

Integrating Climate Smart Agriculture into Outgrower Models: Experience from Vuna Innovation Models in East and Southern Africa

Paper commissioned by Vuna | February 2018

Adam Smith
International





Please cite this publication as follows:

Genesis Analytics, 2018. *Integrating Climate Smart Agriculture into Outgrower Models: Experience from Vuna Innovation Models in East and Southern Africa*. Vuna Research Report. Pretoria: Vuna.

Project Name: Climate Smart Agriculture (CSA) Innovation Models' Impact Analysis

Vuna is a DFID-funded regional Climate Smart Agriculture Programme. The British Government's Department for International Development (DFID) financed this work as part of the United Kingdom's aid programme. However, the views and recommendations contained in this paper are those of the consultant and DFID is not responsible for, or bound by the recommendations made.





TABLE OF CONTENTS

Preface	iii
Acronyms	iv
Executive summary	1
2. Introduction	3
2.1. Outgrower schemes within a changing climate	3
3. Typology of outgrower business models	5
1.1 Overview of typologies	5
1.2 Centralised models	6
1.2.1 Key attributes of the model	6
1.2.2 Key model actors	7
2.2.3 Theory of change	8
2.2.4 Centralised model potential pathways to building resilient systems	9
2.2.5 Centralised model potential pathways to sustainability and scalability	9
2.3 Facilitated models	10
1.1.1. Key attributes of the model	10
1.1.2. Theory of change	13
1.1.3. Facilitated model potential pathways to building resilient systems	14
1.1.4. Facilitated model potential pathways to sustainability and scalability	15
2.4 Informal models	16
1.1.1. Key attributes to the model	16

1.1.2 Key model actors	16
2.4.3 Theory of change	17
2.4.4 Informal model potential pathways to building resilient systems	17
2.4.5 Informal model potential pathways to sustainability and scalability	17
4. Assessing drivers of success for outgrower business models	18
1.1. Emerging drivers of outgrower business model success	18
1.1.1. Context related factors	18
1.1.2. Design related factors	19
1.1.3. Implementation related factors	19
Bibliography	20

List of Tables

Table 1: Typologies of outgrower business models	5
--	---

List of Boxes

Box 1: Farmer reflections	3
Box 2: Profile of the Gender Regional Seed Systems Project	6
Box 3: Profile of NWK Agri-services in Zambia	6
Box 4: Profile of Zimbabwe Super Seeds	10
Box 5: Profile of MFCL and G2L	10
Box 6: Profile of Lilongwe Dairy Limited and Malawi Milk Producers Association	11
Box 6: Profile of the ETG led Innovation Model	16

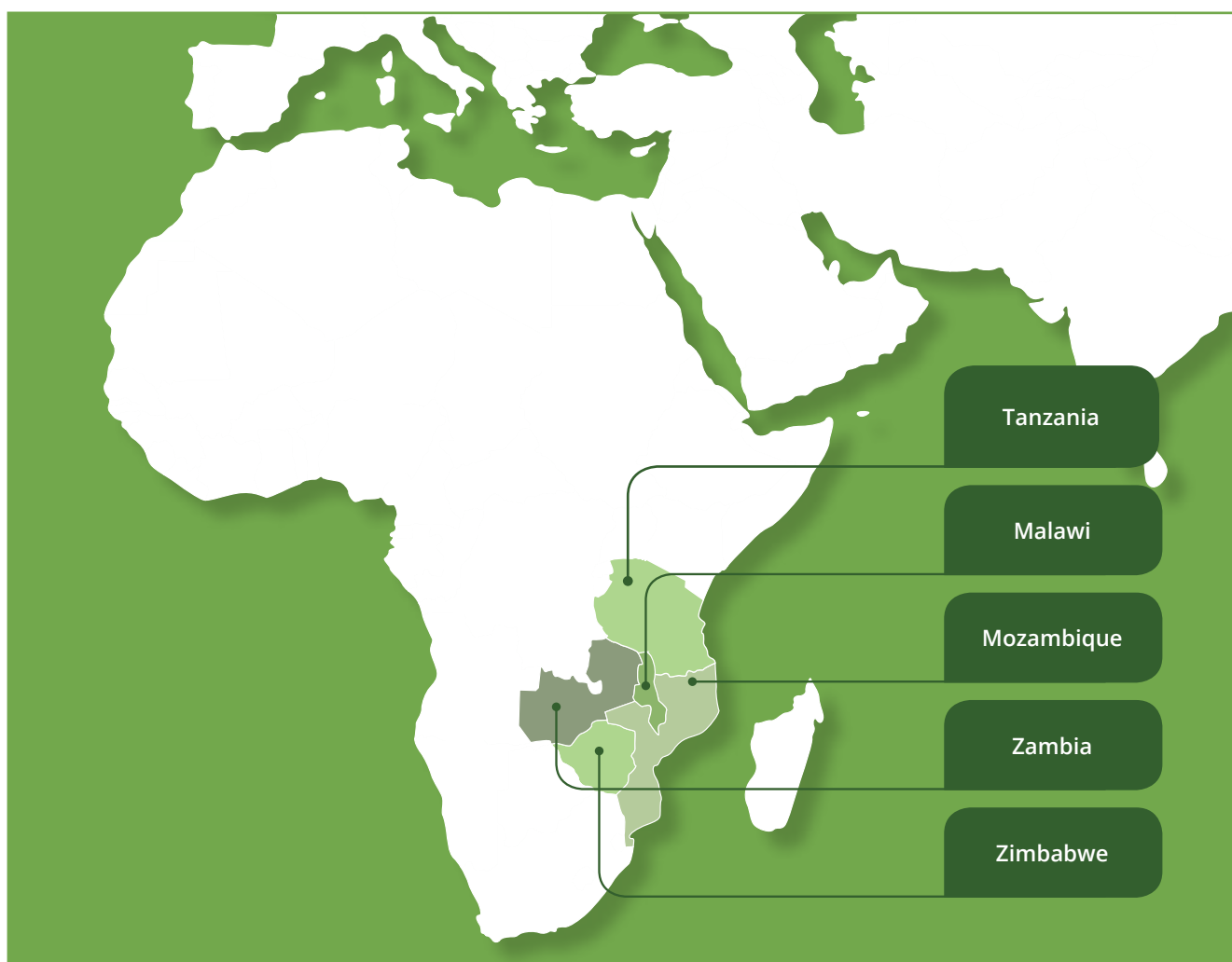
Preface

This paper forms part of a set of three Climate Smart Agriculture (CSA) thematic papers that are premised on providing an action research analysis of the approaches that were used in implementing Vuna pilot innovation models in East and Southern Africa (ESA), a DFID funded regional climate smart agricultural programme managed by Adam Smith International. Categorized in various agriculture related themes, the papers explore different models designed to promote the uptake of climate smart agricultural practices among smallholder farmers. The thematic papers assess the various approaches that Vuna employed to integrate CSA adoption. Notably, the implementation period of the Vuna innovation models was short, ranging between 9 and 12 months. Consequently, the findings contained herein are based on emerging insights and the potential of the innovation models in supporting farmer resilience in a scalable and sustainable manner.

This series of the thematic model papers include:

- Integrating Climate Smart Agriculture into Outgrower Models: Insights from Vuna Innovation Models in East and Southern Africa (this paper);
- Private Sector Driven Extension Models for Smallholder Farmers: Insights from Vuna Innovation Models in East and Southern Africa; and,
- Inclusive Seed Systems: Insights from Vuna Innovation Models in East and Southern Africa.

The research was conducted between October 2017 and February 2018, in three phases. First, available literature on CSA, climate change and agriculture in the focus country and within the region was reviewed. Second, desktop research of Vuna project documents (baseline reports, quarterly reports, grant application(s), and the Vuna project plan) was done. Third, field research was conducted to assess the extent to which the innovation model has been adopted and whether it is being adapted to enhance desirable outcomes for key value chain actors. Field research results were analysed to determine the potential for the sustainability of the interventions.



Acronyms

AWAB African Women in Agribusiness Network

MBG(s) Milk Bulking Group(s)

CA Conservation Agriculture

MFCL Musoma Food Company Limited

CSA Climate Smart Agriculture

MMPA Malawi Milk Producers Association

DFID United Kingdom's Department for International Development

NGO Non-Governmental Organisation

ESA East and Southern Africa

OPV Open-Pollinated Variety

ETG Export Trading Group

UHT Ultra-high temperature processing

FAO Food Agriculture Organisation of the United Nations

WFP World Food Programme

G2L G2L Company Limited

ZSS Zimbabwe Super Seeds

GMT Graça Machel Trust



Vuna means 'harvest' in many languages in East and Southern Africa. Our name like our work is inspired by the region.

Executive summary

Improving African farmers' access to markets is fundamental to the continent's agricultural transformation. Outgrower arrangements are a model for sustainably linking farmers to national and international buyers. Successful outgrower arrangements are underpinned by embedded financial and technical support that helps improve crop and livestock yields and product quality. In the context of a changing climate, outgrower schemes offer the potential to introduce Climate Smart Agriculture (CSA) technologies and practices into agricultural systems.

Vuna sought to leverage outgrower schemes to introduce climate resilient crops, livestock, and climate smart practices into agricultural systems. Drawing from an analysis of outgrower arrangements that benefited from Vuna investment, this paper identifies three model typologies (centralised, facilitated, and informal) and assesses the extent to which the three have laid the foundation for sustainable resilience building and the key factors that influence business model success. Typology development was driven by the role of the buyer. In a centralised model, the buyer is responsible for the direct provision of inputs and extension advice. In a facilitated model, the buyer coordinates market actors to provide inputs and extension advice, supplementing both as and when required. In informal models, the buyer's primary responsibility is to purchase output.

Section 1 is an overview of outgrower schemes and their role in improving the adaptive capacity of farming systems. Section 2 presents an overview of the model typologies, their structure, including key actors and functions, as well as the potential pathways through which they contribute to building resilience that is sustainable and at scale. Section 3 considers the business models' relative contribution to resilience through CSA innovation model adoption. In the last section, the paper considers the lessons emerging from Vuna innovation model pilot experiences to distil the factors that influence business model success for consideration when designing and implementing innovations that seek to promote the adoption of CSA delivery models, services, technologies, and practices.

As the innovation models are at a pilot stage, the paper presents emerging insights regarding the extent to which the typologies promote the adoption of CSA innovations. Emerging evidence suggests that the extent to which facilitated, centralised, and informal models place market and production systems on a pathway to resilience, through promoting the adoption of CSA innovations (delivery mechanisms, technologies, and services) exists on a spectrum. Facilitated models by virtue of design (i.e. involving multiple market actors) support the adoption of the CSA innovations that lay the foundation of resilience at the farm and firm level as well as within the broader market system. Centralised models lay the foundation of resilience at the firm and farm level, with a narrower direct impact on the broader market system. Due to the transactional and temporal nature of engagement, emerging evidence suggests that informal models lay the weakest foundation for resilience building at scale.

The emerging typologies highlight that programmes interested in designing and implementing outgrower models that seek to promote the adoption of CSA should consider models driven by an anchor buyer that extensively leverages the capacity and capabilities of other market actors. To further strengthen prospective outgrower models, the paper concludes with the key contextual, design, and implementation factors that should be considered by development partners when supporting outgrower schemes to introduce CSA. Key amongst them include:

Product availability and quality: Buyers are more likely to invest in outgrower arrangements where the desired product is not readily available and/or the quality standards of available products are insufficient.

Long-term perspective: Outgrower arrangements take time to establish. Buyer partners who take a long term view are more likely to sustainably invest in schemes. The adoption of a long-term perspective is often predicated on a buyer's asset base. Buyers with substantial fixed assets-particularly processing facilities-are more likely to establish and maintain successful farmer partnerships in the long-run.

Market access: Direct and sustained access to growing (local, regional, and global) markets is critical to partnership success as the market has to sustain the required investment in an outgrower scheme in the long term.

Quality extension provision: The provision of high quality extension services is critical to ensuring the increased productivity that underpins model sustainability from the perspective of both the farmer and buyer.

Marketing component: A key condition of outgrower model sustainability is the ability of the buyer to successfully market their produce. Although the focus of donor support to outgrower schemes is typically to production and occasionally

processing, greater consideration should be given to marketing support, including demand creation and marketing channel development.

Leveraging intermediaries: Models operating in contexts with strong supporting markets should seek to leverage supporting market actors (i.e. input suppliers, financial service providers, public extension services agents) in model delivery.

High levels of interaction between firm and farmers: High levels of interaction between the buyer and outgrower is critical to building the trust and loyalty required by a successful outgrower arrangement.

The provision of market information: Buyers' regular and transparent communication related to market information is critical to maintaining a positive relationship with farmers.

Financial capacity: Outgrower schemes require sufficient financial resources (in particular working capital) to provide inputs and/or purchase products. In the absence of sufficient financial capacity, buyers are unable to honour their purchasing commitments to contracted farmers and the outgrower arrangement fractures- to the long term detriment of both the farmer and buyer.



“ High levels of interaction between the buyer and outgrower is critical to building the trust and loyalty required by a successful outgrower arrangement. ”

2. Introduction

Improving African farmers' access to markets is fundamental to the continent's agricultural transformation. However, across East and Southern Africa (ESA), market access remains hampered by a myriad of high-level constraints including: low productivity; poor infrastructural networks; market information asymmetries; poor access to finance; and unfavourable global trading regimes. Outgrower arrangements are one model for sustainably linking farmers to national and international markets. Successful arrangements are underpinned by embedded financial and technical support that helps improve yields and product quality and procurement systems that facilitate smallholder supply. In the context of a changing climate, outgrower schemes also offer the potential to introduce Climate Smart Agriculture (CSA) technologies and practices into agricultural systems.

Vuna, a United Kingdom's Department for International Development (DFID) funded CSA programme that is promoting the adoption of CSA in ESA sought to leverage outgrower schemes to introduce climate resilient crops, livestock, and practices into agricultural systems. Drawing from an analysis of outgrower arrangements that benefited from Vuna investment, this paper seeks to identify typologies of outgrower models that deliver CSA, assess their potential contribution to building system resilience, sustainably and at scale, and establish the key drivers of business model success for future programmes and implementers to consider.

Outgrower arrangements encompass the entire agricultural cycle, from input provision, to production support, and marketing. Accordingly, the Food Agriculture Organisation of the United Nations (FAO) defines outgrower schemes¹ "as an agricultural production system carried out according to an agreement between a buyer and farmers, which establishes conditions for the production and marketing of a farm product or products"². The basis of the agreement is a commitment from the farmer to provide an agreed quantity of a specific agricultural product, to a specified standard, at a time determined by the buyer. In turn, the buyer agrees to purchase the product as per mutually agreed pricing conditions.

The intensity of the agreement varies according to the depth and complexity of the relationship across the following areas:

- Marketing: The terms and conditions of the future sale and purchase of the product;
- Production support: Buyer provision of selected inputs and technical advice;
- Production specification: The grower application of recommended production methods; inputs regimes; cultivation and harvesting specifications³.

2.1. Outgrower schemes within a changing climate

With effective establishment and management, outgrower schemes can deliver benefits at the farm, firm, and sector level. Select Vuna supported firms cited the benefits of outgrower schemes as improved product integrity, reduced investment costs in land and labour, improved relations with local and national governments and communities, and improved security of supply⁴. Vuna investments were directed at addressing the threat of reduced production volumes affecting smallholder farmers and agribusiness alike as a result of climate change. Accordingly, firms identified Vuna's investments as supporting the increased productivity that underpins improved security of supply. Firms, however, noted that outgrower schemes are not without difficulties. They must contend with side-selling, input diversion, farmers not following the production methods that underpin specified quality standards, and farmers not supplying the anticipated volumes.

"Musoma taught me how to grow like a commercial farmer" as a result, Regina Masanja, a farmer contracted to Musoma Food Company has increased her yield by 129% from an average 3,150 kilogram of rice on 0.6 hectares to 7,200 kilograms on the same plot of land. As the sole family breadwinner, these changes have contributed to her ability to buy a house for her and her 6 children as well as send each to school."

Box 1: Farmer reflections

1 Term is often used interchangeably with contract farming

2 Pultrone & da Silva, C., 2012

3 ibid

4 Firms engaged included Mgom'mera, ZSS, NWK Zambia, and MFCL.

From a grower's perspective, participation in outgrower schemes represents a pathway to commercial production. Contractual arrangements can provide farmers with access to technologies, finance, and advice that sustainably improves productivity and incomes. In addition, access to an assured market can reduce risk and uncertainty, encouraging outgrowers to reinvest earnings in business or household activities (Box 1). Offsetting these benefits, however, are the risks associated with buyers not honouring purchasing commitments, farmer indebtedness if final outputs do not cover the cost of pre-financed inputs, the loss of production autonomy, resource competition with other cash and food crops, and limited bargaining power⁵.

From a sector perspective, outgrower schemes contribute to sector commercialisation. Vuna supported outgrower models encouraged the localised, commercially oriented production, processing, and supply of agricultural products, seeds, and grain.

The introduction of climate smart technologies and practices into outgrower arrangements seeks to strengthen the aforementioned benefits. Farmers, through the adoption of CSA production knowledge and practices increase productivity and incomes, contributing to their ability to respond to climatic shocks and stresses. Buyers, through improved security of supply, increase volumes available for sale and revenue allowing them to reinvest returns in the continuation of commercial operations. Other interdependent market actors including agro-dealers, input suppliers, and financial institutions benefit from new marketing opportunities.

Emerging evidence suggests that the extent to which Vuna investments aimed at integrating CSA into outgrower arrangements achieved the aforementioned benefits is related to model typology. In the next section, the paper considers the identified model typologies; their key attributes, and emergent contribution to building resilience that is sustainable.



5 Eaton & Shepherd 2011

3. Typology of outgrower business models

1.1 Overview of typologies

Vuna innovation models that included outgrower arrangements can be broadly categorised into three typologies: centralised, facilitated, and informal⁶. While the presence of a buyer is a prerequisite for the existence of all outgrower schemes, *the role* of the buyer was used to determine Vuna innovation model classification. In a centralised model, the buyer is responsible for the direct provision of inputs and extension advice. In a facilitated model, the buyer coordinates market actors to provide inputs and extension advice, supplementing both as and when required. In informal models, the buyer's primary responsibility is to purchase output. Table 1, provides a summary of the outgrower typologies and their key characteristics.

Table 1: Typologies of outgrower business models⁷

Model attributes	Business model typology		
	Centralised model	Facilitated model	Informal model
Provision of extension services	Buyer is the direct provider of extension services	Buyer leverages third-party(ies) to provide extension services; in the absence of third party(ies)'s extension services provision, the buyer supplements	No direct buyer provision of extension; third-party(ies) leveraged on limited basis
Access to inputs	Buyer is the direct provider of inputs on credit; cost deducted from final purchase price	Buyer facilitates access to inputs through coordination with suppliers; buyer supplies select inputs	Limited to no provision of inputs to farmers
Use of contracts	Formal written agreement with individual farmers and/or groups	Formal written agreement with individual farmers and/or groups	Verbal agreement
Dependence on outgrowers for sufficient supply	Buyer depends on outgrowers to ensure sufficient and consistent supply of quality produce for onward sale to end-markets.		Buyer ensures sufficient and consistent supply through extensive sourcing networks
Grower management	Extension oversight of production, harvesting, and post-harvest handling according to a set timetable and determined by defined quality standards		End-markets require limited to non-strict grower management
Farmer grouping	Buyer organises outgrowers into groups for ease of coordination		Buyers invest in limited to no grouping of individual farmers to facilitate procurement; preferring to purchase from farmers at the farm gate or local aggregators
Purchasing arrangement	Market related pricing mechanism; volume and quality requirements predetermined; in select sectors price determined by commodity boards; purchase at farm gate or community based aggregation point; payment modalities driven by maturity of business and can range from payment into bank accounts, mobile phone accounts, and cash.	Market related pricing mechanism; volume and quality requirements predetermined; purchase at farm gate or community-based aggregation point; payment modalities driven by maturity of business and can range from payment into bank accounts, mobile phone accounts, and cash.	Market related pricing mechanism; purchase at farm gate or community based aggregation point; cash payment on purchase.
	Model summary	Model summary	Model summary
	Centrally coordinated model where buyer provides inputs and technical assistance (extension services and grower management) directly; purchases the crop according to predetermined quality and volume parameters and processes/packages crop for sale to end markets. Price setting is market-related. Model requires a high degree of investment and interaction between the firm and farmer.	Variation of centralised model; defining characteristic is buyer leveraging third-party (government or Non-Governmental Organisation (NGO)) extension provision supplemented by own provision, provides inputs directly as well as leveraging third-party input provision; purchases the crop according to pre-determined volume and quality parameters. Price setting is market related.	Buyers have simple, informal production arrangements with farmers on a seasonal basis. The provision of material inputs and technical assistance is not present or is limited.

6 Informed by Eaton & Shepherd 2011; TechnoServe and IFAD. 2011

7 Eaton & Shepherd 2011; TechnoServe and IFAD. 2011

1.2 Centralised models

1.2.1 Key attributes of the model

Centralised outgrower models are characterised by an established buyer directly providing inputs and technical assistance to farmers and purchasing output from farmers according to predetermined quality, volume, and (occasionally) price parameters. The purchased output is then processed for sale to end-markets domestically, regionally, and globally. The model requires a high degree of coordination between the buyer and the farmer and is associated with high levels of buyer investment.

The Malawi Gender Regional Seed Systems project is a concept championed by the Graça Machel Trust (GMT) and the African Women in Agribusiness Network (AWAB), whereby select female owned seed companies under the AWAB network partner with smallholder farmers to multiply legume seed varieties, including soyabean, pigeon pea, and sugar bean for certification and processing by the seed companies and sale via a network of agro-dealers. The overarching objective of the project is to profitably improve smallholder farmer access to affordable, drought-tolerant, legume seeds and build the capacity of female owned seed companies in Malawi.

Box 2: Profile of the Gender Regional Seed Systems Project

Vuna innovation models that contain significant elements of centralised models include those promoted by NWK Agri-services in the Zambian cotton sector as well as seed companies participating in the Malawi Gender Regional Seed Systems project. These innovation models were identified as Centralised Outgrower Models due the buyer's direct provision of inputs and extension services.

The high level of investment (in inputs, technical assistance, and management coordination) entails that the business rationale for investing in a centralised outgrower scheme must be solid. The business's primary end-markets must be profitably supplied through the provision of products via outgrowers. Typically, the business rationale for investing in a centralised scheme revolves around a centralised processing unit whose throughput is wholly dependent on external production that requires buyer support. For example, NWK ginneries are completely dependent on outgrower cotton. As cotton seed is not available on the local market, NWK must supply cotton seed to farmers to secure sufficient output. Entering into structured outgrower arrangements with farmers represents one way to secure a return on the investment in inputs and ensure supply. Additional considerations include processors that require a high degree of control over sourcing due to, for example, certification or traceability requirements. Seed production, for example, requires a high degree of production control, encouraging seed processing companies such as Mgom'Mera Seed Company⁸ to invest in centralised models with strict production controls enforced by company seed inspectors.

NWK Agri-services is a diversified agri-services company that trades in cotton, maize, and soyabeans; offers storage solutions; and is moving into the retailing of agri-products. In cotton, NWK procures cotton from more than 50,000 contracted smallholder farmers. NWK aims to provide contracted farmers with a quality input pack-including seeds and pesticides- extension information, and an assured and competitive market. Under the Vuna programme, NWK Agri-services integrated CSA into their extension provision. This included establishing nurseries of the *Musango Tree* (*Faidherbiaalbida*), also known as the fertiliser tree because of its positive impact on soil fertility.

Box 3: Profile of NWK Agri-services in Zambia



8 Mgom'mera is a seed company participating in the Malawi Gender Regional Seed Systems Programme

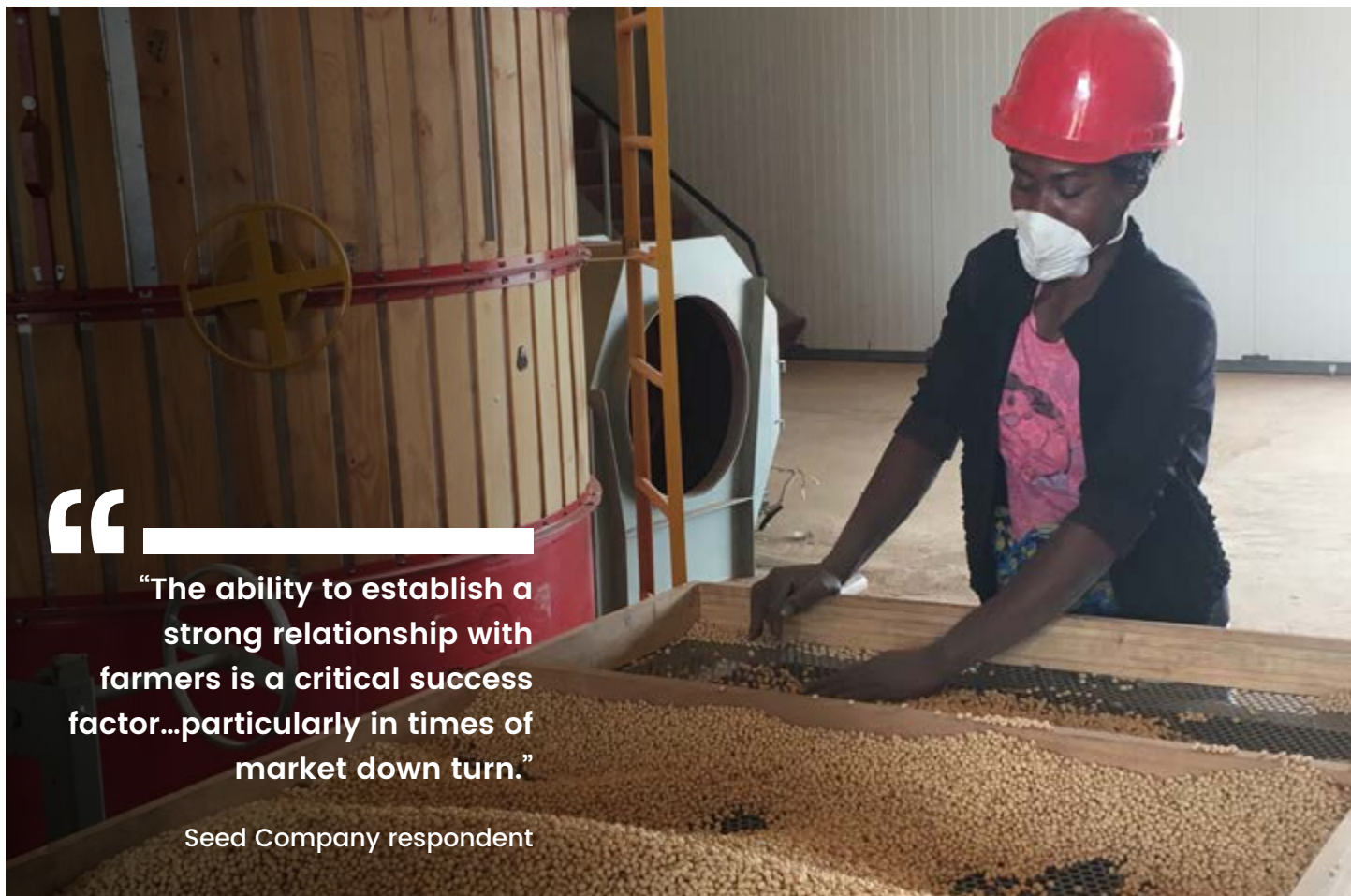
1.2.2 Key model actors

There are four key categories of stakeholders in centralised models: the buyer, extension officer, farmer group lead, and outgrower farmer.

Buyer

A centralised model revolves around an established, sufficiently resourced buyer, who is wholly responsible for establishing and managing the outgrower scheme. The buyer's key responsibilities include:

- **Coordinating production:** At the onset, the buyer identifies the ideal production areas and farmers suitable to participate in an outgrower arrangement. To aid entry into areas and identification of farmers, the buyer will often engage local level government officials or traditional leaders. Having identified farmers, for ease of coordination the buyer will organise farmers into groups or leverage pre-existing group formations. These groups are overseen by lead farmers at the community level and by buyer aligned farmer coordinators at district level. Once organised, the buyer provides a range of inputs determined by production complexity and market dynamics. Post production, buyers establish local buying posts where produce is purchased, aggregated, and transported to a central processing location.
- **Providing Production Support:** A buyer's direct provision of extension services distinguishes centralised outgrower models from facilitated models. Extension services range from agronomy advice to farm business management training. The buyer is responsible for (re) designing extension provision to ensure that it equips farmers with knowledge and capacity to adopt production methods that improve their adaptive capacity in the face of climate variability and change.
- **Buyer-farmer relations:** A key responsibility of the buyer is maintaining a positive relationship with farmers. Buyers support strong relationships through hiring extension agents (or seed inspectors) who understand local production systems and norms as well as by investing in farmer coordination arrangements that promote high levels of buyer-farmer interaction. Strong buyer-farmer relations create a foundation of trust that promote farmer loyalty. In competitive markets such as cotton in Zambia, farmer loyalty can be critical to discourage side-selling and securing supply.
- **Marketing produce:** In some instances, buyers will establish domestic marketing (wholesale or retail) outlets for the sale of final processed products. For example, Mgom'Mera and other Malawi Gender Regional Seed System project's participating companies plan to establish a network of agro-dealerships to ensure an outlet for their certified seed.



“
The ability to establish a strong relationship with farmers is a critical success factor...particularly in times of market down turn.”

Seed Company respondent

Company extension officer

As the primary interface between the buyer and grower, company extension officers are key to ensuring required production volumes and expected quality is supplied. Company extension officers are responsible for arranging the supply of inputs; providing agronomic and business advice; identifying and triggering the behavioural changes required for the adoption of climate smart production practices; and effectively communicating the buyer's position as it relates to contracting, pricing, and purchasing arrangements.

Farmer group lead

Farmer group leads play an important community level organisational function- organising farmers (or farmer sub-groups), managing demonstration plots, cascading technical training, and supplementing extension provision on a day-to-day basis. This final role is critical, with buyers often investing in capacitating lead farmers to reduce their own extension burden.

As prominent community members, farmer group leads often play a key role beyond the context of the outgrower scheme. For example, they liaise with public extension officers for the provision of technical advice beyond the contracted crops. In instances where the buyer is unable to honour their purchasing commitment, farmer group leads may take on the role of identifying and negotiating with other potential off takers.

Outgrower farmer

The outgrower's primary responsibility is to produce, harvest, and handle the commodity as per the buyer specified timelines and standards. Outgrowers often play the additional function of raising production and marketing opportunities and challenges with firm representatives. For example, Mgom'mera leveraged outgrowers to assess the production suitability and market potential of new bean crop varieties. Mgom'mera would then supply the new bean seed varieties if it deemed there was sufficient market potential and interest amongst the outgrowers.

2.2.3 Theory of change

Within a centralised outgrower model, buyers directly provide climate smart production support, inputs, and appropriate production incentives through contracting and pricing arrangements with outgrowers. Climate smart production support is provided by trained company extension agents and supplemented by lead farmers. In turn, outgrowers commit to producing a given commodity as per the agreed production methods and timelines, supplying the harvested output to local buying posts. In return, outgrowers benefit from improved knowledge of CSA production techniques as well as farm business management. The ultimate benefit accrued to the farmer is income stemming from product sales. When invested in household or business functions, improved incomes can contribute to improved livelihood outcomes. On the other hand, the buyer benefits from improved or increased throughput to their processing facilities and volumes available for marketing, ultimately contributing to increased revenue from sales.



“
When invested in household or business functions, improved incomes can contribute to improved livelihood outcomes.

2.2.4 Centralised model potential pathways to building resilient systems

Farm level

At the farm level, there are four, mutually reinforcing potential pathways that support the development of resilient systems: i) increasing the awareness and adoption of CSA production techniques; ii) promoting and incentivising farming as a business; iii) enhancing farmer community organisational capabilities; iv) and improving the stability of incomes through access to secure and/or diversified markets.

CSA production training delivered by extension staff increases farmers' awareness of how climatic changes are impacting their production systems and promotes the adoption of the varied mitigation strategies available to them. Importantly, the adaptation strategies proposed can be effectively applied to contracted and non-contracted crops, thereby contributing to reducing the sensitivity and promoting the adaptive capacity of farmers' entire production systems. For example, CSA production training under the NWK led innovation model reinforced farmers' understanding of how rainfall patterns are changing due to climate change. This prompted some participants to adopt early maturing maize varieties and 'potholing'⁹ to reduce water loss.

Participation in centralised outgrower schemes encourages farmers to produce with a commercial mindset. Farmers, particularly smallholders, do not always produce to the dictates of the market in a manner that is profit maximising. Participating in formal outgrower schemes, particularly where inputs are pre-financed, encourages farmers to appreciate their return on investment from input use and production techniques. This process is reinforced when extension models include "farming as a business training".

Centralised outgrower schemes typically leverage and support farmer organisations in the delivery of CSA services (extension delivery, input, or output aggregation). Buyers engaging with farmer organisations in a productive and collaborative manner build their capacity to act as an effective interface between off-take markets and outgrowers.

Finally, centralised outgrower models can provide outgrowers with a more reliable and diversified income when compared to spot market arrangements. This allows farmers to plan their farming business or household investments. If realised, stable and diversified incomes can contribute to improved livelihood outcomes.

Firm-level

At the firm level, pathways to resilience are rooted in increased reliability of quality produce supply for processing and increased volumes available for marketing. Both are supported by contracting a distinct cohort of commercially oriented outgrowers who are committed to producing a predetermined volume of produce (often with pre-agreed quality parameters). This is in addition to supporting internal human capacity through training company aligned extension officers to deliver CSA extension services.

End-market level

Centralised schemes that market climate smart seeds (i.e. short-season, drought tolerant varieties) contribute to the resilience of agro-dealers and end-market consumers. Consumers benefit from access to affordable seeds adapted to local climatic conditions. On the supply side, agro-dealers that actively and effectively market climate smart seeds benefit from increased volume of sales and income.

2.2.5 Centralised model potential pathways to sustainability and scalability

A necessary condition for model sustainability is the end-market ensuring sustained positive financial returns for both the buyer and the farmer. The buyer must be secure in the long term prospects of profitably supplying the market through a centralised outgrower arrangement while the contracted farmers must achieve consistent and attractive financial benefits. In the absence of these conditions, the centralised outgrower model will ultimately become unsustainable and collapse.

CSA production supports model sustainability by contributing to positive financial returns for the outgrower and firm. Farmers' adoption of CSA production practices can increase yields on contracted and non-contracted crops. For the outgrower, the

9 A conservation agricultural practice that reduces soil disturbance by tiling a pothole only where the crop will be planted, leaving the soil surrounding the area entirely untouched. The method allows for water to collect and prevent loss through run-off and is thus particularly suited to arid areas.

financial viability of participation is established when yield increases consistently translate to sales at a favourable price. From a buyer's perspective, farmers' increased yields translate to increased throughput for processing plants, volumes to market, and ultimately revenue. The extent to which CSA practices achieve the aforementioned supports model sustainability.

Model scalability (replication and expansion) is a function of model sustainability for both the smallholder farmers and commodity off-taker. Centralised outgrower models are expanded or adopted in markets where it has been demonstrated that demand can be profitably addressed through such arrangements.

2.3 Facilitated models

2.3.1 Key attributes of the model

Facilitated models are characterised by a buyer coordinating with intermediaries to provide inputs, technical assistance, and financial services to outgrower farmers. The buyer will work with select input providers of fertiliser or chemicals to market inputs directly to outgrowers. Often, the buyer will pre-finance the supply of key production inputs, in particular seed to ensure varieties under production. For example, Zimbabwe Super Seeds (ZSS)¹⁰ provides basic seed for multiplication to contracted farmers. Technical assistance provided by intermediaries (NGOs, agro-dealers, or public extension agents) is frequently supplemented by buyer extension provision. Once produced, the output is then purchased from the farmers (typically at local buying posts) according to pre-agreed volume and quality standards, at a prevailing market price. The model requires a high degree of coordination between the buyer and intermediaries providing inputs, extension services, and financial services. Close coordination with the outgrowers throughout the season and particularly during harvesting and marketing, is also very important.

Zimbabwe Super Seeds (ZSS) is a Zimbabwean registered seed company that focusses on the multiplication of climate resilient seeds for Open-Pollinated Variety (OPV) maize, sorghum, millet, and self-pollinating legumes such as groundnuts, sugar beans, and cowpeas. ZSS' mission is to improve the farmer's access to appropriately priced climate relevant certified seeds. It achieves this through a community based seed multiplication model where ZSS contracts smallholder farmers to plant foundation seed for multiplication, which is then bought by ZSS for processing, packaging, and marketing as certified seed to the local market through a network of agro-dealers of varying sizes, from village based dealerships to large retailers.

Box 4: Profile of Zimbabwe Super Seeds

MFCL and G2L are Tanzanian based food processing firms that partnered with Vuna to integrate CSA extension into their respective farmer contracting models.

Based in Shinyanga, the semi-arid central part of the Lake Region, MFCL specialises in processing maize flour, rice, as well as sorghum for brewing beer. The company secures supply through structured outgrower agreements with farmers in the lake zone sub region, including Shinyanga, Mwanza, Kagera, Geita, Simiyu, and Tabora

G2L's operations are centred in Makambako in the Southern Highlands region, which is regarded as the agricultural hub of the country. They contract farmers in seven districts in the Ruvuma, Iringa, and Jombe to secure the supply of soyabean and common bean.

Box 5: Profile of MFCL and G2L

Facilitated models dominate Vuna innovations that contain outgrower components. Vuna innovations that are predominately facilitated include the models led by ZSS in Zimbabwe; Musoma Food Company Ltd (MFCL) and G2L Company Ltd (G2L)¹¹ in Tanzania; and Lilongwe Dairy Limited and Malawi Milk Producers Association (MMPA) in Malawi¹². The prevalence of facilitated models is related to the buyer's level of investment. Leveraging intermediary activities allows buyers' to manage their level of investment while still securing supply. Facilitated models are also viewed as a method to test potential buyer

10 For additional information on the ZSS business models refer to the Innovation Series paper, Inclusive Seed Systems for Semi-Arid Areas: Insights from Zimbabwe Super Seeds

11 For additional information on the MFCL and G2L business models refer to the Innovation Services paper, CSA Capacity Development in Outgrower Schemes: Insights from Musoma Food Company Ltd and G2L Company Ltd in Tanzania

12 For additional information on the Lilongwe Dairy Limited and Malawi Milk Producers Association partnership refer to Innovation Services paper, "Building climate resilience for dairy farmers, through climate smart solutions: Insights from the Malawi smallholder dairy sector"

“exit strategies”. For example, capacitating and incentivising government extension agents to provide relevant extension services to outgrowers in the long term, or brokering agreements with financial institutions to allow outgrowers to use off-take contracts as collateral when accessing credit for inputs. However, as cultivating positive buyer-seller relationships remains critical to securing supply buyers participating in facilitated models remain willing to invest in some “on-the-ground” presence to cultivate farmer loyalty.

Lilongwe Dairy Limited is an agro processing company specialising in the production of pasteurised fresh milk, long life UHT fresh milk, yoghurt’s, UHT flavoured milk, and dairy blend fruit juices. The company relies on smallholder dairy farmers for the supply of raw milk. Approximately 92% of the supplied raw milk is produced in Southern Malawi by 2,300 smallholder dairy farmers organised into 23 Milk Bulking Groups (MBGs).

Lilongwe Dairy partnered with Malawi Milk Producers Association (MMPA)-an umbrella organisation of MBGs- to improve the quality and increase the quantity of raw milk supply through the introduction of a suite of CSA technologies and practices.

Box 6: Profile of Lilongwe Dairy Limited and Malawi Milk Producers Association



Key model actors

By design, facilitated models depend on multiple stakeholders for model delivery. However, the anchor buyer remains the model driver. In the absence of anchor buyer coordination, the model will cease.

Buyer

A facilitated model is managed by an anchor buyer who is responsible for establishing the outgrower scheme. Once established the anchor buyer capacitates and coordinates intermediaries to provide technical expertise, services, and inputs to outgrowers. For example, ZSS trained public extension agents to provide technical assistance specifically to seed producers, a competency previously neglected within public extension training. ZSS extension agents then worked alongside public extension agents in the delivery of services to farmers. Similarly, MFCL trained public extension agents to provide CSA aligned technical assistance to farmers alongside their farmer coordinators. In some models, public extension agents are incentivised to realise productivity increases on the buyer's focus crops through commission based arrangements. As it relates to inputs and services, lead buyers seek to encourage local service providers (of inputs, financial products etc.) to extend their service channels to outgrower production areas. However, anchor buyers will provide inputs critical to production, in particular correct seed varieties. During the harvesting season, the buyer takes on full responsibility for coordinating the grading and purchasing from farmers at local collection points. Depending on the marketing arrangement between the anchor buyer and off-taker, the purchase price can be agreed at the start of the season or established during marketing.

Third party extension officers

Third-party extension agents (i.e. NGOs, trained agro-dealers, and public officers) assist buyers to establish and build extension relationships with farmers. Third-party agents often facilitate a buyer's entry into a community, introducing the buyer to pre-existing farmer groups and potential lead farmers. These introductions (particularly by public extension officers) can be a pre-requisite to a buyer gaining farmers' trust and successfully establishing operations in a farming community. Having assisted a buyer to establish this relationship, third-party extension agents provide extension services to outgrowers alongside company extension agents.



Company extension agent

Company extension agents are the buyer's representatives "on the ground". They are responsible for coordinating the supply of inputs, collaborating and/or supplementing the extension provided by third-parties, coordinating off-take, and effectively communicating the buyer's position as it relates to contracts, pricing, and purchasing arrangements. As the primary interface between the buyer and farmer, company extension officers lay the groundwork for a trust-based relationship between the buyer and farmer.

Farmer group lead

Farmer group leads play an important organisational function at community level, organising farmers to engage with stakeholders, signing contracts on behalf of groups, managing demonstration plots, supplementing extension provision on a day-to-day basis, resolving disputes, and providing first level quality control and assurance. For example, in seed production, a farmer group lead (or committee) might exclude a non-compliant field from inspection and provide remedial action for the farmer to adopt. Such actions have the added benefit of insulating the anchor buyer from disputes with growers over non-compliance.

Outgrower farmer

Outgrower farmers are responsible for participating in demonstration plots and field days, adhering to buyer's production, harvesting, and handling parameters, and selling the output at a pre-determined time. Outgrower farmer's performance (in terms of yields and incomes) also incentivises other farmers to purchase anchor buyer products (in the case of seed) or participate in the outgrower arrangement (in the case of grain production).

Input suppliers

Input suppliers are responsible for extending their distribution networks to outgrower production areas. This facilitates the timely purchase of other inputs (fertiliser and chemicals) critical to production. In facilitated models where anchor buyers only supply seed, the presence of input suppliers ensures that outgrowers are able to procure the supplementary inputs required to achieve targeted yields and maintain or expand production. In seed multiplication schemes, seed breeders are vital input suppliers. The small and medium-sized seed companies Vuna supported do not have the resources to invest in research and development. As such, the seed breeders they collaborate with play the critical role of breeding and supplying locally adapted seed varieties.

Financial institution

Financial institutions support outgrower arrangements in two ways. Firstly, they provide input credit to farmer groups using the off-take agreement as collateral. This allows farmer groups to purchase the additional inputs required for production on time. Secondly, to facilitate payment, outgrower farmers are encouraged to set up bank accounts with partner financial institutions for payment, an important precursor to accessing other financial services.

1.1.2. Theory of change

Within a facilitated model, buyers leverage intermediaries to provide extension and financial services and inputs- with the exclusion of seeds- to outgrowers. Prior to leveraging services, buyers often capacitate or make the case to intermediaries to provide services and technologies. Intermediary provided solutions are supplemented by the buyer; particularly as it relates to extension provision or seed supply.

In turn, contracted farmers commit to producing a given commodity as per the agreed production methods and timelines. In return, farmers benefit from improved knowledge of CSA production techniques as well as farm business management in addition to better market integration, through improved access to input suppliers and financial institutions. The ultimate benefit accrued to the farmer is increased yields on contracted and other crops, and if translated, to sales incomes. When invested in household or business functions, improved incomes contribute to improved livelihood outcomes.

The firm benefits from improved or increased throughput to their processing facilities and volumes available for marketing. This ultimately contributes to increased revenue from sales.

The impact to the broader market system includes the inculcation of climate smart agricultural concepts within public extension services, the development of input supplier last mile distribution¹³ channels, and financial institution engagement with farmers.

13 Last mile distribution refers to the movement of goods from a distribution hub to a final destination at the community or farm-level.

1.1.3. Facilitated model potential pathways to building resilient systems

Facilitated models contribute to resilience building at the farm, firm, supporting market (extension services, input supply, and financial services) and end-market levels.

Supporting market

By design (i.e. involving multiple market actors), buyer led facilitated models support resilience building within the broader market system. Buyers encourage input suppliers to invest in deeper distribution channels that deliver buyer relevant and other inputs. The development of last mile distribution networks benefits outgrowers and other farmers. Importantly, demonstrating the *local* business case of last mile distribution increases the likelihood of other input suppliers crowding into the market. The presence of off-take agreements encourages financial institutions to extend credit to contracted farmers. For example, a group of ZSS contracted seed multipliers have been able to access financing using their contracts with ZSS as collateral. Finally, buyer co-financed training of public extension agents or agro-dealers in CSA contributes to strengthening the agronomic knowledge of agro-dealers and extension agents and the resilience of the broader farming communities they serve. For example, public extension agents commented that one of the benefits of collaborating with MFCL was exposure to up to date extension knowledge relevant to the climatic changes they are witnessing in their districts.

Farm level

At the farm level, facilitated models build on and supplement the pathways to resilience created by centralised schemes. Similar to centralised schemes, facilitated models contribute to resilience by: increasing the awareness and uptake of CSA production knowledge; increasing exposure to the concept of commercialisation in agriculture; improving farmer community organisational capabilities; and improving the stability of incomes through access to secure and/or diversified markets. In addition, facilitated models further support resilience building by contributing to farmers' improved integration in input and financial markets.



“
The development of last mile distribution networks benefits outgrowers and other farmers.”

Firm-level

Facilitated models place firms on resilient pathways by increasing the reliability of quality supply for processing and available volumes for marketing. The extent to which facilitated models contribute to firm level resilience through security of supply and marketing volumes is dependent on the strength of supporting function actors (i.e. inputs, extension, and finance) as well as the buyer's relative control of the local market. For example, MFCL dominates the purchase of rice in and around their sourcing areas. As such, they are more willing to coordinate actors to increase outgrower production as they are confident that the majority of produce will be processed in their local facility.

End-market level

Facilitated models that produce and market climate smart seeds contribute to resilience building among agro-dealers and end-market consumers. Consumers benefit from access to seeds that are drought tolerant, pest, and disease resistant, or short-season. In addition, agro-dealers that sell new or improved variety seed benefit from increased volume of sales, particularly if the agro-dealers are able to effectively market their products.

1.1.4. Facilitated model potential pathways to sustainability and scalability

Similar to centralised schemes, a necessary condition of model sustainability remains the prospect of sustained financial returns for both the buyer and farmer. This was observed in the case of MFCL, where demand from large institutional buyers (i.e. the World Food Programme (WFP), Tanzania Breweries, and Serengeti Breweries) encouraged MFCL to adapt their sourcing strategy; shifting from a transactional to an outgrower relationship with farmers. MFCL's willingness to adapt their sourcing strategy was underpinned by the prospect of sustained demand and stringent quality requirements that necessitated closer engagement with farmers.

The second critical condition of model sustainability is the relative strength of the intermediary actors. For example, for buyers to leverage public extension services, the pre-existing system must be relatively intact and functional. This is the case with ZSS, who strategically leverage public extension agents in districts where they are strong, but not in districts where they are relatively weak. Often it is the relative strength of supporting services that determines if a buyer adopts a facilitated or centralised model.

Akin to centralised models, climate smart agricultural production supports model sustainability by contributing to positive financial returns for the outgrower and firm. Farmers' adoption of CSA production practices and technologies can increase yields on contracted and non-contracted crops. For the outgrower, the financial viability of participation is established when yield increases translate to sales at a favourable price while from a buyer's perspective, farmers increased yields translate to increased throughput for processing plants, volumes to market, and ultimately revenue. The extent, to which CSA practices achieve the aforementioned, supports model sustainability.



2.4 Informal models

1.1.1 Key attributes to the model

Informal models are characterised by informal, often seasonal, production relationships between the buyer and farmer. The provision of inputs and technical assistance is typically limited or not present. The Vuna innovation model categorised as informal is the Export Trading Group (ETG) led model¹⁴ in Mozambique that sought to integrate CSA into the pigeon pea value chain. Within the model, technical assistance was externally co-financed and provided, inputs were facilitated on a limited basis (to demonstration plots only) and the arrangements were not underpinned by formal written or verbal agreement with the beneficiary farmers. This is in line with the ETG business model that seeks to secure supply by offering competitive prices to an extensive base of individual farmers.

The Export Trading Group (ETG) in collaboration with Solidaridad Southern Africa designed the “Development of Climate Smart Agricultural (CSA) Capacity in Pigeon Pea” innovation model. Founded in 1967, ETG is one of Africa’s largest agricultural trading groups- moving more than 5 million metric tonnes of agricultural commodities globally. Solidaridad Southern Africa, an international civil society organisation specialising in sustainable value chain development, is responsible for the provision of CSA-aligned extension services to farmers.

The ETG-led innovation model had two objectives: increasing farmer’s resilience by improving crop productivity and income and improving ETG’s security of supply through productivity-enhancing investments and market linkages. To achieve these objectives, ETG co-invested in the provision of CSA-aligned extension services by Solidaridad to farmers. Solidaridad extension agents selected and trained lead farmers to establish demonstration plots where farmer groups were taught CSA production practices and business management skills. The intended impact of farmer training was increased productivity and when translated to sales, incomes. At the onset of the marketing campaign, ETG was responsible for marketing and/or purchasing produced pigeon pea on a non-contractual basis. The impact was increased produce for sale by ETG into their largest export market-India. Through these activities, the model sought to build the resilience and economic viability of participating farmers and ETG.

Box 6: Profile of the ETG led Innovation Model

Informal models require limited investment. However, their adoption remains underpinned by a business rationale. Among Vuna financed innovation models, the business that adopted an informal outgrower arrangement specialised in trading agricultural commodities. This is in contrast to centralised or facilitated models where buyers face pressure to secure steady supply within proximity to their processing centres. In the absence of a fixed local asset, trading companies are free to secure supply through extensive sourcing networks that shift purchasing patterns in response to end-market demand. For example, in response to the 2017 drop in pigeon pea prices; ETG was able to scale back their purchase of pigeon pea and reduce the farmgate price offered.

1.1.2 Key model actors

There are five key categories of stakeholders within an informal model: the buyer, the buyer’s agent, the third-party extension provider, the lead farmer, and the farmer.

Buyer

In an informal model, the buyer is primarily responsible for purchasing produce at a market related price. When the commodity is in high demand, the buyer will typically purchase at the farmgate. During market slumps, the buyer will purchase at community level buying posts or not at all. In informal models that incorporate extension provision on a pilot scale, the buyer will contract and/or coordinate external extension partners.

Buyer aligned traders

Buyer aligned traders represent the sourcing arm of the buyer; responsible for purchasing produce at the farmgate or at community-level buying posts.

14 For additional information on the ETG innovation model refer to the Innovation Series paper, Integrating Climate Smart Agriculture in Pigeon Pea Production: Insights from Export Trading Group in Mozambique

Third party extension officers

In informal models where extension provision is available on a pilot or limited basis, third party extension officers are typically contracted to provide CSA extension services to smallholder farmers within the buyers procurement catchment areas.

Lead farmers

Within informal models, lead farmers support the aggregation of farmer produce, often acting as community level aggregation and buying centres. In models where CSA extension services are provided on a pilot basis, lead farmers will be trained to demonstrate CSA production techniques on demonstration fields.

Farmer

Farmers are responsible for producing, harvesting, handling, and selling the commodity to buyer-aligned traders.

2.4.3 Theory of change

In an informal model, buyers purchase product from farmers on a speculative, seasonal, and ad hoc basis. Buyers benefit from limited or no investment in building the productive capacity of farmers through the provision of extension services and a high degree of sourcing flexibility. Growers benefit from limited to no product specification and a spot market for products.

2.4.4 Informal model potential pathways to building resilient systems

In comparison to centralised and facilitated models, the extent to which informal models place farming systems on a pathway to resilience in the face of climate change is limited. Positively, when informal models include the provision of CSA technical assistance and inputs they improve the adaptive capacity of farmers and the production systems they depend on. However, other key components of resilience building including strengthening income security, promoting crop diversification, increasing market engagement, and developing stronger farmer networks are less robust due to the temporal and transactional nature of engagement between the anchor buyer and farmer. From a buyer's perspective, informal models are not adopted with the objective of building firm resilience in response to climate change. Rather, buyers attempt to mitigate supply chain risks-including climate risks-by diversifying their product lines or making adjustments to their sourcing strategy.

2.4.5 Informal model potential pathways to sustainability and scalability

Emerging evidence suggests that the informal model's contribution to building resilience, sustainably and at scale is weak. The temporal and transactional nature of engagement with farmers disrupts the sustained provision of CSA production knowledge and technologies required to promote adoption or trigger the demonstration effect fundamental to crowding-in other market players. However, while the model facilitates limited engagement with other market actors, it lacks the ability to trigger changes in the broader system.



“
In an informal model, buyers purchase product from farmers on a speculative, seasonal, and ad hoc basis.”

4. Assessing drivers of success for outgrower business models

Within the context of a changing climate, the ultimate success of an outgrower model rests on its robust contribution to resilience building that is sustainable and at scale. The emerging evidence suggests that the extent to which facilitated, centralised, and informal models place market and production systems on a pathway to resilience, through promoting the adoption of CSA innovations (delivery mechanisms, technologies, and services) exists on a spectrum.

Facilitated models by virtue of design (i.e. involving multiple market actors) support the adoption the CSA innovations that lay the foundation of resilience at the farm and firm level as well as within the broader market system. By leveraging multiple market actors to provide services and technologies, facilitated models promote deeper market relationships between value chain players. Drawing on the capacity of a variety of players reduces the investment burden on the anchor buyer- a dynamic that sustains model adoption by the anchor buyer, particularly in the face of end-market shocks.

Centralised models lay the foundation of resilience at the firm and farm level, with a narrower direct impact on the broader market system. Centralised models supported by consistent end market demand drive anchor buyer investments in the technical and financial support required to promote the adoption of CSA innovations. Increased and sustained adoption of CSA technologies and practices among outgrowers supports the increased productivity critical to securing sufficient supply. However, the level of investment on the part of the anchor buyer entails that the model's ability to sustain investments is less insulated from the impact of fluctuations in end-market demand.

Emerging evidence suggests that informal models lay a weaker foundation for resilience building at scale. The transactional and temporal nature of engagement tenuously supports farm-level resilience, with limited impact on the resilience of other market actors. As the model's contributions to resilience are limited, its ability to sustainably scale resilient building solutions is inherently curtailed.

Thus, nascent evidence emanating from Vuna innovation model implementation experiences suggests that centralised and facilitated models lay the strongest foundations for resilience building, that is sustainable and at scale.

4.1. Emerging drivers of outgrower business model success

Drawing from Vuna innovation models pilot implementation experiences, the following influencing factors should be considered when designing and implementing innovations that seek to promote the adoption of CSA delivery models, services, technologies, and practices.

4.1.1. Context related factors

Crop type: Not all products are suitable to outgrower arrangements, particularly those arrangements that require a relatively high degree of buyer investment and coordination¹⁵. Products where there is a high risk of side-selling (due to developed local markets) or where technical expertise is not required for production are generally less suitable for outgrower production.

Product availability and quality: Buyers are more likely to invest in facilitated or centralised outgrower arrangements where the desired product is not readily available and/or the quality standards of available products are poor. This is observed in the case of ZSS with seeds and MFCL with rice. Both entities are willing to invest in outgrower arrangements due to the quality dictates of their end markets.

Long term perspective: Successful centralised and facilitated outgrower arrangements take time to establish. Buyer partners who take a long term view are more likely to sustainably invest in resilience building activities; be it extension services or facilitating improved market integration. The adoption of a long-term perspective is often predicated on a buyer's asset base. Buyers with substantial fixed assets-particularly processing facilities-are more likely to establish and maintain successful farmer partnerships in the long-run.

15 TechnoServe and IFAD. 2011

Market access: Direct and sustained access to growing (local, regional, and global) markets is critical to partnership success as the market has to sustain the required investment in an outgrower scheme in the long-term. For example, MFCL shifted their sourcing strategy from a transactional to an outgrower arrangement off the back of large institutional demand.

Strength of supporting functions: Specific to facilitated models, the incentive and capability of supporting intermediaries to provide extension services, financial products, and climate resilient inputs is critical to model success.

Buyer's motive and incentives: The preceding points contribute to whether or not the buyer, intermediary, or farmer have sufficient incentive to invest in an outgrower relationship. Implementing partners must critically assess whether all key stakeholders have the long-term incentive to invest in the model.

If the context is found to be supportive of outgrower model establishment, then the following design and implementation factors should be considered:

4.1.2. Design related factors

Farmer selection: At the onset, criteria for farmer selection must be developed. The criteria should be based on end-market requirements; the business' financial, human, and operational capacity; and the farmer's assets (human, land, capital).

Quality extension provision: The provision of high-quality extension services is critical to ensuring the increased productivity that underpins model sustainability from the perspective of the farmer and buyer. From a farmer's perspective, effective extension enables them to increase yields and (when converted to profitable sales) income on contracted and non-contracted crops. Buyers on the other hand benefit from the throughput required to realise a return on investment for extension provision.

Lead farmer models: Investing in identifying and capacitating lead farmers that facilitate farmer-to-farmer learning reinforces the impact and reduces the cost of extension provision.

Marketing component: A key condition of outgrower model sustainability is the ability of the buyer to successfully market their produce. Although the focus of donor support to outgrower schemes is typically to production and occasionally processing. Greater consideration should be given to marketing support, including demand creation and marketing channel development.

Leveraging intermediaries: Buyer led facilitated models support broader and deeper resilience building. Models operating in contexts with strong supporting markets should seek to leverage supporting market actors (i.e. input suppliers, financial service providers, public extension services agents) in model delivery.

4.1.3. Implementation related factors

High levels of interaction between firm and farmers: High levels of interaction between the buyer and outgrower is critical to building the trust and loyalty required by a successful outgrower arrangement. Often, buyer extension officers are the primary interface between the firm and farmer. They should be effective communicators and conflict mediators, with sufficient understanding of local languages and norms.

The provision of market information: Buyers' regular and transparent communication related to market information is critical to maintaining a positive relationship with farmers. This is particularly the case for outgrower arrangements where pricing is market related.

Trust is fragile: Trust between a buyer and farmer can break down within a season if agreed arrangements related to accessing inputs and purchasing produce are not honoured and reasons for buyer non performance are not effectively communicated.

Financial capacity: Across the models- centralised, facilitated, and informal- buyers require sufficient financial resources (in particular working capital) to provide inputs and/or purchase products. In the absence of sufficient financial capacity, buyers are unable to honour their purchasing commitments to contracted farmers and the outgrower arrangement fractures- to the long term detriment of both the farmer and buyer.

Bibliography

Eaton,C. and Shepherd, A. 2001. Contract farming Partnerships for growth. Food and Agriculture Organization of the United Nations (FAO). <<http://www.fao.org/docrep/014/y0937e/y0937e00.pdf>> accessed 02.15.2018

Genesis Analytics, 2018. Building climate resilience for dairy farmers through climate smart solutions: Insights from the Malawi smallholder dairy sector. Vuna Research Report. Pretoria: Vuna.

Genesis Analytics, 2018. CSA Capacity Development in Outgrower Schemes: Insights from Musoma Food Company Ltd and G2L Ltd in Tanzania. Vuna Research Report. Pretoria: Vuna.

Genesis Analytics, 2018. Integrating Climate Smart Agriculture in Pigeon Pea Production: Insights from Export Trading Group in Mozambique. Vuna Research Report. Pretoria: Vuna.

Genesis Analytics, 2018. Integration of Climate Smart Agriculture into E-Voucher Farmer Input Subsidy Programme: Insights from Zambia. Vuna Research Report. Pretoria: Vuna.

Genesis Analytics, 2018. Inclusive Seed Systems for Semi-Arid Areas: Insights from Zimbabwe Super Seeds. Vuna Research Report. Pretoria: Vuna.

Pultrone,C. and da Silva,C., 2012. Guiding principles for responsible contract farming operations. Food and Agriculture Organization of the United Nations (FAO). <<http://www.fao.org/docrep/016/i2858e/i2858e.pdf>> accessed 02.15.2018

TechnoServe and IFAD. 2011. Outgrowers schemes: enhancing profitability. Technical brief, <<http://www.technoserve.org/files/downloads/outgrower-brief-september.pdf>>accessed 02.15.2018

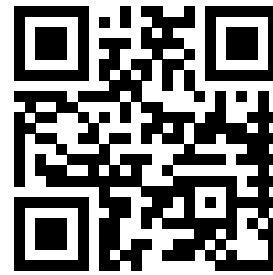






Scan the code to read more
on Genesis' work in
Agriculture and Agribusiness.

T: +27 11 994 7000
E: agri@genesis-analytics.com
W: genesis-analytics.com



Scan the code to read more
on Vuna's work in East and
Southern Africa.

T: +27 12 342 3819
E: contact@vuna-africa.com
W: vuna-africa.com

