seed supplier to set up shops in rural areas. A financial service provider, not funded by the challenge fund, works with the seed supplier to provide microfinance to farmers who wish to buy the seed.'
'Copying successful practice' (AECF indicator)	'People who are not working with the project copy the behaviours or technologies that the project introduced. While the previous two categories refer to behaviour change in businesses, this refers to behaviour change among farmers and others.'	'The challenge fund provides a grant to an outgrower scheme, which teaches sustainable farming techniques to participating farmers. Other nearby farmers copy these techniques and thus improve their yields.'
'Business regulatory environment' (AECF indicator)	'All projects work within a regulatory environment, principally defined by the government. They must follow laws and regulations, and work with government officials to gain permission to work, export, etc. Many companies seek to improve the regulatory environment, to make it easier for them to do business.'	'The challenge fund provides a grant to a number of livestock businesses that import vaccines. Regulations for importing vaccines are time-consuming and cumbersome to follow, and government officials regularly ask for bribes. The businesses join together to pressure the government to bring about changes in regulations and reform in government practices.'

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