Introduction

This learning brief summarizes the main lessons learned by Aga Khan Foundation’s (AKF) Coastal Rural Support Program Tanzania (CRSPT) over the last 6 years developing the sesame and rice value chains in Lindi and Mtwara regions (LMR), financed by the UK Department for International Development (DFID) and AKF under the Food Security and Incomes (FSI) project. FSI ran from 2009 to 2016, with a total budget of GBP 8.8 million. The project got off to a slow start, but was then ranked by DFID evaluators as an A/A+ project in its final 3 years.

This brief summarizes the main interventions and lessons learned along the two value chains, promoting input supply, produce aggregation and marketing. It also provides lessons on effective facilitation and designing a program that is fit-for-purpose to achieve its objectives, informed by adjustments made over the 6 years.

Separate briefs are available for CRSPT’s support to agricultural extension, irrigation, and financial inclusion.

Background and Rationale

The agricultural production system in Lindi and Mtwara Regions (LMR) is highly fragmented with informal relationships between smallholder farmers and small traders. Smallholder farming systems are largely rain-fed (89%), and thus extremely vulnerable to seasonal weather variability. Smallholders produce a diverse range of crops on an average of 1.2 hectares to spread risk. Farming practices are impacted by: low access to improved inputs,
particularly fertilizer and seed; low adoption of Good Agricultural Practices (GAPs) in part due to a low extension to farmer ratio (1:3-4,000); limited access to formal or semi-formal financial services (57% excluded); and high post-harvest losses due to inadequate storage, storage pests and diseases.

In both regions, food security was a significant concern at the start of the project: mean duration of the lean season was four months across households; and 51% of households experienced food shortages of basic staple food crops for more than three months of the year. The effect of food insecurity is manifest in a number of visible ways, but perhaps most prominently in the stunting that affected 45% of children in rural areas. Nationally, Lindi region was the worst affected with 55% of children stunted.

By the end of the project the mean duration of the lean season had dropped to one and a half months, with only 1% of households experiencing food shortages for more than three months of the year.

### 1. Input Supply

#### 1.1 Agriculture Marketing Cooperative Societies (AMCOS)

There are 167 AMCOS (also known as Primary Cooperative Societies) with a total membership of 47,000 members in LMR (10% of farming households). At project inception, AMCOS were the only farmer groups that were officially recognised by government in LMR and were the primary marketing body for cashew nuts and sesame in these regions. As major export crops, cashew is and sesame was highly regulated, with sales largely required to flow through AMCOS to regional co-operative unions for auction, unfortunately resulting in late and often lower payments to farmers, subsidies to AMCOS with reduced incentives for them to be entrepreneurial, suspicion of rent seeking within the auction system, among other unintended problems (outlined in a separate study by CRSPT). However, given the significant local presence of AMCOS, most of which possess offices, warehouses, tractors, lorries and trained staff, and most of whom are conduits for subsidised inputs, CRSPT viewed them as a partner to be strengthened for the expansion of agriculture services across the regions. Key was input supply, but also storage services, provision of market information, tractor hire services and more pro-active marketing of sesame as well as marketing of a wider range of crops.

CRSPT spent four years supporting 15 AMCOS, with the objective that successful changes could be replicated more widely in future. Support included training on strategic planning, business plan development, leadership and governance, and exposure visits to more mature AMCOS in Tanzania. With regard to input supply, by the end of FSI, five AMCOS had secured business licenses allowing them to legally set up agro shops, four of which were operating with demonstration plots to promote the use of agricultural inputs on offer.

### Overarching Lessons Learned

From the FSI project, AKF distilled the following lessons learned for future Agriculture (Ag) value chain projects:

1. **A facilitator’s primary value proposition to private sector** is the promotion of more sustainable GAPs, market-led smallholder aggregation models and supporting last-mile input supply channels;

2. **Buyers must be involved in project design** to ensure cash crop varieties promoted are in demand, and to inform and participate in smallholder mobilization of market-led aggregation models;

3. **Managers of agriculture value chain projects should ideally have management experience in private sector agribusiness or out grower schemes and relevant technical expertise in agricultural production**;

4. **Contract farming schemes should only be promoted in niche or value adding Ag value chains**;

5. **To promote replication and scaling up of success**, one needs to regularly step back from specific value chain interventions to engage appropriate national apex institutions, Government and/or private sector.

Lessons learned from this intervention area include:

1. AMCOS need to become more entrepreneurial, diversify their services, develop income generating activities such as agro shops, rely less on bank loans, and improve customer service;

2. **Strong leadership is critical** as a major risk to AMCOS is
staff turnover. Appropriate hand-over mechanisms are necessary to support leadership transitions of AMCOS staff;

3. A more supportive body is needed for representation, coordination and training of AMCOS in LMR. CRSPT attempted to work with the Mtwara and Lindi Co-operative Unions but was unsuccessful in gaining their buy-in, given incentives to maintain the status quo. The newly created Tanzania Cooperative Development Commission presents opportunities to promote needed changes and support AMCOS at scale.

1.2 Village Based Agro-dealers

Village Based Agro-dealers (VBAs) promoted by CRSPT are individuals dealing in agro-inputs; mainly fertilizers, chemicals, seeds, livestock inputs and agricultural/livestock related advisory services, operating at village, town or regional level. VBAs are either agro-shop owners or market stall-holders, or distribute inputs from their homes or by moving from village to village. CRSPT trained, supported, and linked VBAs to input suppliers that were previously not in LMR, which had a significant impact on these individuals, on the input supply company reach, and on agricultural practices in LMR.

By 2016, 177 VBAs were operating (out of 257 trained), turning an average profit of Tsh 230,000 per month (USD 105 per month). This outcome is among CRSPT’s most important achievements in terms of access to agro-inputs, agrochemicals, advisory services and other related services for tens-of-thousands of farmers year-round.

Based on an exposure visit, VBAs have also recently initiated their own registered regional VBA Associations, one in Mtwara and one in Lindi, demonstrating impressive self-initiative with no additional CRSPT involvement. The Associations aim to ensure that all VBAs sell original products, work with the Tropical Pesticide Research Institute (TPRI) to take legal action against those supplying counterfeit products, co-ordinate future training initiatives, arrange bulk purchases with wholesalers and mediate conflicts.

Lessons learned from this intervention area include:

1. High market demand for inputs is a pre-requisite for the success of VBAs. CRSPT stimulated this demand with parallel interventions of training on Good Agricultural Practices to enhance smallholder demand and Ag-extension services;

2. VBA promotion is above all an entrepreneurship program, and while many VBAs were existing rural shop owners, some were identified through the engagement of smallholder farmers to enhance crop productivity and extension services. CRSPT used lead farmers, village leaders, and government extension officers to identify, assess and select potential VBAs;

3. Successful VBAs are characterized as local, trusted, ambitious, entrepreneurial, better educated and resourceful. Existing entrepreneurs were easier to engage than new entrepreneurs;

4. VBA practices associated with success include bulk ordering, actively networking, use of a mobile phone with supplier contacts to obtain quotes, place orders, and to transfer money;

5. The provision of start-up capital to VBAs is not advisable, whereas linkages to banks and savings groups helps. This reduces market distortions and attracts individuals with the right incentives;

6. Quality assurance should be a central part of VBA capacity building, to avoid doing harm, as some agro-inputs are highly toxic with side effects to users and sellers if used inappropriately. Similarly, appropriate waste disposal is important for human and environmental health;

7. Many VBAs will need three years of support, ideally. This is because most are business start-ups and it takes time to establish their services in the market. Periodic training and mentoring helps;

8. Sharing lists of input supply companies and distributors with VBAs, and lists of VBAs with companies, enables both parties to overcome an information gap and make choices for linkages;

9. Input supply companies are willing to lead and pay for field demonstrations to promote their products once they have observed demand for their products and developed relations with VBAs and AMCOS.

1.3 Access to Improved Seed

The widespread use of poor-quality seed among both sesame and rice producers in LMR is common. FSI began working on improved rice seed in 2010 and sesame seed in 2012, but struggled to make an impact.

The multiplication and provision of certified, improved, open pollinated varieties of rice and sesame seed involves a large number of actors across government, research institutions and the private sector. It has legal implications insofar as certification and multiplication is subject to strict regulation and overseen by under-resourced government agencies. Following national level stakeholder discussions early on in the FSI project, CRSPT determined that significant change in the seed sector was beyond its scope of influence, time frame and resources. Lessons from these meetings were shared with donors to inform policy dialogue.

At the community level, CRSPT made efforts to address the problem, including the formation of different seed producing groups, for rice and sesame, but these efforts were not sustained, primarily due to restrictions
on Quality Declared Seed, which can only be sold within the ward where it is produced, and because groups could not facilitate the necessary inspection and certification required. In addition, in at least one instance private sector failed to purchase the seed from producers on pre-agreed terms, which resulted in it being sold as ordinary sesame.

Two of the most promising experiences promoting seed came out of CRSPT’s work with Export Trading Group (ETG), providing sesame seed as part of its contract farming arrangement (over a 3-year period, as outlined in Section 2.4 below) and TANSEED’s provision of rice seed via the VBA network.

Starting in 2015, Kipato Seed had begun purchasing sesame seed from farmers under contract, organizing the certification and buying the seed, packing it and distributing it via the VBA network. The situation is too new to report as a successful model, but demonstrates how new opportunities can arise.

**Lessons learned** from this intervention area include:

1. Long term smallholder access to quality seeds will likely require private sector investment based on a successful contract farming scheme or sufficiently scaled out input supply distribution channels, such as the VBAs. See more on VBAs and contract farming in Sections 1.2 and 3.3.

**2. Aggregation, Post-Harvest Handling, Marketing**

**2.1 Aggregation and storage**

In southern Tanzania, the common practice with rice has been to harvest, dry and store for domestic consumption, selling small quantities to itinerant traders at rock bottom prices to cover immediate cash needs. Collective marketing initiatives did exist, but mainly focused on higher value crops, not rice.

For sesame, storage and aggregation is less relevant as the crop is sold immediately into export markets. Aggregation, when done, has been through contract farming.

Over the course of the FSI project, CRSPT helped over 16,000 rice growers double or triple yields, with the aim to both increase food security (i.e. shorten the lean season) and create additional cash income through the sale of surpluses. As a parallel intervention, CRSPT promoted improved post-harvest handling and collective storage and aggregation practices for rice producers via Producer Marketing Groups (PMGs). This included support establishing dry and safe communal spaces, using pallets to raise bags off the floor, and capacity building to enable PMGs to manage shared assets and negotiate collective sales.

CRSPT also worked with rice millers and AMCOS to promote their provision of storage services. In many cases, these actors had available space for rice storage during the post-harvest period.

By the 2013/14 agriculture season, 50 new PMGs with 1300 members had been formed, half of these PMGs and 27% of members storing 258 MT of paddy and securing premium prices through deferred sales, reaching double the price six months after harvest.

Unfortunately, near the end of the FSI project, in the 2014/15 season, unusually poor weather and the 2014 lifting of Government restrictions on imported rice resulted in both a significant decrease in yields as well as reduced prices due to a flood of imports, undoing project gains from previous years. However, many PMGs continue to function and collectively store and sell rice surpluses, and increasingly a mix of other crops. Some have also started undertaking more diverse collective business activities.

**Lessons learned** from this intervention area include:

1. As with AMCOS, strong leadership is critical and a major risk to PMGs is turnover of board members. Hand-over mechanisms are needed to support leadership transitions;

2. Unpredictable price fluctuations significantly deter storage, which should be a critical consideration of future interventions for any crop. Rice is particularly vulnerable to price fluctuations given its reliance on Government import tariffs, which are somewhat unpredictable;

3. Unanticipated rice imports (in 2014) negatively impacted risk adverse smallholders, likely impacting longer term production and storage behaviour. This should inform policy dialogue;

4. PMGs should add other high value crops (horticulture, pulses) to attract additional membership and diversify risk, which many groups did on their own following the 2014-15 season;

5. Successful PMGs may need to hire a professional manager as they grow and develop new sources of revenue, for whom competency requirements should be defined and training developed;

6. Millers proved critical for aggregation, given their capacity and incentives to invest in storage.

**2.2 Post-harvest handling and quality**

To develop niche markets for higher quality produce, CRSPT worked with smallholder farmers on rice and sesame quality to meet the needs of buyers, while also supporting rice millers to upgrade their equipment.

For rice, higher quality demands a higher price in local markets, so incentives existed for producers and millers to invest in quality. Using improved GAPs, smallholders responded to price premiums and created a strong market for improved seeds. A study found that 85% of rice millers that collaborated with CRSPT increased or expanded their services or equipment (for a clearer product that 85% of rice millers that collaborated with CRSPT increased or expanded their services or equipment (for a clearer product). As with AMCOS, strong leadership is critical and a major risk to PMGs is turnover of board members. Hand-over mechanisms are needed to support leadership transitions.

For sesame, despite interest from producers and some buyers to develop graded markets, CRSPT was unsuccessful at establishing sufficient premiums to incentivize meaningful commitments and investments. As discussed under Section 2.4 below, on contract farming, insufficient volumes from producers undermined the ability of buyers to offer meaningful price incentives, resulting in all sesame being purchased at more-or-less the same price and mixed together. In turn, insufficient price premiums undermined...
efforts by producers to raise quality.

**Lessons learned** from this intervention area include:

1. Improving crop quality and post-harvest handling is far easier when graded markets already exist.
2. Establishing a new niche market requires a dual commitment from producers and the buyer, to meet agreed volume and quality requirements of buyers and price premiums for producers. Facilitators, like CRSPT, can catalyze change by supporting a critical mass of producers to upgrade pre and post harvest practices and aggregation, but should only do so if a buyer is committed to a meaningful price premium and embedding services that help producers comply in the long term.

### 2.3 AMCOS and Marketing

As discussed in Section 1 above, CRSPT worked mostly with AMCOS on their provision of agriculture inputs, services, storage, and marketing of sesame, making efforts to optimise their participation in the marketing system through pro-active marketing and improved negotiation.

**Lessons learned** from this intervention area include:

1. **AMCOS** have good potential to support collective storage and marketing of additional crops, particularly high value crops like pulses, whether that is done loosely as a collection center for buyers, or more formally through collective negotiation on behalf of members;
2. Successful **AMCOS** are characterised as having solid management, with a clear vision to benefit all members, transparency in their marketing practices and an ability to influence members.

### 2.4 Contract Farming

Between 2012 and 2015, CRSPT promoted contract farming arrangements with the objective of improving access of smallholder farmers to reliable agricultural inputs and markets, including a price floor and price premiums for higher quality produce. Agreements were facilitated between Export Trading Group (ETG), Fitcol, and TANSEED and farmers and stipulated that inputs would be provided by the out grower company and would increase in volume and diversity over time as trust was built, to be repaid by the farmer at the time the crop is purchased. Farmers in return would commit to selling their crop to the contracting company, in one case securing a small price premium.

Despite some success, particularly with ETG offering seeds and some pesticides with CRSPT support, this intervention failed to achieve a viable and scalable contract farming model in sesame.

**Lessons learned** from this intervention area include:

1. In highly competitive markets lacking quality premiums, and sufficient on-the-ground company presence, contract farming **does not work**, if a buyer has a separate market and incentive to pay premiums for a niche variety or higher quality crop, contract arrangements can be developed with sufficient incentives for producers not to side sell;
2. Producers engage in side-selling primarily as a result of purchasing delays by contract buyers. Cash starved farmers are impatient and risk adverse, so sell to the first buyer when the contract buyer is unavailable, particularly when market prices are falling or the premiums offered are too small to cover the costs of taking steps to hold or aggregate and transport their produce to the contract buyer;
3. **The provision of high quality seed as part of a contract farming scheme can be a major win-win**, enhancing producer loyalty as well as crop quality and yields;
4. The development of an “enabling environment” to foster and regulate contract farming with support from national and local government, private sector and farmers associations would help protect both farmers and companies and thus reduce the risk for both parties;
5. Strong due diligence on contract buyers is needed before promoting agreements with producers to avoid doing harm. Both the contractor and farmers should be able to meet their contractual obligations. CRSPT explains to smallholders the risks, opportunities and obligations involved in engaging in contract farming;
6. A facilitator, like CRSPT, can help generate loyalty between the **private sector and farmers** by facilitating transparent contracts and communication channels and monitoring the relationship;
7. A facilitator, like CRSPT, can help ‘buy-down’ the start-up costs and risks for private companies to initiate a contract farming scheme over an initial period of perhaps 3-years.

### 3. Facilitating Market Development Programmes

Based on CRSPT’s experience with FSI, a number of lessons were distilled on how to both effectively design and facilitate market development programmes as well as how to ensure they are **fit-for-purpose**.

**Lessons learned** about good facilitation include:

1. **Formulate interventions and exit strategies in close collaboration with partners** from Day 1;
2. **Understand the incentives of each partner** involved in each intervention to promote behavioural change. The concept of Shared Value is very attractive to many businesses, making a useful entry point to explore win-win solutions with smallholder producers and more sustainable supply chains;
3. **Facilitation means building a strong reputation** as a trusted, reliable, resourceful and networked partner. This means speaking the language of private sector and bringing valued insights / data to meetings with them, such as where specific crop varieties are produced (and volumes) and who locally can be trusted and contacted to source desired produce or deliver services (i.e. local entrepreneurs, community or group leaders);
4. **Non-binding MoUs can be used to track commitments and accountability** on all sides, as firms are often reluctant to sign binding contracts. Most firms will aim to respect these terms if they are truly committed to the area and objectives over the long term;
5. **Actively crowding-in the private sector should start early to**
create a competitive environment and to provide alternative options in the case one or more do not work out or continue as planned. Exceptions include contract farming arrangements that involve significant business investments, in which case an initial period of exclusivity could be appropriate to underwrite investment risks;

6. **Learning generation and action research must be demand-driven**, including buy-in from the team on the ground along every step — particularly when an external consultant is brought in (e.g. from writing the ToR and developing tools to accompanying data collection and validating findings);

7. **Policy dialogue** with the government, parastatal actors, development partners, civil society, and associations is critical in a market systems approach to address key factors along a value chain;

8. **Having a positive gender impact requires development of a conscious gender strategy that is developed in a project’s initial stages** as market development interventions tend to be gender neutral or gender detrimental. Gaining full understanding of project impact requires qualitative studies of gender dynamics rather than simply counts of male and female beneficiaries;

9. **Programmes are in a position to influence gender transformative change by adapting interventions with the understanding that labour is women’s main asset**;

10. **In order to reduce the risks faced by female beneficiaries who take on roles normally associated with men, gendered interventions should take into account the gradual process of gender transformation. Projects should build in measures to raise awareness amongst staff and communities through for example profiling of male and female change makers, exposure visits and community sensitisation meetings.**

**Lessons learned** on ensuring programmes are staffed fit-for-purpose include:

1. **Mid-project, CRSPT recruited a new market development manager with a private sector agribusiness management background who was also technically qualified in agricultural production. That profile has proven most effective in leading a large team within a market-led project;**

2. **Management skills are as important as technical skills for large Ag value chain projects** – i.e. organizing and overseeing an efficient and effective team is perhaps the most critical requirement;

3. **Facilitators require capable and consistent leadership to engage businesses, to ensure consistency in the relationship and helping to gradually build rapport and trust; take caution when delegating,**

4. **Building a local team is critical**, needless to say, which in some contexts (particularly remote ones) takes time and cannot be fully at the expense of required capacities. If not local, ‘regional’ (e.g. neighbouring areas or country with similar development, cultural, linguistic characteristics) is second best, but paired with several local staff from whom one or more can grow into the role;

5. **Under the project manager, there is even greater necessity of having local management and staff who know the context, language, communities, government, and business context and way of operating – formal and informal – to be effective, as these people will spend their time interacting with communities and actors in the local language. Ideally, these staff are from the target areas;**

6. **Good management includes very frequent (re)planning and reporting on progress, in a way that is as efficient as possible. FSI experience suggests roughly 80-90% of staff time should be spent ‘in the field’, out of the office, especially for staff below the manager;**

7. **Consultants and outside experts are most effective for ‘snapshots’, not ongoing technical assistance - i.e. when experts leave things can go back to normal; change requires follow through and must come from within local structures. Snapshots include evaluations (used by the team to reflect, validate or correct course) and/or market research in completely new areas (e.g. value chain analysis in new sectors) as a starting point until the local team gets immersed;**

8. **AKF’s main asset is its ‘core team’, who are largely maintained across time and projects. The core team drives the institution toward its vision and goals, providing continuity in programming and partnerships, helping renew its strategy, exit interventions and design new ones, over the years.**