



Seas of Change

scaling inclusive agri-food markets

Monika Sopov
Yeray Saavedra
Yared Sertse
Wytse Vellema
Henric Verjans



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Seas of Change Initiative

Is Inclusive Business for you ?

Managing and upscaling an inclusive company: Lessons from the field



Monika Sopov – Yeray Saavedra – Yared Sertse – Wytse Vellema – Henric Verjans

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Monika Sopov

Senior Advisor

Centre for Development Innovation, Wageningen UR

AFRICA

Ethiopia

Burundi

Kenya

Mozambique

South Africa



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1 Introduction

The 'Seas of Change' learning initiative was launched in April 2012 with an international learning workshop which brought together 100 leaders from business, development organisations, government, farmers' organisations and research, for a dynamic and frank exchange of experiences, innovations and questions around inclusive business models.

This learning initiative aims to improve understanding of how agri-food markets can contribute, at a significant scale, to food security and rural poverty-reduction while still building profitable commercial relations.

Several learning trajectories have been developed since the launch of Seas of Change. The Centre for Development Innovation (CDI), Wageningen UR leads the trajectory on analysing inclusive business models in East Africa. The research trajectory aims at analysing innovative mechanisms of inclusiveness, how they are integrated into the business models, how they work, and what is their impact:

- › at the level of business, and
- › at the level of the wider community.

This primer provides a collection and syntheses of 10 case studies across a wide range of commodities in East African countries. Each value chain is likely to be different in implementing inclusive business models and scaling them up. But some general principles

are beginning to emerge. The aim of this document is to distil some lessons learned from the case studies in terms of incentives and mechanisms for inclusiveness, success factors and obstacles, and opportunities for scaling up successful models.

All the companies interviewed source from smallholder farmers in disparate social, economic and environmental settings. This engagement with low-income families varies based on the inclusive business model adopted. Table 1 below lists the companies and their respective business models. A brief description of each business model can be found in chapters following this introduction. At the end of the case studies, a synthesis paper summarizes the lessons learnt regarding:

- › current inclusiveness of the chains
- › possibilities for enhancing inclusiveness in the respective chains
- › success factors for managing and scaling inclusive business models.

This reader also caters to the needs of small- and medium-sized enterprises (SMEs) interested in learning from case studies regarding how other companies are engaged in inclusive businesses. Furthermore, the learning points from the case studies will feed into a manual at the next stage of this learning initiative that will be developed specifically for SMEs on how to set up and manage inclusive business models. The authors therefore welcome any reactions or recommendations from readers on this subject.

Analysis of Inclusive Business Models

2 Business model typology in the case of working with smallholders

In the literature, the terms ‘contract farming’ and ‘out-grower scheme’ are often used interchangeably. However, to offer more insight, the analysis of the presented case studies follows the thinking of Eaton and Shepherd (FAO, 2001) who identified five different contract farming models:

1. Under the **Centralized model** a company provides support to smallholder production, purchases the crop, and then processes it, closely controlling its quality. This model is used for crops such as tobacco, cotton, sugar cane, banana, tea, and rubber.
2. Under the **Nucleus Estate model**, the company also manages a plantation in order to supplement smallholder production and provide minimum throughput for the processing plant. This approach is mainly used for tree crops such as oil palm and rubber.
3. The **Multipartite model** usually involves a partnership between government bodies, private companies and farmers.
4. The **Intermediary model** can involve subcontracting by companies to intermediaries who have their own (informal) arrangements with farmers.
5. Finally, the **Informal model** involves small- and medium-sized enterprises who make simple contracts with farmers on a seasonal basis. Although these are usually just seasonal arrangements, they are often repeated annually and their success depends on the proximity of the buyer to the seller.

Using this approach, the cases fall under the following models:

Company	Sector	Country	Inclusive/ business model
Dutch Agricultural Development & Trading Company (DADTCO)	Cassava	Mozambique	Multipartite model
Novos Horizontes (NH)	Poultry	Mozambique	Centralized model
Mozambique Fresh Eggs (MFE)	Poultry	Mozambique	Centralized model
Gadisa Gobena Commercial Farms PLC (GGF)	Seed	Ethiopia	Informal model
africaJUICE (AJ)	Fruit	Ethiopia	Centralized model
Depasa Agro Industry (DAI)	Sesame	Ethiopia	Centralized model
Brarudi, Heineken (H)	Sorghum	Burundi	Centralized model
Tongaat Hulett (TH)	Sugar Cane	South Africa	Nucleus estate model
Bosman Family Vineyards (BF)	Wine	South Africa	Equity-sharing (not contract farming model)
4 Dairy Business Hubs (DBH)	Dairy	Kenya	Centralized model and intermediary model

Table 1
Contract farming models in the studied cases



3 Research approach

In the report of the Seas of Change international workshop, agri-food markets were defined as inclusive when they:

- 1 Create opportunities that enable small-scale farmers and their cooperatives to become economically viable business partners in supply chains.
- 2 Support small- and medium-sized enterprises to flourish as processors and service-providers along the supply chain.
- 3 Provide employment opportunities under fair labour conditions.
- 4 Establish agri-clusters/centres that help to drive overall rural economic prosperity.
- 5 Deliver healthy, affordable, accessible food products and services for low-income consumers in rural and urban areas.
- 6 Give all stakeholders and, in particular, marginalised groups (small-scale farmers, women, youth, unorganised labour) a voice in governance and investment.

In analysing the case studies, researchers went deeper into identifying and evaluating dimensions of inclusiveness in relation to the business models which were studied.

Most literature considers inclusive business models as those which seek to contribute towards poverty alleviation by including lower-income communities within the value chain while not losing sight of the ultimate goal of business, which is to generate profits. More specifically, as indicated by the World Business Council for Sustainable Development, a business model is inclusive when large investors tackle yields, quality, skills

development, and supply-chain linkages simultaneously. As stated by the director of africaJUICE *'Inclusiveness is not a cost but is part of our business value. A successful business model (e.g. inclusive out-grower schemes) depends on cultivating good relationships, transparency and a commitment to share equally the risks and rewards of the market'*. Inclusiveness builds on mutual trust between actors, proper incentives for long-term engagement in the value chain, transfer of skills, and a balancing of power in decision-making within the value chain.

'The new business model principles are signposts for inclusive and durable trading relationships.'

In the context of these case studies, we consider a business model inclusive when it is

- › **Durable:** promotes long-term, stable trading relationships;
- › **Equitable:** increases market access for smallholders with an equitable balance of risk, responsibilities and benefits;
- › **Efficient:** improves financial sustainability;
- › **Effective:** strengthens purchaser access to consistent supplies;
- › **Adaptable:** enables flexibility to respond to changing market, social and environmental conditions;
- › **Credible:** offers real benefits in the form of stable commercial relations that can be tracked and reported on.

The research activities included desk research as well as interviews in the field with a variety of key actors, such as company representatives, smallholders, and traders (where applicable), in order to identify possible pressure points regarding inclusive business models.

For the research methodology, 'Value chain mapping' and 'Application of Business Model Principles' (LINK methodology) were applied.

The Business Model Principles from the LINK methodology (CIAT, 2012) were used to guide the process of assessing the different business models in terms of inclusiveness, and selecting areas for improvement.

Principle	Description
Principle 1 Chain-wide collaboration with shared goals and identified champions	<ul style="list-style-type: none"> › Identified champions in lead firms › Regular processes of information flow (formal or informal) › Alignment of goals/vision (commercial and development)
Principle 2 New market linkages	<ul style="list-style-type: none"> › Ability to aggregate and reach high-value markets › Ability to provide steady and durable market for suppliers › Ability to expand core product opportunities › Ability to reach complementary markets for seconds and other products – the 5th quarter › Ability to function without subsidy
Principle 3 Equitable and transparent chain governance	<ul style="list-style-type: none"> › Transparency (grades, standards, price structure, incentives) › Traceability to farm level › Risk-sharing function (incl. insurance schemes) › Mechanisms include: <ul style="list-style-type: none"> ▪ governance models ▪ shared equity (ownership) models ▪ contracts: enforcement and strategy
Principle 4 Equitable access to services	<ul style="list-style-type: none"> › Production-related services available and tailored to small farmers and accessible to women <ul style="list-style-type: none"> ▪ input supplier and dealer models ▪ high-quality planting materials ▪ technical support ▪ provision of credit › Facilitate access to additional services
Principle 5 Inclusive innovation (vertical co-innovation, process and product)	<ul style="list-style-type: none"> › Mechanisms for getting farmer input and strategic information › Renewal of product/market, continuous evolution and diversification › Recognition of co-dependency
Principle 6 Measurement of outcomes	<ul style="list-style-type: none"> › Informal or formal feedback mechanism along the chain › Regular explicit assessment process › Decisions based on assessment › Assess environmental results (avoid trade-off)

Table 2
 Inclusive Business Model Principles



1

- How is the chain organized? What is the model of the intermediary?
- Who are the key actors? Who are the key partners?
- How do products, payments, services and information flow through the chain? (Major drivers, major bottlenecks; how the system functions)

The key questions asked during the research are:

- 1 What is the structure of the industry/sector in the country?
- 2 How inclusive is the chain?
- 3 What else might be possible to increase inclusiveness?
- 4 Is this business model replicable, scalable? Why? Why not?

3

- What are the possible areas of improvement or expansion?
- What would the business actors (both companies and farmers' organizations) like to do if they were able to? What would be the benefits and risks/costs?
- What are the incentives for this kind of investment or change in business model? What are the barriers (e.g. credit)?
- What support or policies from other actors further down the chain would be most effective?

2

- What have been the drivers of inclusiveness? Who initiated the process of inclusiveness? What has been the progress on business goals and the impact on social inclusion in the value chain?
- Can distinct phases be identified in the development of the inclusive business model? What processes helped the company move from one phase to the other?
- Current inclusiveness – What makes the business model inclusive?
- Are there specific mechanisms that stand out for promoting or sustaining inclusiveness?
- What kind of support has been given to each link of the value chain (company, smallholders), and how has it (or, how has it not) been of value?
- What are the success factors, obstacles, weaknesses in creating inclusive business?
- Are there any major unaddressed issues that could pose a risk etc. (e.g. role of waged labour and levels of wages/employment practices, environmental sustainability)?
- What local or regional policy support exists in the context of exclusiveness?
- Are there 'spill-over' benefits? (From the cash crop in the value chain to other crops on the farm, to on-farm paid labor? Through benefits to farmers not participating in the value chain? Are there other enterprises generated by the business?)
- How are women and/or marginalized groups participating in the supply chain?
- How willing is the company to invest in making the business more inclusive?

4

- What are the bottlenecks and opportunities for scaling?
- What are the bottlenecks and opportunities for replicating?

In *Chapter B* the case studies are described briefly, while *Chapter C* summarizes lessons learnt from the case studies based on the afore-mentioned business model principles and the key questions from the four areas of research listed above.

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- *LINK methodology: A participatory guide to business models that link smallholders to markets*. 2012. Mark Lundy, Gertjan Becx, Nancy Zamierowski, Alexandra Amrein, Jhon Jairo Hurtado, Erika Eliana Mosquera, Fernando Rodríguez. Cali, CO: Centro Internacional de Agricultura Tropical (CIAT). ISBN 978-958-694-114-3 (PDF)

Sector overview

Agriculture in Burundi employs about 90 % of the population, represents approximately 50 % of its gross domestic product (GDP), and accounts for over 80 % of exports (World Bank 2010; FAO 2009). The country has 1 351 000 hectares of arable land; about 5.5 % of cropland is irrigated.

1 Introduction

The average holding per household (family size of 5 people) is 0.8 hectares. Coffee, tea, beans, banana, sweet potatoes, maize and sorghum are the principal crops grown in the country.

Sorghum is one of the most important staple foods in Burundi after rice, maize and cassava (FAO 2006). Sorghum flour is used for the preparation of bread, ugali (porridge) and alcoholic drinks. Because it is rich in proteins, sorghum is also mixed with other cereals (wheat, maize) in varied proportions to make flour for baby food. New products such as instant soft porridge and malt extracts are great successes. In the competitive environment of multinational enterprises, sorghum has proven to be the best alternative to barley for lager beer brewing.



Women harvesting sorghum



Burundi

Brarudi SA

Yared Sertse



Sorghum grows in harsh environments where other crops do not grow well, usually without application of any fertilizers or other input. According to FAO (2013) average annual production for the last five years in Burundi has been around MT 85 000. The low-lying and flat areas of the north-western provinces of Muyinga, Kirundo, Karuzi, Cibitoke and the central eastern provinces of Muramvya, Gitega, Ruyigi and Rutana, are the main sorghum growing areas.

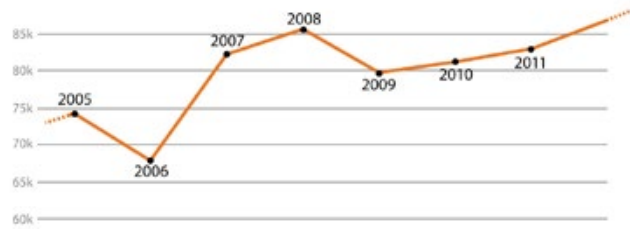


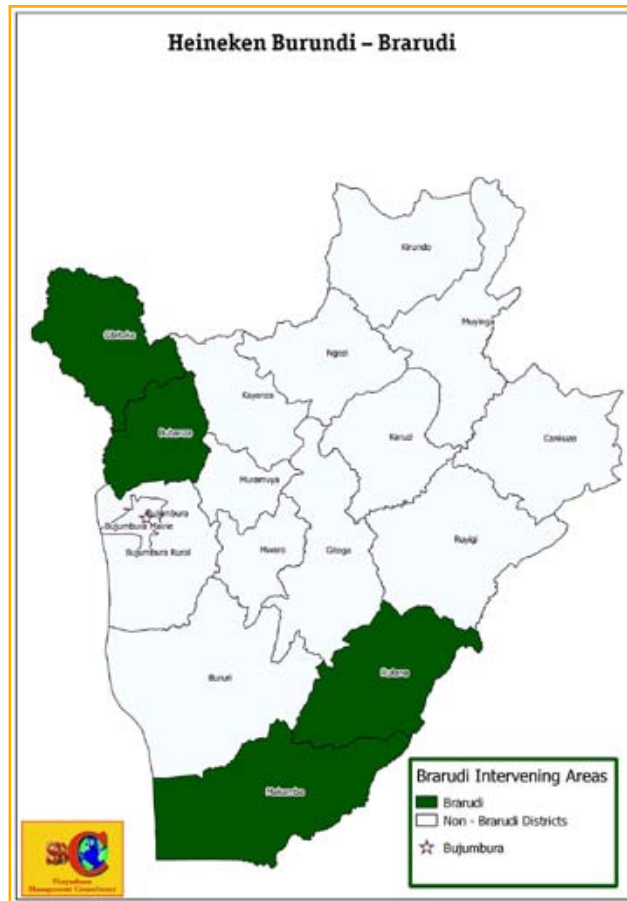
Figure 1
Average annual production of sorghum in Burundi

Until recently, sorghum production has mainly been for own consumption and for home brewing. This trend, however, is changing with Brarudi and EUCORD sorghum contract farming initiatives which enable farmers to grow better varieties as alternatives to malt barley.

Background information on the company

Brarudi SA

Brarudi SA is the leading beer producer in Burundi. The company is owned by Heineken and the Government of Burundi with shares of 60 % and 40 % respectively. It has a production capacity of 2 million hectolitres per annum and employs about 660 employees at two factory sites in Bujumbura and Gitega. Brarudi deals with 12 alcoholic and non-alcoholic (soft drinks) products. Primus and Amstel beer are the principal products of the company accounting for 70 % and 20 % of the entire production volume respectively. Recently Brarudi introduced Nyongera, a beer made from locally sourced sorghum.



EUCORD

The European Cooperative for Rural Development (EUCORD) is a Brussels-based non-profit organization. It is specialized in promoting public-private partnership through projects that provide access to credit and low-cost high-quality inputs, create value chains, promote education and training, and organize farmers. EUCORD is primarily active in three program areas:

- A** implementation of agricultural value chain development projects;
- B** building technical and business capacity of NGOs and small enterprises through training and partnerships; and
- C** improving the livelihoods of women and their families.

Figure 2
Districts with Brarudi operations

Value chain

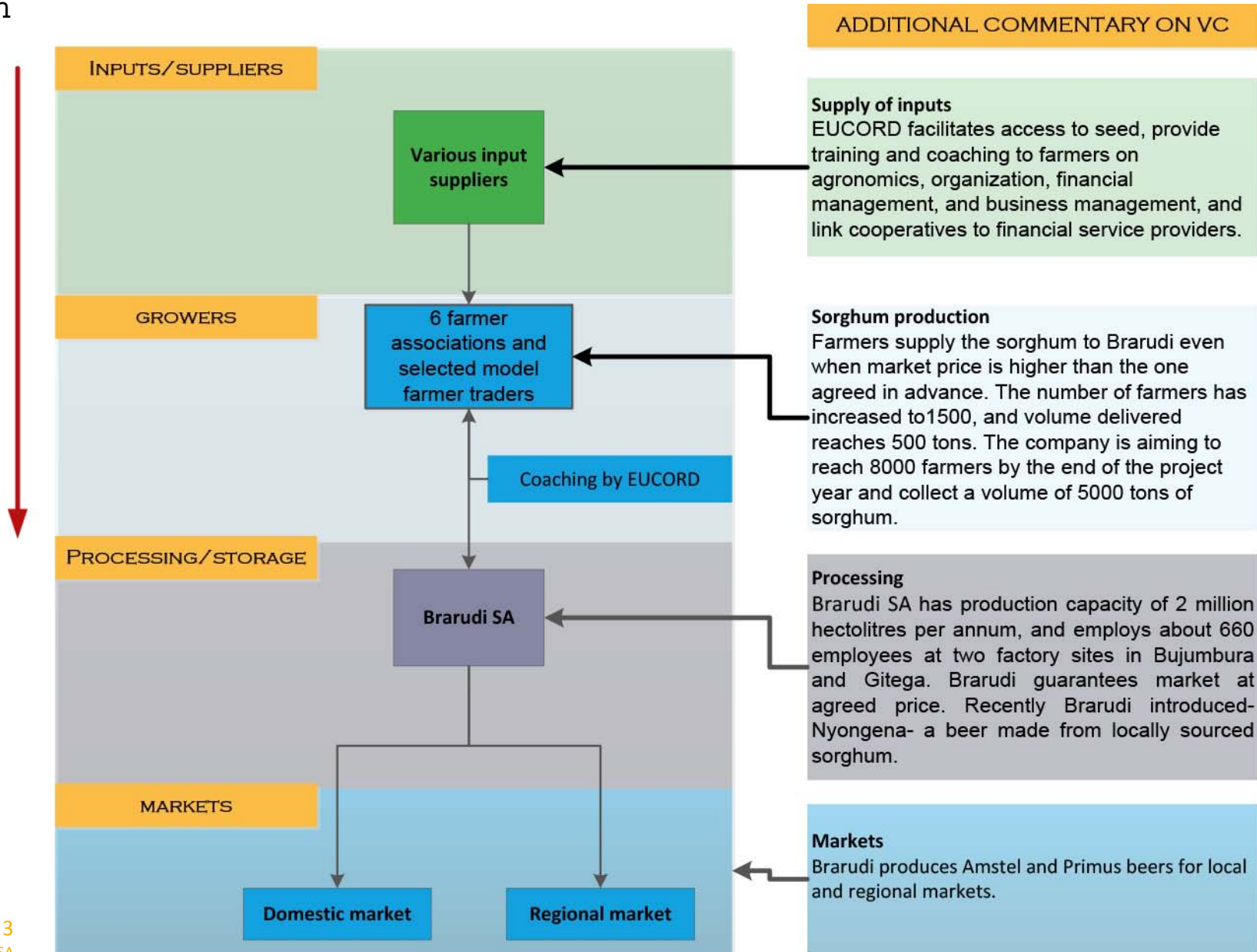


Figure 3
Value chain of Brarudi SA



The logic behind the move

Both social and economic goals drove this move. In 2008 Brarudi SA launched a new beer product, Nyongera, made from locally sourced sorghum. Nyongera in Kirundi (local language) means hope and this product marked the company’s strategic switch from reliance on imported raw materials, to sourcing from the local economy. Consequently, the economic benefit of cost-saving for the company has been significant. The fact that Burundi is a landlocked country with the nearest port located at 1 500 km resulted in soaring raw material prices from time to time due to increasing transportation and in-bound logistics coordination. It usually took Brarudi over six months to get the required raw material, mainly from Egypt, which forced them to stock inventory for two to three months, thereby tying up a significant amount of their working capital.

Parallel to the strategic intent of the business, the company committed itself to fulfilling its corporate social responsibility creating sustainable business opportunities for smallholder farmers. As such the initiative aims to improve the livelihoods of 8 000 sorghum producers by sourcing 5 000 tons of sorghum.

It usually took Brarudi over six months to get the required raw material, mainly from Egypt, which forced them to stock inventory for two to three months, thereby tying up a significant amount of their working capital.

The business model

A nucleus farm model was adopted at the early stage. An agreement between Brarudi and four commercial farmers who have 20–80 ha land was signed where the latter agreed to supply seed from their own farms, as well as coordinate production from nearby farmers. These farmers delivered 60 tons for the first year, but the arrangement did not continue further mainly due to cost and coordination challenges. Sorghum farming is labour intensive (particularly keeping birds away from the crop at maturity stage) and expensive for commercial farmers since they usually live away from the farm.

As a result, the model switched to contract farming with six farmers’ associations and selected model farmer traders in areas where farmers are not organized into associations. Under this arrangement Brarudi guarantee a market at an agreed price. EUCORD facilitate access to seed, provide training and coaching to farmers on agronomics and organization. In return the farmers supply the sorghum to Brarudi, even when the market price is higher than the one agreed in advance.

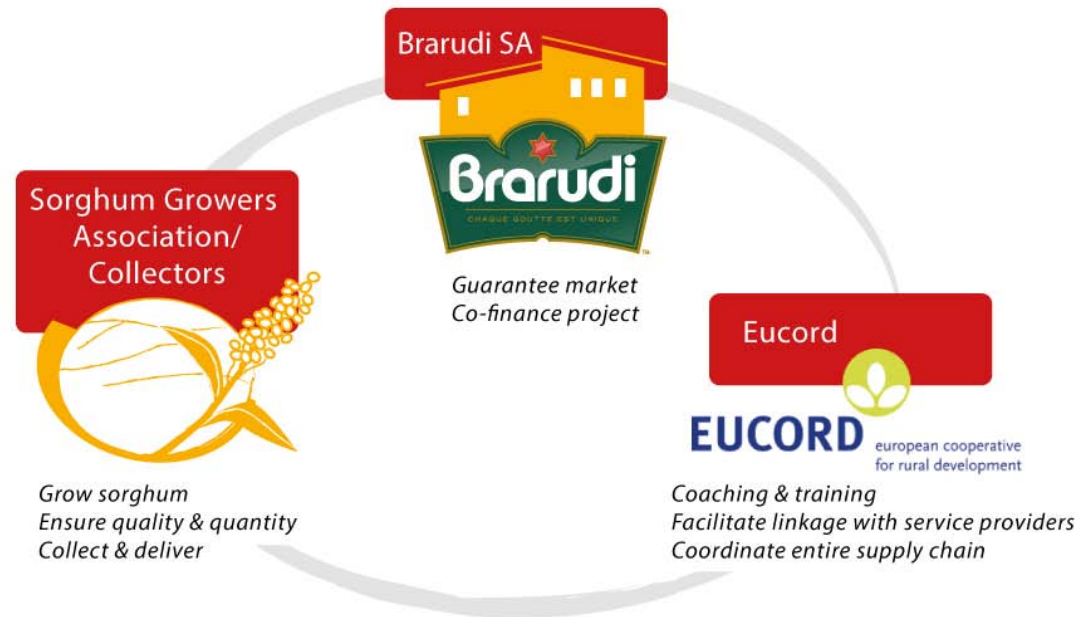


Figure 4
Business model of Brarudi

Phases in the development of the model

Four distinctive phases can be observed in this business model: engagement, piloting, scaling and autonomy.

1 Engagement phase

Three key activities were carried out during the engagement phase.

1. **Variety selection:** variety selection was made in partnership with the national research institute and was based on sorghum suitability for beer, yield per ha (includes maturity period) and potential for scaling up.
2. **Linking with farmers and clarifying expectations:** once the varieties were selected, EUCORD started engaging farmers.
3. **Concluding the contract:** following a series of engagements, a formal agreement was signed between farmers and Brarudi that clarified roles and responsibilities of the parties involved, quality of sorghum (moisture, purity, and uniformity) and price. In order to simplify things, a contract was signed between cooperatives and the company in Cibitoke and Bubanza provinces, but in those areas where cooperatives already existed, the agreement was made with model farmer traders.

Two key challenges were encountered at this stage:

- › breaking the aid-dependence mentality of farmers who were used to getting agricultural inputs for free after the civil war;
- › convincing farmers to accept the proposed package, which is relatively lower than the market but stable over time.

2 Piloting phase

The piloting phase involved training and coaching on the agronomics of sorghum, coordination of production with selected farmers, strengthening capacities of farmer organizations in Cibitoke and Bubanza provinces. EUCORD was in charge of these activities. As mentioned above the model started with four nucleus farmers in the first year but switched to contract farming with smallholders. There were 871 farmers involved in 2011, supplying 200 tons of sorghum to Brarudi.

The key challenges encountered during the piloting phase were:

- › the agronomics of sorghum, particularly keeping birds away, was difficult for farmers;
- › the price was not attractive for farmers to produce for the following year;
- › the cooperatives lacked organizational capacity;
- › access to finance.

3 Scaling phase

Most of the activities undertaken at this stage were targeted at increasing the number of farmers within the pilot regions, as well as in other potential provinces—Makamba and Rutana. Concrete actions undertaken to bridge gaps at the piloting phase included price revision, and research on varieties that are less vulnerable to birds. In addition, EUCORD conducted a series of training and coaching sessions for the cooperatives and member farmers on agronomics, financial management, and business management; attempts were also made to link cooperatives with financial service providers. The number of farmers increased to 1 500 and volume delivered went up to 500 tons.

The key issues at this point were:

- › sustaining the business without the support of EUCORD (post-project life cycle);
- › gaps in organizational capacities of the cooperatives.

4 Autonomy phase

This is the stage where farmers are able to produce and supply to the company without any backstopping from EUCORD or other NGOs. In addition, farmers should be able to pay or bargain for critical clients such as financial institutions, business development and extension agents. They should also be able to meet the quantity and quality specifications of Brarudi. The entire business model is considered as sustainable if this stage is reached. For this specific case, this has not yet been achieved.



2 Current inclusiveness of the chain

Outreach

A total of 2 000 farmers or 10 000 family members in four provinces have been reached by the sorghum contract farming project. By the end of the project, 8 000 farmers or 40 000 beneficiaries will have been addressed. Though sorghum remains the main priority crop, the option of sourcing rice is also being considered and hence the prospect to include more farmers within the supply chain.

Improving livelihoods, knowledge and skills

The business model focuses on securing raw materials for the company, but at the same time aims at improving the livelihood of farmers by offering them access to improved seed, technology and know-how. Series of trainings and coaching have been conducted on sorghum agronomics as part of the sensitization process and bridging skills and knowledge gaps. Before this initiative, sorghum was a neglected crop and many farmers were switching to maize, rice and cassava. Farmers were producing using traditional methods and hardly applying any inputs. Besides addressing these gaps, the training and coaching created a high degree of motivation and vision for farmers, as well as government extension and research officers.

With this intervention, farmers are able to get a stable market for their produce, better returns per hectare and a reasonable price. Price for the seed is slightly lower than the market price, but has been increasing steadily over the last four years from BIF 350/kg to BIF 670/kg.

Comparative economic return

Over the last three years about 800 tons of sorghum were supplied to Brarudi and the plan is to reach 5 000 tons by the end of the 4-year project life cycle (2010–2014). Evidence from the field showed that growing sorghum benefits farmers in two ways:

1. sorghum gives comparatively better returns;
2. there is a stable market for the crop.

Maize, rice, beans and cassava are the main competing crops for sorghum. According to information from farmers, the return per hectare for sorghum is better than maize and beans and comparable to cassava, but lower than rice. The table below shows a quick and rough estimate of return per hectare for the four crops; maize and beans are not profitable crops, but farmers grow them for food security and risk diversification.

Crop	Maize	Sorghum	Rice	Beans
Total cost/ha	0.9	1.2	1.98	0.9
Productivity per ha (tons)	2	2	4	1
Price per ton (million)	0.35	0.67	0.55	0.8
Sales per ha (B.Franc)—million	0.7	1.34	2.2	0.8
Profit Per ha (B.Franc)—million	-0.2	0.14	0.22	-0.1
Rank	4	2	1	3

Table 1

Main competing crops for sorghum

Partnership

The contract farming model has strong partnership with government research and extension services. EUCORD is working as an NGO partner in organizing farmers and building capacities. A final step has been made to link the farmers with a local micro-finance institution to address the access to finance bottleneck. Also, the research institute is working with the project in filtering and adapting 14 sorghum varieties suitable for beer and to give better yields to farmers. Capacity is built not only for farmers, but also for the research and extension officers whose task it is to sustainably support farmers once the project is phased out.

The contract farming model has strong partnership with government research and extension services. EUCORD is working as an NGO partner in organizing farmers and building capacities.

Organization

New cooperatives are organized and capacity-building efforts are underway by EUCORD. Improving organizational capacities of the cooperatives will improve their self-reliance which will also have a positive impact on other crops. One of the main challenges farmers mentioned during the field research was the lack of a coordinated unit which could supply raw materials (seed, fertilizer, etc.) at reasonable cost, buy the produce and deliver to better market places in Bujumbura and other areas. Building capacities of the farmers' organizations will address these bottlenecks and create a room for improved bargaining power of farmers and also facilitate access to key agricultural inputs.

Seed and technology

The project is promoting Gambela (white seed sorghum) in areas with rainfall of less than 1 200 ml—mainly in Bubanza and Cibitoke provinces—while Cilas promoted in provinces that have higher rainfall. Cilas is imported by the project from Tanzania. In addition, 14 new sorghum varieties are on trial for release. Average yield per hectare for Gambela is about 2–3 tons and Cilas gives 3 tons/ha. Both Gambela and Cilas have a significant competitive edge over other local varieties that give only 0.5 ton/ha. Bird repellent chemical (Bird-Off) is imported from Uganda to minimize the cost of keeping birds away from crops, and threshing technology has been demonstrated to farmers.



Ready for harvest – CILAS sorghum variety



Challenges

Physical/natural constraints: land shortage, demanding agronomics and irregular climate

The average land holding per family in Burundi is 0.8 ha. This tract of land is used to grow multiple crops that cater to production for household consumption and marketable surplus. There is limited utilization of agricultural inputs such as fertilizer, pesticides and herbicides and hence yield per hectare is low. In addition, sorghum production needs proper land preparation, weeding, harvesting, and deterring birds at germination and maturity phases. Burundi has generally high rainfall, but recently the pattern is becoming irregular (excessive or short). This has affected areas in Cibitoke and Bubanza provinces.



Woman keeping birds away from her Gambela Sorghum

Social constraints: food security, aid-dependency mentality and limited know-how

Farmers sometimes consume the sorghum seed at home during food shortages. They also give more attention to other traditional food crops such as rice, maize and cassava. The great lakes region has been in civil war for a long time during which it has been reliant on aid, creating a dependency mentality which makes it difficult to convince farmers to join the sorghum contract-farming scheme. These factors, added to the lack of knowledge on sorghum agronomics and use of modern technologies and practices, make it difficult to convince farmers to grow sorghum.

Economic constraints: finance, quantity and comparative return

Sorghum demands more agricultural inputs—fertilizer, herbicides, and pesticides. In order to deter birds, labour has to be deployed for at least two months. Consequently, finance is critical to cater for such costs. Economic return of sorghum, compared to rice or cotton in some cases, is low and hence farmers lose interest. The switch from the nucleus farm to contract farming is evidence to this. The quantity of sorghum is small for a company of Brarudi's size, and though the company is serious about pushing for a larger proportion of sorghum beer in its product assortment, only 50 000 hectolitres per year is brewed from sorghum due to the limited supply from local farmers.

3 Possibility to increase inclusiveness

Opportunities for further inclusiveness

New Product Development

Brarudi is considering making rice beer. The company has strategic intent to source rice from the local market. This will pave the way for two critical opportunities: on the one hand new farmers will be included within the Brarudi supply chain and benefit from a stable market, as well as access to new technologies that will improve production and productivity. This will have an additional impact on household food security, as rice is an important food crop. On the other hand, as rice is one of the competing crops for sorghum, existing sorghum-growing farmers will have more flexibility to choose between the two crops.

Access to inputs

Three important technological issues are noted by the farmers:

1. access to seed
2. keeping birds away
3. threshing.

Brarudi can stimulate further inclusiveness by supporting solutions towards each of the above. For example, the nucleus farms that stepped out at the first phase could be re-invited to specialize in seed production and distribution with closer support from the research institute. Also, linking the cooperatives with suppliers of Bird-Off (chemical bird repellent) will have the double opportunity of reducing the high labor cost of deterring birds and at the same time generating income for the cooperatives, and possibly for women if they are involved as agents. A thresher has already been demonstrated to the farmers and considerable interest has been shown. However, no farmer or cooperative has yet owned one, mainly due to lack of finance. With a value-chain finance arrangement, the cooperatives can have a shared thresher.



Woman carrying harvested sorghum to storage place

Value chain finance

Discussion with a local microfinance institution to facilitate loans to the sorghum farmers is ongoing. This is an important step to attract more farmers, as well as address the cash shortage faced by existing out-growers.

Stimulate gender inclusiveness

As observed during the field research, a number of women working in the field, but in most cases the men, are taking a lead role in explaining the business stories. The contract-farming scheme can encourage women's participation in key farming decisions by adopting special incentives targeted to women e.g. price differentiation.



4 Is the business model scalable?

Brarudi seems determined to scale up this contract-farming scheme. The company is aiming to reach 8 000 farmers by the end of the project year and collect a volume of 5 000 tons of sorghum. Despite the slow start and the fact that the initiative is still at pilot phase, the potential exists for further growth and even replication by other organizations.

1 Extended payback period is one of the key attributes of investment with smallholders. Usually such investment demands spending money and time for the first three or four years in anticipation of long-term returns. During the early period, companies need to have the ability to absorb costs and still be able to finance further. This is often challenging for smaller or start-up companies. However, bigger companies the size of Brarudi have the ability to make such investments.

2 Investing through the whole production and processing chain is costly and often complex for businesses. They can be efficient by **gearing interventions** on specific parts of the product chain, e.g. purchasing already existing production or boosting production by selling inputs for an existing demand. In this way, companies like Brarudi have more leverage and competence to influence the whole production, marketing and processing chain as compared to small businesses.

Five critical scalability factors are deemed important for this kind of initiative:

- 1 **Extended payback period**
- 2 **Focused intervention within one part of the chain**
- 3 **Household food security**
- 4 **Commercial viability**
- 5 **Technological simplicity**

3 Household food security is the other important determinant of scalability for this kind of business model. In subsistence farming, cropping decision is highly affected by the extent to which the crop can be utilized at household level or how quickly it can be converted to cash to purchase food crops. Sorghum is both a food and cash crop in Burundi. The crop is utilized for bread, ugali and to make traditional drinks. However, sorghum is less preferred as a food crop compared to maize, rice, beans and cassava. This, added to the fact that the smallholders in Burundi are highly subsistence with small, average holdings, means that food security remains a critical decision factor to increase production.

4 Profitability for both company and farmers is a key determinant of scalability for this kind of venture. Usually comparative profitability—return compared to sets of possible options—is considered by both the company and the farmers. Cost of locally-sourced raw material (sorghum) compared to imported malt is low and hence the initiative is profitable for Brarudi, but the quantity of raw material secured is very small and the opportunity for economies of scale is lost. For farmers, a quick return is highly valued as a motivating factor and serves as evidence for the scaling-up exercise. This requires either high-yielding or cost-saving technologies or premium price offers. As mentioned earlier, sorghum has comparatively better returns than maize and beans.

5 Technological simplicity implies both the tools and practices deployed in the new system. Farmers are generally receptive to technologies that reduce cost, time and effort. Incremental technologies that build on customary wisdom and practices can easily assimilate into communities. Technology ranges from input to point of product delivery (ploughing, input utilization, weeding, pruning, pollinating, harvesting, packaging, transport and quality). For better adoption, farmers need to be intensively trained and coached on each hardware and software. Visual or graphic presentations or practical demonstrations are more effective than conventional trainings and stories.

Sector overview

Fruit production is an important component of Ethiopian agricultural production systems. According to CSA data, the country produced over 540 tons of fruits in 2012, equivalent to 5 billion birr. Production has been growing at 7 % annually since 1997. Ethiopia has a diverse agro-ecology

1 Introduction

suitable for production of temperate, sub-tropical and tropical fruits. It has areas with altitudes ranging from 116 m below, to 4620 m above, sea level. The country is also endowed with abundant water resources of major river basins with an annual flow of 123 000 million m³, with a groundwater potential of about 2.56 million m³. This gives it a potential irrigable area of 3.5 million ha with a net irrigation area of about 1.61 million ha.

Given the unique climatic and natural resources, almost all types of fruits and vegetables can potentially be grown in Ethiopia. But the most important ones are bananas (260 000 tons), mangoes (73 000 tons), avocado (62 000 tons), oranges (48 000) and papaya (43 000 tons) accounting for 91 % of the national fruit production (CSA, 2012; Han et al., 2013).



Ripening passion fruit



Harvested passion fruit in the field

2

Ethiopia africaJUICE

Yared Sertse



As can be seen in the map below, over ¼ of the country is suitable for different types of fruits. Southern territories, Oromia and Amhara regions are the major producers of fruits, accounting for 59 %, 31 % and 6 % respectively. Compared to their respective estimated potential in the production of fruits, the three regions have only achieved 9 %, 14 % and 1.4 %.

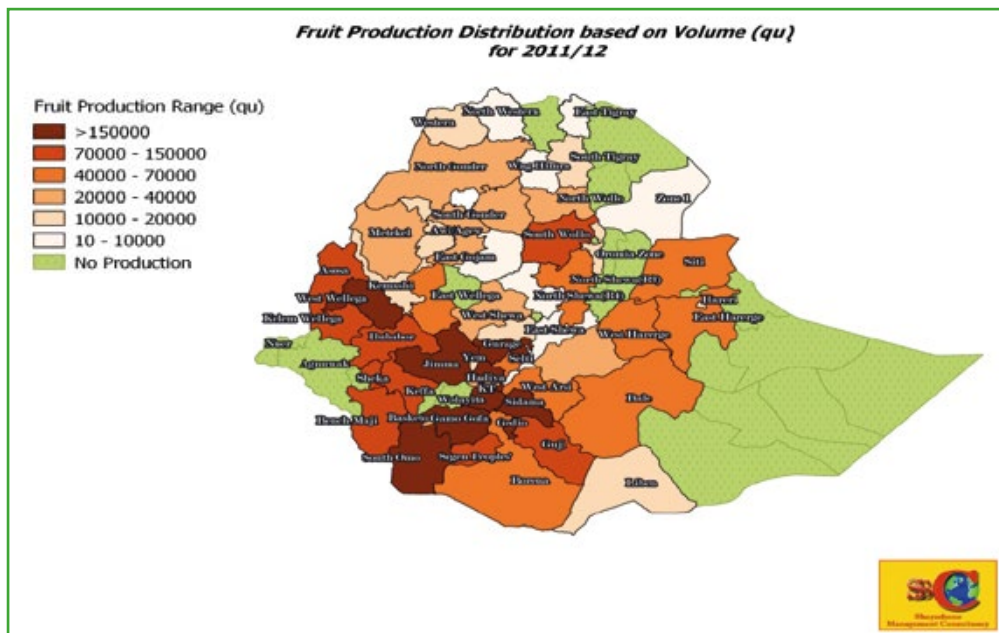


Figure 1
Fruit production in Ethiopia

Over 98 % of fruit grown in Ethiopia is consumed fresh in the domestic market. The principal fruit market for the country is Addis Ababa and its surrounding areas, absorbing 40 % of national production. Per-capita fresh fruit and fruit juice consumption in the country is 5 kg/year and 0.02 kg/year, respectively. Due to the absence of markets, postharvest handling facilities and processing industries, a large part of the fruit is left untouched, with an estimated 20 % produce waste.

In Ethiopia, fruit processing is limited mainly to extraction of fresh juice. Industrial processed and packed juice and syrup is mainly imported. Annual demand for industrial processed fruit juice is estimated to be 20 million kg or equivalent to USD 20 million. The table below shows the **volume of imported juice** for 2010–2012. As can be seen from the data, imports grew by over 70 % within three years, from 9 million to 15.5 million kg.

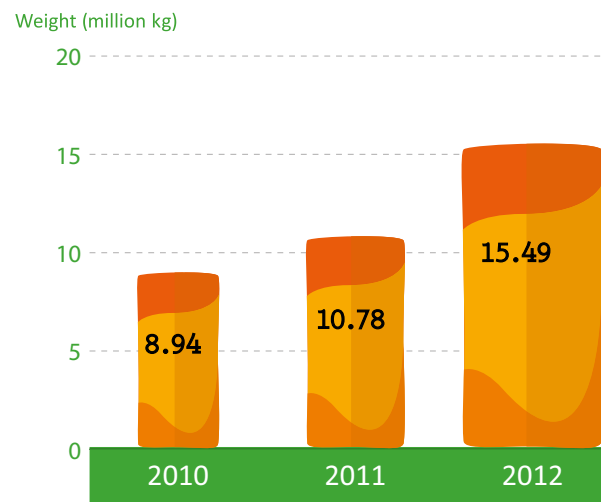


Figure 2
Volume of imported juice, 2010–2012

Small-scale farmers are the principal suppliers of fruits in Ethiopia (accounting for an estimated 80 % of the national production). Most of these producers are located in the South, Western and the Rift Valley regions of the country which usually depend on rain-fed systems. Unlike other crops such as cereals, fruits are backyard crops for smallholders.

At commercial level, the main fruit producers are Lower Awash Agro Industry (Efruit), africaJUICE, Jittu Horticulture and some private investors mainly along the Awash basin.

Farmers sell their fruit to local traders either harvested or on the field. In some cases the farmers are organized into trading cooperatives. Both local traders and the cooperative union sort and ship the produce to the regional or central market. In most cases, negotiations are done with regional or central buyers before the produce leaves the store, to minimize the high risk of perishability. Few mango and papaya trading unions are connected to processors in Addis Ababa or sometimes export to neighboring countries such as Sudan and Djibouti or Somalia.

Over 60 % of the fruit collected by local traders is transported to Addis Ababa, while the rest is consumed at local and regional levels. Nearly all the fruit that comes to Addis is traded at the Piassa Fruit and Vegetable Market Centre and then distributed to other wholesalers, hotels, restaurants and retail markets, as well as to consumers within the surrounding areas of the city. Since there are no cooling systems, only fresh products are traded at the Piassa market. Usually products of high quality are supplied to supermarkets for international and high-income consumers.

Bigger commercial farms such as Lower Awash Agro Industry and Jittu Horticulture have their own distribution and retail outlets in Addis. Efruit (retail branch of Lower Awash Agro Industry) is the most prominent chain retailer of fruit in Addis Ababa. In the urban areas, in particular in Addis Ababa, there are sufficient quantities of fruit at markets, but demand for fresh fruits is limited

given that most consumers cannot afford them. Except for bananas, fruit is consumed by middle and higher income classes, which represent no more than 10 % of the overall population.

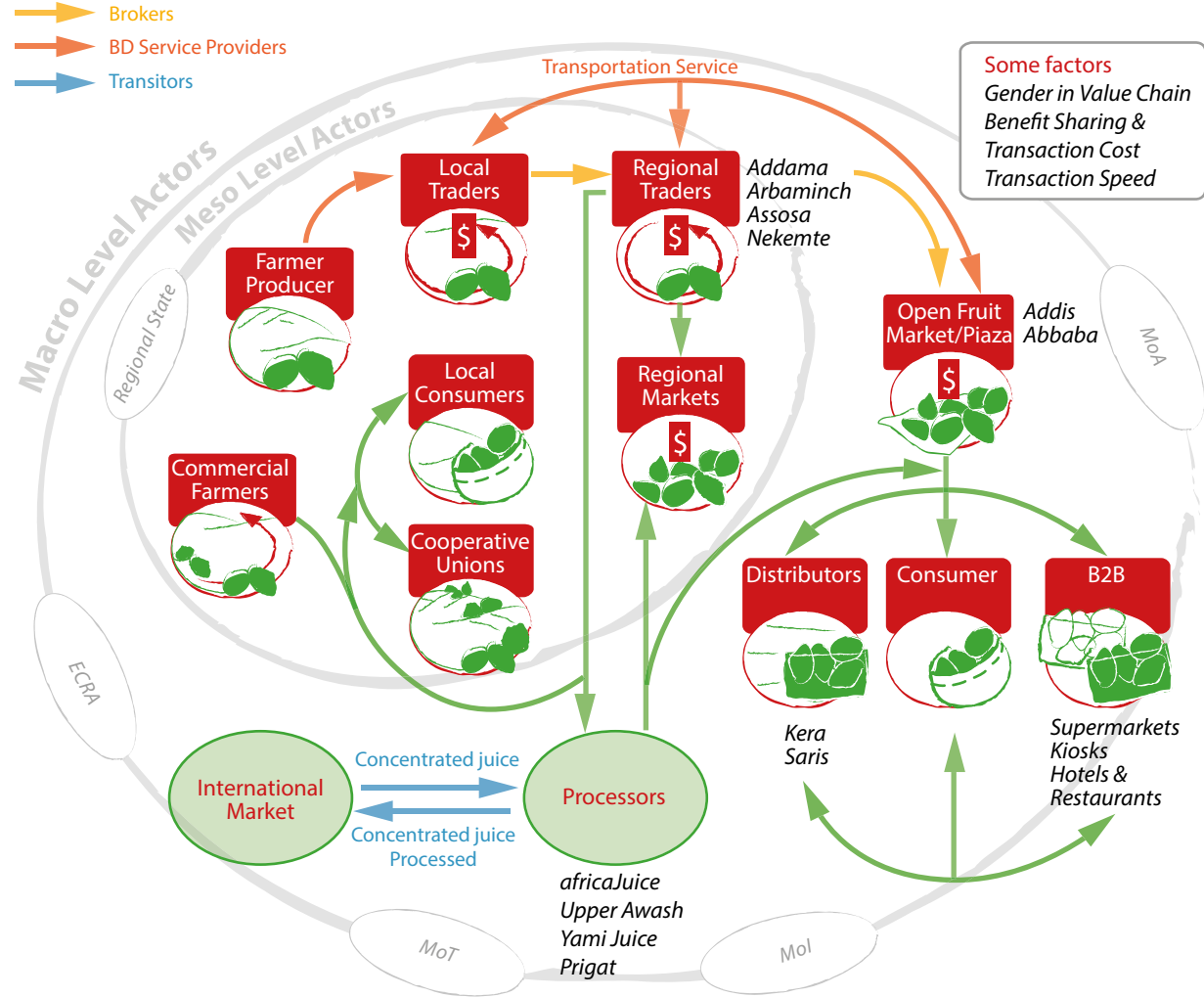


Figure 3 Key actors in the fruit juice sub-sector in Ethiopia



Background information on the company

AfricaJUICE is a Dutch-based tropical fruit producer and processing company with an ambitious target to become a major producer and exporter of tropical fruit juices, purees and concentrates from selected countries in Africa to the larger markets of Europe and the Middle East. The company started operations in Ethiopia in 2008 by acquiring state-owned farms in the Upper Awash Valley. Since then, it has invested over € 12 million to rehabilitate and expand the previously state-owned fruit farms and establish a fruit processing plant. A total of 2 400 employees, mostly women, work for africaJUICE. This investment involves the development of a dedicated plantation of 600 hectares of yellow passion fruit; an additional plantation of 600 hectares of other tropical fruits such as mango and papaya; and the construction of a new fruit processing facility. The company has set up a fruit processing plant with a capacity of 6 000 kg/hr of passion fruit and 3 000 kg/hr of mango.

AfricaJUICE farms and factory have been developed to be at the leading edge of sustainable development and aim to be a benchmark for how foreign direct investment is delivered in Africa. An integral part of the project is the active promotion of an out-grower scheme, resulting in new producer cooperatives (in total approx. 1 300 hectares) becoming suppliers to the new processing plant, as well as part shareholders of its local Ethiopian plantation and processing business. In effect, this gives the cooperatives efficient access to export markets and much improved access to commercial financing.

Value chain

The chart below shows the overall business model of the company. The main sources for input for the processing plant currently are the company's own farms at Degaga and Menberehiwot. The mango supply comes mainly from unions and large-scale commercial farmers based in Southern and Western Ethiopia, in Arbaminch and Assosa areas. Nearly all of the concentrated juice is exported to The Netherlands. Though the company mainly exports juices to the international market, it also supplies smaller quantities to international hotels in Addis Ababa and other major cities.

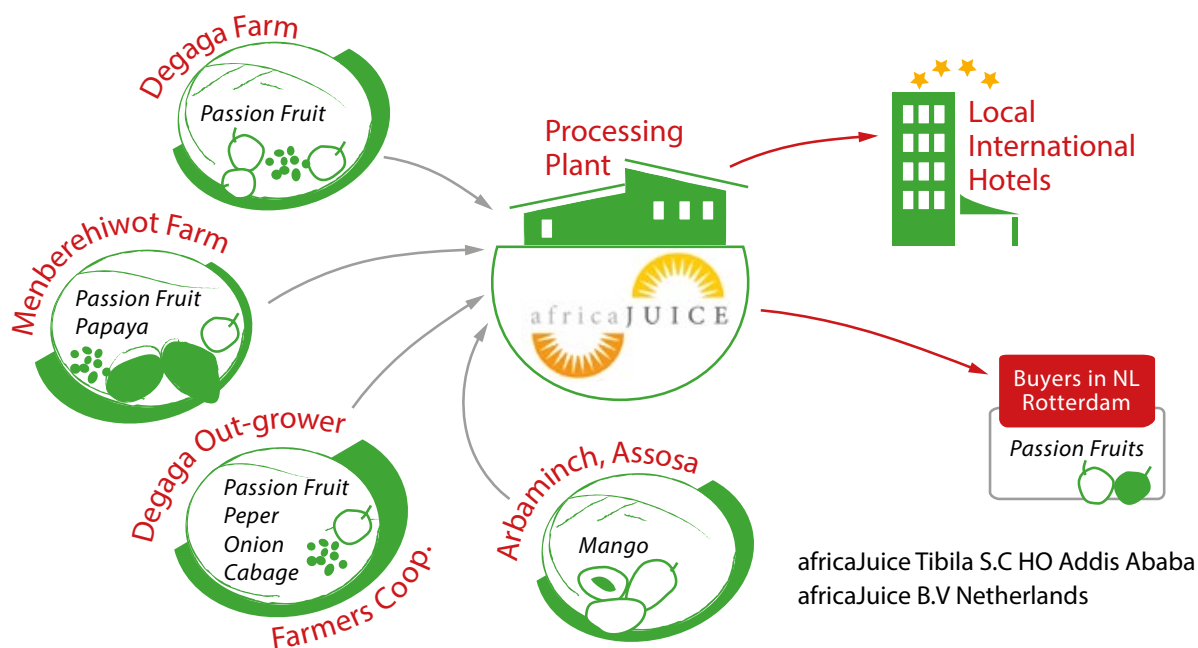


Figure 4
Business model of africaJUICE

For the next three years the company is planning to establish at least three production locations across Africa. Focus currently is on expanding the product range and passion fruit plantings. The approach is to secure the delivery of this project and then replicate the success of the model in other locations in Ethiopia and across Africa. These other locations will both expand the volume potential of the company's existing products and diversify the product range into juices, concentrates and purees of fruits such as banana, guava, pineapple, jackfruit and other exotic tropical fruits.

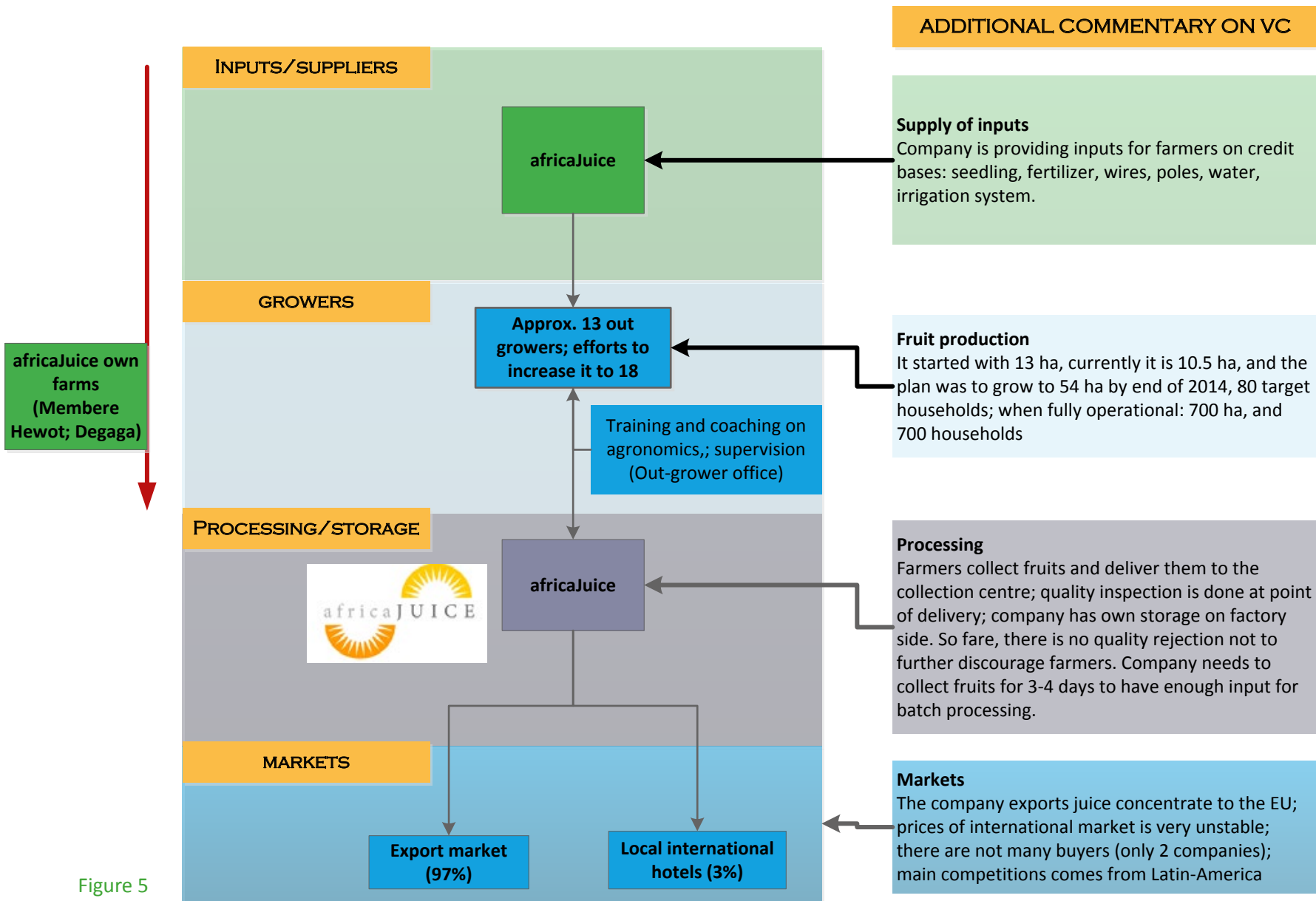


Figure 5
Value chain of africaJUICE



The passion fruit out-growers model

The Out-grower Incubator Program that partners with local farmers to supply fruit to africaJUICE for processing is an important strategic component of the company business model. The program is supported by ICCO, Rabobank Foundation and GIZ, and implemented by local partners to supplement the supply of fruit to the processing facility and extend community participation. It aims to promote the development of 700 hectares of out-grower farms involving over 700 households in Upper Awash by 2015.

The out-grower scheme started in 2010 on 13 ha of farmland as a demonstration to surrounding farmers. This was completed in 2013 and now another 10.5 ha involving 16 households are growing and supplying passion fruit to the company. The project team is working to expand coverage to 54 ha (88 households) by the end of 2014. The first phase of the project was based on furrow irrigation, but the 10.5 ha functioning now and all the expansion plans will be based on drip irrigation which is considered water-efficient. The requirement for taking part in the out-grower scheme is to have land and the willingness to grow passion fruit with the requisite commitment and diligence.

Under the existing out-grower arrangement, africaJUICE provides new technologies such as access to water, fertilizer, chemicals, trailers, poles and other materials required to grow passion fruit on a credit basis. The

out-grower project team provides technical support (agronomic advice, cooperative management and mobilization) to the farmers. On the other hand, the farmers are fully responsible for taking care of the day-to-day management of the crop including planting, weeding, pollinating, pruning and collecting fruit. In order to maximize their returns, farmers are allowed to grow different pulses and vegetables intercropped with the passion fruit. The intercropping is said to be essential for the purpose of ensuring that farmers remain profitable.

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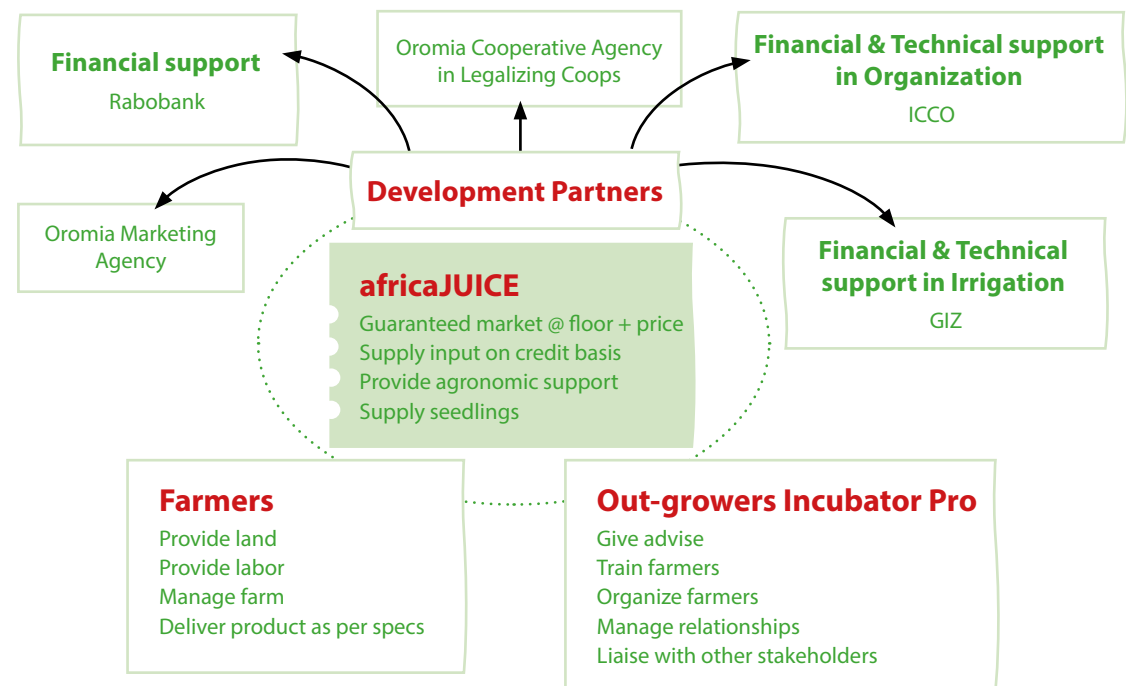


Figure 6
Key actors of the out-grower project

2 Current inclusiveness of the chain

AfricaJUICE out-grower incubation project can be seen as the first well-structured model in Ethiopia. The project started well with a series of stakeholder engagement efforts involving farmers, local authorities, regional and national government, as well as development organizations that advocate inclusiveness. As passion fruit was a new crop to the local farmers, the company tried to set up demonstration plots on farmers' land to raise awareness and give practical advice.

Managing expectations and priorities

Besides the two principal actors—company and out-grower farmers—there are a number of other organizations involved in the passion fruit out-grower scheme. ICCO, Rabobank and GIZ supported the scheme technically and financially while Oromia Regional Government (Cooperative and Marketing Agency, Bureau of Agriculture) is involved as regulator and mediator between the two. Local and international BDS service providers—(FFARM, FCE, F&S, Fair Trade) are also involved in coaching and training farmers. Conceptually the chain structure (of both the main actors, supporters and facilitators) is quite good, but it seems that this has brought undesirable effects such as conflicting priorities of partners, high expectation at the early stage and a feeling of being over-crowded with visitors—leading to loss of trust and interest in the system.

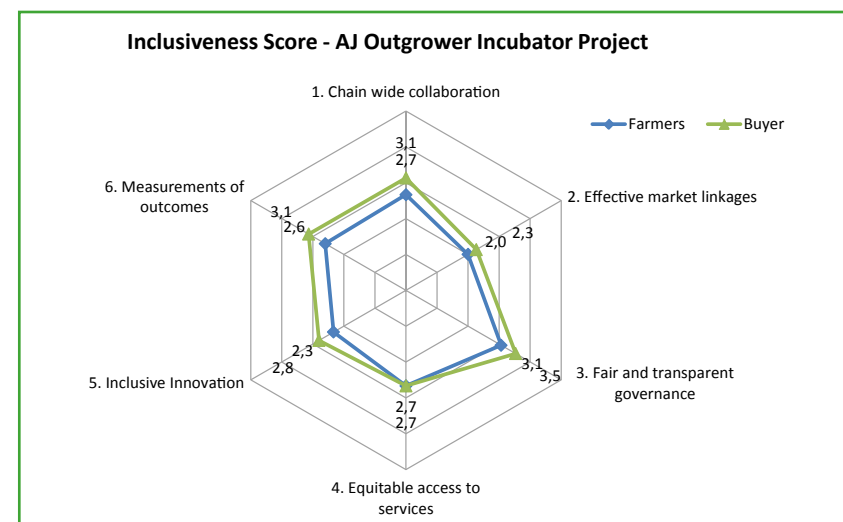
Benefits to farmers

AfricaJUICE provides a guaranteed market for the farmers based on floor pricing. Farmers get this minimum price even when international prices are lower, but adjustments are made when international prices increase. This has two important benefits:

1. On the one hand, it creates a stable market for farmers who traditionally suffer from unstable markets for their vegetables and fruits.
2. The floor price is an important factor for the farmers to minimize risk. By so doing the company transfers the risk to itself. As per the existing agreement, prices are adjusted on a monthly basis taking international markets into account, but the floor price changes only once in a year.

Innovation within the model seems on the high side. Starting from the company business model itself, passion fruit is a new product to Ethiopia and the processing factory as well as export of concentrated juice to Europe is quite different. Likewise incorporating out-growers as a strategic component of the business with technical backstopping and guidance is not common in Ethiopia. Generally, farmers are trained and encouraged to practice innovative ways of doing things such as weeding and intercropping.

Fair and transparent governance, including details regarding roles, responsibilities and expectations in terms of price and quality, are stipulated in the contract. In addition, the company, in partnership with development organizations (ICCO, Rabobank and GIZ), has assigned a dedicated out-growers incubator project office with four people who work with farmers on a fulltime basis. Efforts are also ongoing to obtain fair trade registration for the farmers.



Access to water is seen as a major factor for out-grower farmers in the first phase. Some also valued the *'pay as you sell'* credit arrangement, as well as the job opportunities created for them on the farm and in the company factory. The farmers also have access to business development services including expertise from abroad. Despite the cost and irregularities in supply, the company's attempt to arrange supply of inputs is seen as positive.

Economic return per hectare is the key index for measuring the outcomes of this venture. Generally, this is well known and predictable. The fact that a minimum price is set at the start means farmers can estimate their yields and work out roughly what to expect in terms of returns. Normally harvesting and delivery takes place on a daily basis for 10 months and farmers are paid every two weeks.

Challenges

Agronomics and complementary technologies

Farmers are generally open to complementary innovation rather than disruptive ones. In a new agricultural venture, it is important to thoroughly account for existing wisdom and practices in land preparation, crop management, post-harvest management and delivery. If both the product and the management are new, not only will the resistance be greater, but the likelihood of mistakes that stifle quick wins would also be high. Passion fruit for africaJUICE out-grower farmers is a good example in this context. The agronomics of passion fruit is much different from that of traditional crops such as maize and sorghum, as it needs more days for weeding, pruning, pollination and seed collection; farmers need to work on their field for nearly 10 months in a year, as opposed to 2–3 months for maize. Furthermore, although the drip irrigation system is optimal, it is not appreciated by the farmers, mainly due to lack of water for the passion fruit and intercrops, and also because the technology is not as common as furrow irrigation.

Implementation of the innovation concept

Looking at facts on the ground, it seems that operational bottlenecks have seriously stifled the innovation concept. During discussions with cooperative members and leaders, a number of them complained that the company was not providing them sufficient water, the drip system did not work, the agronomics of the crop were complicated and more farmer days were required on the field for pollinating, pruning and collection, while the comparative returns with maize and other fruits and vegetables was low.

Lack of trust

Though there are efforts to enhance fairness and transparency, there seem to be a lot to improve in building mutual trust and confidence. A number of farmers complained about the lack of information about how prices are set for their passion fruit and how costs are accounted for the inputs (fertilizer, chemical, water, pools, trails etc.) that are provided by the company. In addition, farmers mentioned the unfulfilled promises (yield/ha was not as expected), the limited decision-making power of people assigned to them, and slow attendance to problems on the ground. The farmers also noted that the price for passion fruit was not sufficient to compensate them for their efforts. The cost and irregularities around inputs supplied by the company resulted in poor yields for the farmers. Though a promise has been made and some actions have been undertaken to link farmers with financial service providers, accessing financial resources has yet to be realized.

Lack of transparency in pricing

Though the guaranteed market and floor price are seen as positive by farmers and stakeholders involved, there are a number of concerns that came out during the field research. According to the farmers' cooperative leaders, prices are not regularly reviewed. For instance over the last three years only a few updates were made. Farmers also complained about their lack of access to the global fruit magazine price index, even though the company had promised to disclose this information in the local language on a monthly basis.

Progress monitoring

There was also a baseline survey at the beginning of the project to profile the livelihood and income of the farmers involved in the project. However, a second-round impact assessment has not been conducted mainly because the project has not progressed as originally planned.

Success factors

› **Managing expectations and building trustful partnerships**

Expectations are usually high when an international company enters into the kind of venture africaJUICE has established. Without fully understanding the costs of running an operation such as africaJUICE, farmers expect the company can provide them inputs such as fertilizer, chemicals, seedlings, etc. for free or at minimal cost. Furthermore, they expect the company to pay higher prices for produce. With many donor organizations and international or local experts engaging farmers, these expectations are set to rise. Consequently, it is important for the company to start lean and to be clear and assertive about what they can and cannot provide. In this regard it is worth understanding the socio-cultural context of farmers in order to craft communications in line with their social values.

› **Stakeholder engagement**

Engaging with stakeholders and creating mutual understanding is not difficult in the early stages or when the project is functioning smoothly. The main challenge is to maintain the momentum when operational bottlenecks emerge during the implementation phase. In the business model, there are three categories of stakeholders involved in the out-grower scheme: the principals (company and farmers), the partners and the facilitators. Engagement with all these groups on a different or shared platform is important. A deeper dialogue between the company and farmers should be based on factual and assertive assumptions about what the company can offer, what the farmers need to contribute, what aspects

are going to be different in the new venture, what will happen when either party do not meet expectations etc. It is important to have someone who understands the values and principles of the company, such as a more progressive representative of the farmers and possibly have a third party (government) as well to participate in the series of dialogues. Engagement with government and donor organizations should focus on laying mutual intervention strategies that maximize the benefit to farmers and to the company. As much as possible, issues under discussion should not be disclosed to avoid raising expectations.

› **More business drive**

In any out-grower scheme the bottom-line should be the business—returns for the farmers and the company. At the early stage, such results may not be visible or may be difficult to forecast, but more time and effort should be made to deeply understand the potential economic returns when starting the venture. Once the business return is properly analyzed, decisions and choices should be left to the principal actors (company and farmers). Sometimes strong involvement of development partners at the early stage may bring undesirable impacts such as reducing trust and clarity between farmers and company, as development organizations focus more on the process side rather than the end result. Also, in the Ethiopian context, involving government is very important as they are generally supportive of this kind of venture, but care should be taken not to use this platform solely for promotion.

› **Enhancing farm-level income—Intercropping**

The guaranteed and stable market access for passion fruit may be an innovative model, but the cost of production and farm management makes it comparatively less profitable for farmers. Intercropping of passion fruit with crops like onion, pepper, cabbage and haricot bean gives substantial and quick returns for the farmers and compensates for the lost income from growing passion fruit. Consequently, steps have already been taken to support farmers to adopt intercropping, but performance of the intercrops has been low due to shortage of water, which comes only a few days in a week through drip irrigation. If the water shortage is addressed, there is a high chance that farmers can achieve both year-round income from passion fruit sales and twice the amount of sales from other crops.

› **Focus on products that meet the range of farmers' cropping decisions**

Ethiopian farming systems are mostly based on multiple cropping as a way of risk diversification. Decisions on crop mix depends on a complex set of parameters, the most important of which are household food security, economic return, susceptibility of crop to different risks, impact on soil fertility and farming simplicity. As such it may be important for the out-grower model to focus on crops that fit at least three of these factors.



› **Values centered on relationships rather than formal agreements**

In Ethiopia, social relationships are valued over conventional business formalities such as legal contracts. Farmers tend to abide by the rules of the game when they have social respect for the organization. Consequently, having strong social ties such as spending time within the community, attending social events e.g. weddings and funerals, corporate social responsibility in education and health, are all heart-winning factors for sustained business relationships.

› **Quick wins (at any cost)**

Farmers want to see returns from the new venture as quickly as possible, to alleviate their doubts or satisfy their expectations. Farmers usually maintain their belief in the venture when the first hit is a success, but quickly give up when early results are not good. In this regard, it is important to provide all the resources (water, fertilizer, chemical, agronomic support etc.) on time and in full for maximum returns.

› **Lead farmers could serve as innovation heads**

Not all farmers are equally responsive to new technology and new ways of doing things. Having a team of lead farmers for innovation is very helpful in generating quick wins progressing faster during difficult periods.

3 Possibility to increase inclusiveness

Moving from field to backyard

Passion fruit needs intensive management and such management is easy when the crop is near home. Family members can easily monitor the crop and can do the pollination, pruning and collection that are critical and long spanning activities. Besides the flexibility, a significant amount of time is also saved as the farmers don't need to go to the field every day.

Out-grower scheme for other fruit types

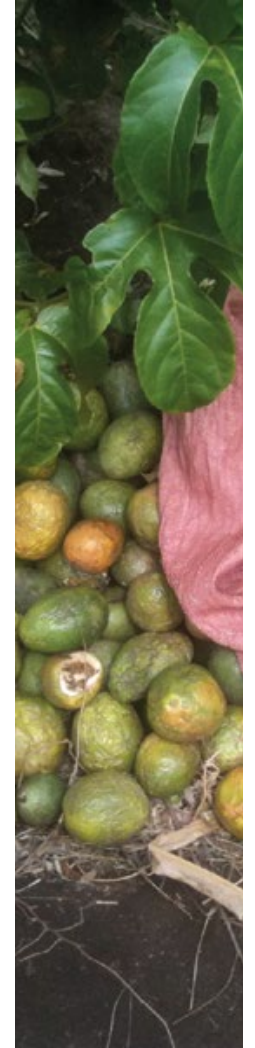
There is potential for the company to apply the out-grower scheme to other fruits. Fruits like papaya and mango require relatively less attention than passion fruit, give a higher yield per hectare and are also used by the company as export produce. Consequently, they can be used as inputs in the out-grower scheme.

Gender components

Most of the people working on africaJUICE's main farm are women, which is one of the strong points of the company farms. However, participation of women in the out-growers field is minimal. Generally, women are more productive on crops that demand intensive farm management and hence there is a big opportunity to stimulate women's participation and improve yields in the out-grower project.

Input distribution by cooperatives

Currently the company supplies inputs such as fertilizer, chemicals, trailers, pools etc., but going forward there is an opportunity for the cooperatives to engage in this business themselves.



4 Is the business model scalable?

The company is determined to scale up the out-grower scheme to an additional 56 ha (88 households) by the end of 2014 and this number is expected to rise to 700 ha (1 000 households) in the next five years. Despite the different critical issues, africaJUICE out-grower project is one of the most structured and well-designed inclusive models in Ethiopia.

Four factors seem to be critical for successful scaling of the business model:

1. Considering impact on household food security
2. Simplifying the technology
3. Revalidating commercial viability
4. Building trust and emotional attachment with farmers.

1 In subsistence farming, **food security** is a key farming decision factor. As such, food crops like maize, teff and sorghum are prioritized as these crops are utilized at home. The amount of additional land available for these crops significantly influences the willingness of farmers to commit to long-term out-grower agreements. In addition, when taking the decision whether to grow a crop, farmers consider the following:

1. Marketability of the new product (should be readily convertible to cash).
2. Possibility to purchase other available and affordable food crops in the market. If farmers use the land to produce crops they cannot consume themselves, they need to be able to buy food crops in the market.

2 **Technological simplicity** implies both the tools and practices deployed in the new system. Farmers are generally receptive to technologies that reduce cost, time and effort. Incremental technologies that build on customary wisdom and practices can easily assimilate into communities. Technology ranges from input to point of product delivery (ploughing, input utilization, weeding, pruning, pollinating, harvesting, packaging, transport and quality). For better adoption, farmers need to be intensively trained and coached in each hardware and software. Visual or graphic presentations or practical demonstrations are more effective than conventional trainings and stories.

3 **Commercial viability** refers to three elements:

1. comparative return
2. payoff period, and
3. cash inflow during the point of critical need.

Farmers generally compare the return they had in the past with the current venture, as well as with ranges of crops they can grow under the new system. Their judgment about the market is usually based on the high price scenario that mostly prevails prior to the

planting period. Long-term impact of a stable/guaranteed market is less visible for them than the one-time maximization. As such, the payoff from the early sales and waiting time between planting and first harvest, are critical viability indices. Cash inflows during September (when the children go school), January (when land lease is paid to government) and holidays such as Christmas, Easter and Ethiopian New Year, are important factors that affect decisions and emotional attachments.

4 **Building trust and emotional attachment** between the company and the farmers is important in a highly relationship-based society like Ethiopia. The businesses need to reach the heart and minds of people through open dialogue and proven actions to remove some of the doubts. In this regard, focusing on corporate social responsibility, engagement platforms, and getting support from community elders and influential figures could prove useful. Supporting schools, clinics, and other public institutions within the district usually influences farmers and encourages a sense of commitment. Ongoing engagement platforms with farmers, government and other important stakeholders also helps to address recurring and emerging bottlenecks such as contractual issues (price, quality, cost sharing), expansion strategies, and division of roles and responsibilities. For effective engagement platforms, maintaining people within the platform for a long period could help reduce the cost of learning and normalization.

The following table gives an overview on the different dimensions of each factor, and evaluates each factor in terms of importance and required action.



Assessment of scalability

Figure 7
Scalability matrix for africaJUICE Out-growers Incubator Project

Scalability Indicator	High Score	Assessment for this case	Importance	Need for action
Household food security	› Product home use	› Passion fruit is not utilized at home	Medium	Yellow
	› Availability of additional land and labor to grow food crops	› Farmers in the area have additional (TAKE OUT tract of) land (area under passion fruit accounts for 25 % of their land)	High	Green
	› Marketability of alternative cash crop	› Guaranteed market with minimum price	High	Green
	› Availability and affordability of food crops in the local market	› Maize, sorghum are available at fair prices during harvest period but price goes up at off-season	High	Yellow
Technological simplicity	› Cost and time saving	› 4 man-days per month for 10 months	High	Red
	› Building on local wisdom and practice	› New crop and new farming system (imported from Latin America)	Medium	Red
	› Agronomic simplicity (farmer friendliness)	› Planting, weeding, pruning, pollinating, harvesting all are labor intensive	High	Red
	› Technical coaching and training	› Dedicated out-grower team and external consultants coaching and training farmers	High	Green
Commercial viability	› Comparative return/ha	› Passion fruit and intercrop have comperable return to that of onion and tomato, but the former requires more upfront investment	High	Yellow
	› Payoff period	› First sales come after 9 months and goes to 3.5 years	Medium	Yellow
	› Cash inflow at key times	› Passion fruit gives continuous cash inflow for 10 months after first harvest, but other crops are one-off	Medium	Green
	› Cost of new technology (labor, material, etc.)	› Production cost per ha for passion fruit is higher than many crops	High	Red
Trust and emotional attachment	› Corporate Social Responsibility (CSR)	› africaJUICE and its partners provided irrigation system	Medium	Yellow
	› Engagement platforms	› Outgrower coordination team engages farmers on daily basis and also closely work with local authorities	High	Green
	› Support from Key figures/Elders	› One model farmer strongly advocates the model but there is need to get more farmers on board	High	Yellow

Color Keys

- should be addressed to scale-up
• immediate attention/intervention is needed
- should be improved to scale-up
• close monitoring is needed
- should be maintained to scale-up
• things are going well

Sector overview

Agriculture accounts for 41.4 % of the total Ethiopian GDP and 84 % livelihood (World Bank, 2006). Seed is one of the most crucial elements in the livelihoods of agricultural communities. Sustained increase in agricultural production and productivity largely depend on the development

1 Introduction

of new and improved varieties of crops. Increasing quality and usage of improved seed has the potential to dramatically increase Ethiopia's annual crop production. For example, by adopting commercial seeds in combination with best practice techniques on a quarter of the current crop area, research indicates that farmers could increase production and productivity by twofold (Dercon, 2009).

The total annual demand for seed in Ethiopia in 2013/14 is estimated to be over 2.7 million tons or equivalent to USD 1.13 billion in value (MoA, 2013). Average annual growth rate for the last seven years has been 59.4 %. The lion's share of this demand comes from small-scale farmers. Total supply of improved seeds for the 2012/13 harvest year was 0.11 million tons, equivalent to 4 % of the estimated demand.



Hybrid maize



Cows grazing in the field

3

Ethiopia

Gadisa Gobena Commercial Farms PLC

Yared Sertse



The Ethiopian seed system has been confronted with several challenges; among the main problems are:

- › lack of proper linkages between different actors involved in seed systems;
- › inadequate supply of good quality seed at affordable prices;
- › focus on a few crops (e.g. maize and wheat) in the formal system;
- › beneficial crops (such as pulses and oilseeds) remain orphans;
- › low level of private sector involvement in the formal system;
- › inefficient seed promotion, distribution and marketing mechanisms;
- › weak variety release and seed quality assurance system.

The strategic focus of Ethiopia's seed sector is to develop seed for food crops (maize, teff and wheat) and cash crops (coffee, sesame and horticulture).

regional bureau of agriculture. The strategic focus of Ethiopia's seed sector is to develop seed for food crops (maize, teff and wheat) and cash crops (coffee, sesame and horticulture) (EARO, 2002; MoARD, 2004). As it stands now, the Ethiopian Institute of Agricultural Research and the Regional Agricultural Research Institute are the main bodies developing seed varieties. Variety development takes place both at research centers and on farmers' lands.

Value chain

The seed supply system in Ethiopia can be divided into two broad categories: system is divided into public and private seed (companies and producers). These are enterprises that are legally licensed to produce and sell seed of food and cash crops. The private seed producers, public seed enterprises, and the (inter) nationally operating seed companies are involved in the production of certified seed using known sources of basic improved and released seed varieties.

The informal seed sector has two main sub-components: farmer-saved and local seed business. This sector accounts for over 90 % of the market share. Unlike the formal sector, there is no licensing and certification here. The farmer-saved seed comprises both local varieties as well as improved varieties that have been accessed through the formal distribution system. Local seed business constitutes a seed system in an intermediary position, between formal and informal systems. Since seed in this system is not necessarily certified, varieties being both local and improved, dissemination varies from bartering to commercial approaches.

The overall structure of the Ethiopian seed sector is illustrated in the diagram below. The Ministry of Agriculture (MoA) is responsible for assessing national seed demand and supply, as well as developing strategies to address any shortages, in partnership with the regional bureau of agriculture.

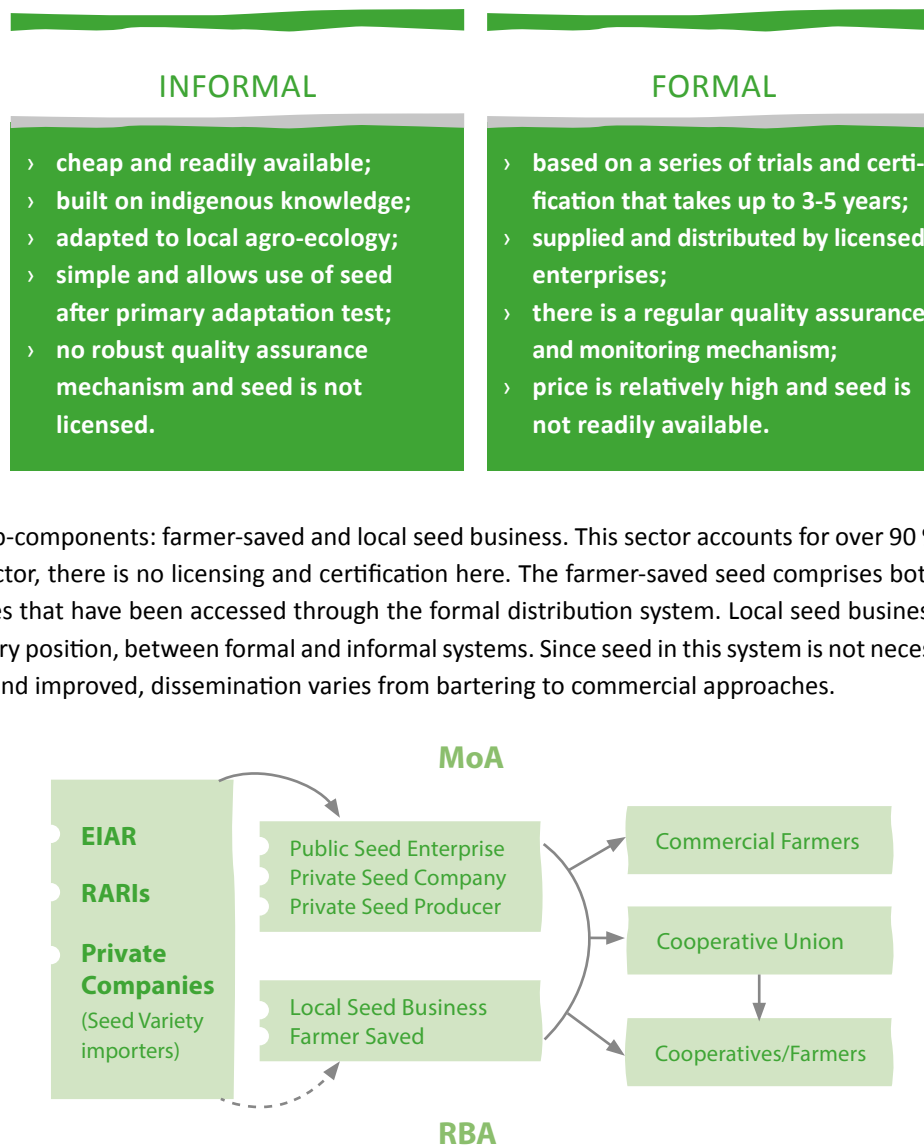


Figure 1
Structure of the seed sector in Ethiopia

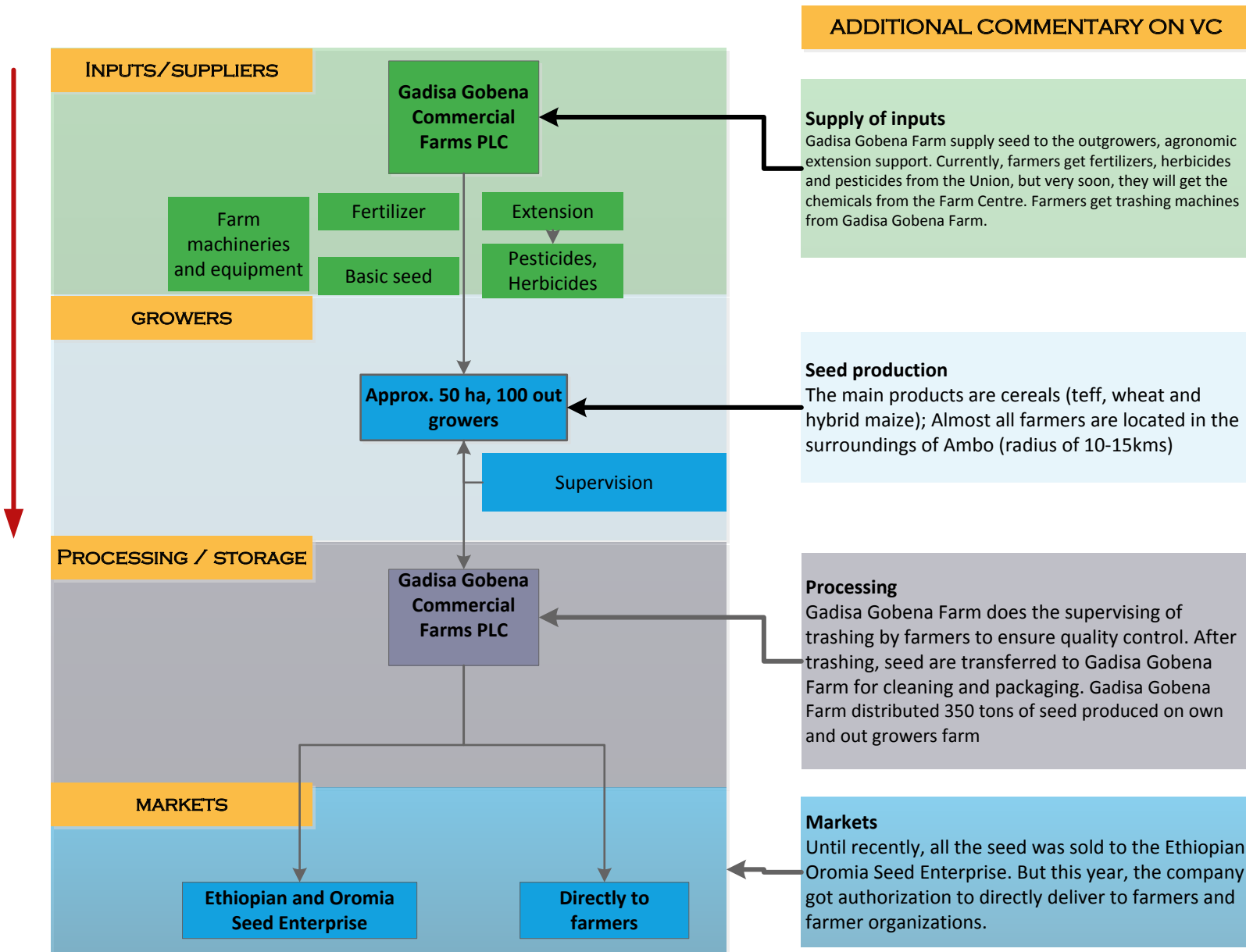


Figure 2
Value chain of Gadisa Gobena
Commercial Farms PLC



Background information on the company

Gadisa Gobena Commercial Frams PLC (GGCF) is based in Ambo town in Oromia Regional State. It was established in 1993 and currently has over 600 ha of land at Ambo and Shambu areas. The company is engaged in four major businesses:

1. seed multiplication and distribution
2. dairy and animal husbandry
3. apiculture
4. forestry.

Recently, GGCF added a farm service center to its product portfolio. Overall, it has employed 100 people and dealt with over 1 000 household farmers in the region.

Seed multiplication has two models: own farm and out-grower. The company has 500 ha of land dedicated to improved seed production while the out-grower farm is about 50 ha. The most common seeds grown and distributed by GGCF are maize, teff, wheat and chickpea varieties. GGCF distributed 370 tons of seed produced on own and out-growers farms.

Crop	Volume (tons)
Hybrid Maize	200
Wheat	100
Teff	50
Chickpea	20

Table 1
Volume of distributed seed

The dairy and animal husbandry business is based at Ambo town and Horo. The farm owns over 50 local breed and 15 hybrid milk cows with an estimated annual milk volume of 108 tons distributed to residents of Ambo town at a comparatively fair price. Besides the milk, GGCF distributes hybrid calves and provides an insemination service to local farmers. Recently, GGCF started a feed processing plant (machines have been imported and waiting for a power transmission line to be erected). The feed processing plant will have an annual production capacity of 1 000 tons and will generate 100 employment opportunities. The target is to supply feed to local farmers and dairy producers. GGCF has a strategic advantage in feed production because they can produce maize and soybean (key feed ingredients) on their own farm. The ultimate target going forward is to build a milk processing plant.

The apiculture and forestry development businesses are based at the Horo farm which occupies an area of 500 ha of forest with over 50 bee hives. Forestry development has been cited as an exemplary model for its contribution to environmental rehabilitation. After years of environmental protection, the availability of natural ground water increased and springs that were previously dried out started to flow. GGCF produces 20 tons of honey which is sold at the central market. Beside its own farm, the company collects honey from surrounding farmers. The farmers are given technical training and lent honey-collecting equipment.

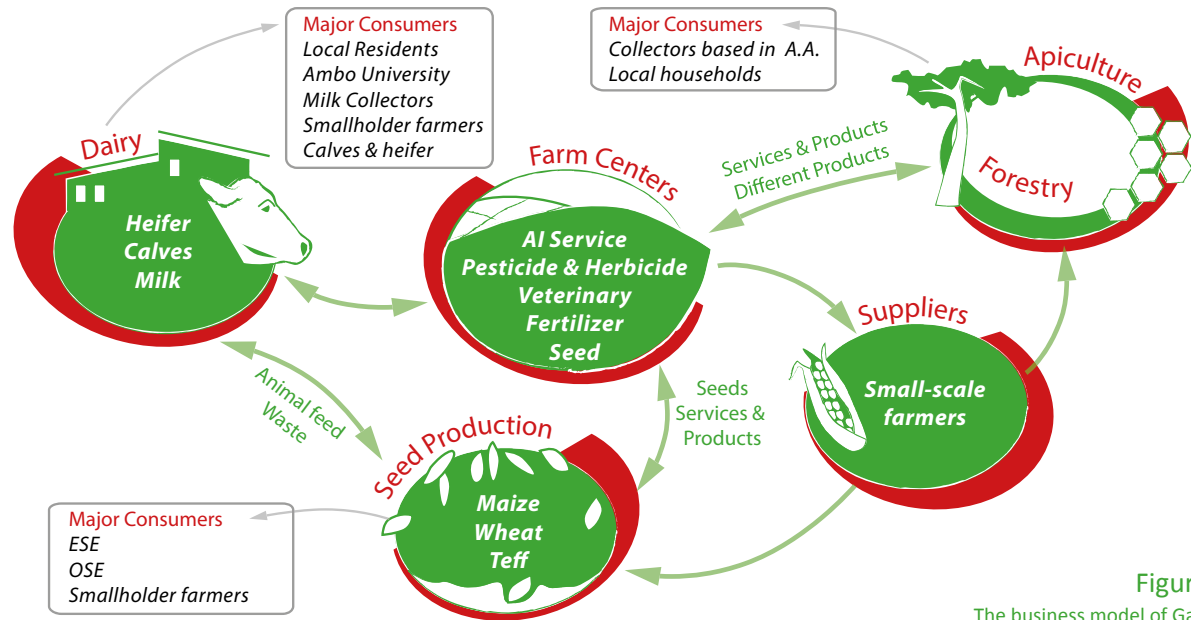


Figure 3
The business model of Gadisa Gobena Commercial Farms PLC

The farm service center is a new initiative supported by a USAID project. The center is a one-stop farmer’s shop where all kinds of products and services (improved seed, pesticides and herbicides, fertilizer, farm equipment, veterinary and artificial insemination [AI] services) are sold. This business is, in a way, unique to Ethiopia. The products and services are intended to be co-created with the farmers. Farmers will be trained and introduced to new technologies and their application.

GGCF has been working with small-scale farmers in seed multiplication both as seed supplier-buyer and in the out-grower scheme. The company is one of the few licensed private seed-growers in Ethiopia and has been supplying improved hybrid maize, teff and wheat to local farmers at affordable prices. Currently, GGCF is supplying seed to over 100 farmers in West Shewa and East Welega zones. GGCF has a strategic vision to serve communities in a commercially viable way by delivering improved varieties and agronomic support. The company supplies seed from its own farm and out-growers’ land. Under the existing out-grower arrangement, the two parties (the company and the smallholder farmer) sign a contractual agreement that stipulates the farmers should contribute land, labor and day-to-day management of the field while the company provides seed, agronomic advice and a threshing service. The agreement also states that the smallholder should, in principle, sell to the commercial farmers at the prevailing market price. The costs incurred by the company are normally recovered from the final price. In the supplier-buyer relationship, GGCF provides after-sales services such as coaching and extension support to farmers who purchased seed from the company. There is no formal agreement in the delivery of these after-sales services.

Both business and social factors drive the engagement between Gadisa Gobena Farm and small-scale farmers. Despite high regulation and a price ceiling, GGCF sees the seed sector as an opportunity that fits its business model of working with small-scale farmers. Given the chronic shortage of seed in the area where GGCF is based, the company stepped in to fill the supply gap. For the farmers this is an opportunity to get access to improved seed at affordable prices equivalent to that of the local unions or public seed enterprises.

The business case for the out-grower model is to share risk as well as diversify the supply chain for GGCF. The mix of out-grower farmers is determined based on the willingness of farmers to open up to new initiatives. In most of the cases, these farmers are model farmers who are more open to new technologies and socially respected within the community.

Besides the economic aspects, there are also social causes driving this business model. Mr Gadisa, the owner and manager of GGCF, is a strongly social entrepreneur, who is emotionally attached to agricultural families. He believes that he can make a difference by providing business solutions to development problems.

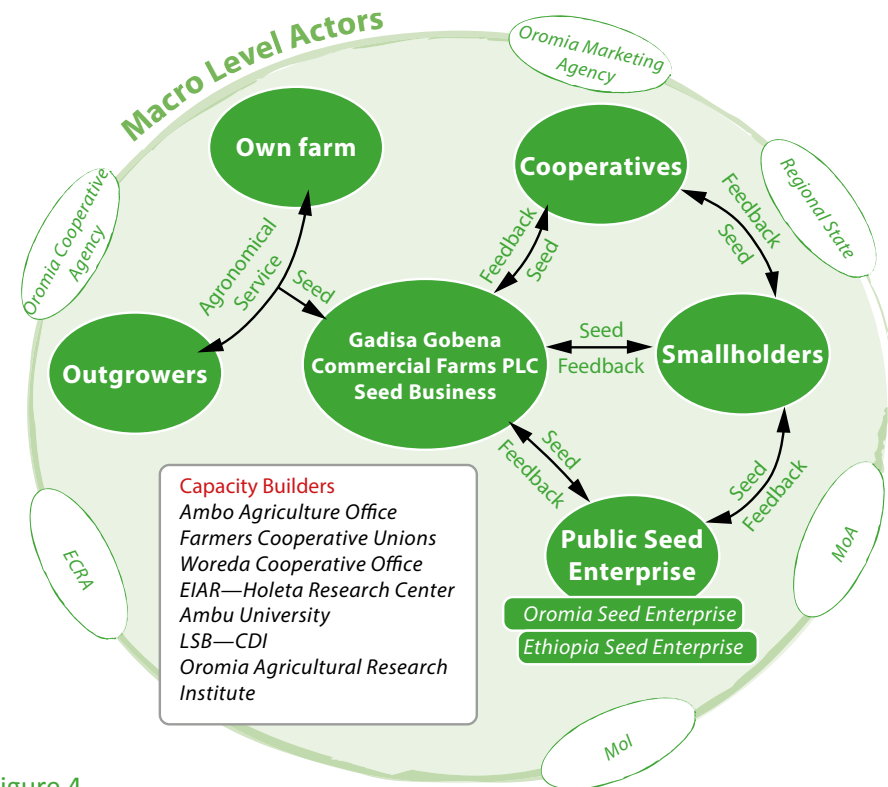


Figure 4
Key actors working with Gadisa
Gobena Commercial Farms PLC

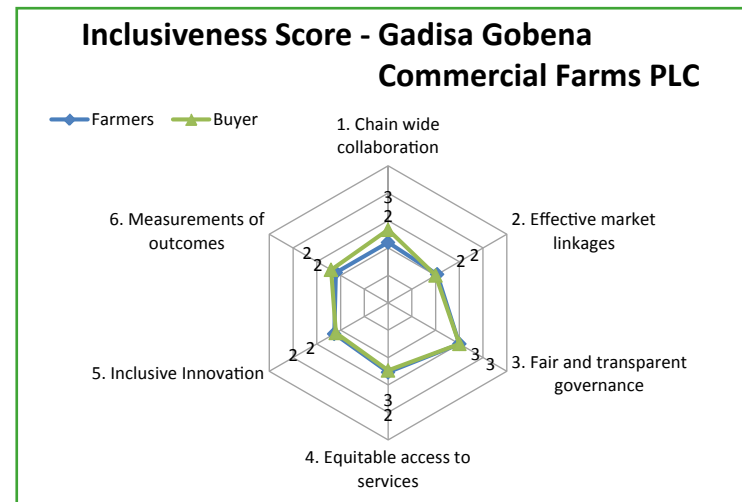


2 Current inclusiveness of the chain

The experience of GGCF in the seed sector seems to be half of a success story. The seed distribution system seems commercially viable. The overall seed demand has been increasing by over 20% during the last two years. Farmers who planted Gadisa Gobena Farm seed think that the quality is better than seed from public enterprises such as the Ethiopian Seed Enterprise and Oromia Seed Enterprise. The after-sales service (consultation on planting, weeding and harvesting, and provision of harvesting equipment) is strongly appreciated as a good method of technology and knowledge transfer. The fact that the farm is close to farmers is also seen as a positive factor that creates emotional attachment and a sense of belonging. In addition, price is seen as comparable to that of the public seed enterprises. GGCF has a very strong experience in training and coaching farmers. Coaching and trainings are conducted both on-farm and off-farm at least four times a year. Farmers attend field days held at the GGCF or at model farmers' fields so that farmers can visualize the difference in improved seed, share best practices and inspire each other, receive training and coaching about the importance of improved seed and agronomic support. The backward and forward feedback within the system is very positive.

However, the venture also shows weaknesses. Although there is a general claim that household income has increased, there was hardly any quantifiable evidence to substantiate this claim. The venture has been heavily dependent on traditional cereals such as hybrid maize,

wheat and teff. This is partially understandable as variety development in Ethiopia is carried out by government research institutes, but the venture could have done better in replenishing diversity with better value crops. Even within the existing crop range, introduction of new varieties is relatively weak. For the last three years mostly the same varieties have been targeted and there are currently no more in the pipeline. The level of commitment, particularly on the smallholder side, is another area that needs improvement. Seed production demands extra effort and cost in terms of input application, agronomic follow-up and post-harvest handling. However, these factors are considered overwhelming on the part of the farmers. Consequently, the out-grower business has declined over the last two years due to lack of commitment from farmers.



Clarifying expectations and emotional attachment

At the heart of creating more empowering relationships between buyers and farmers' organizations (and between farmers' organizations and farmers) is a shift in attitude and expectations. To move forward, it is important that companies perceive farmers as active partners and not passive beneficiaries. At the same time, farmers need to understand the commercial interests of the business, which go far beyond philanthropy.

In general, there is a social or philanthropic sentiment among small-scale farmers in Ethiopia when a private business approaches them for partnership. This is mainly because of the old paradigm of aid-driven support resulting in dependence syndrome, and to some extent it also relates to the socialist thinking where people rely on government systems.

Getting into the heart and mind of farmers requires a series of deep dialogue and proven actions. In Ethiopia, social relationships are valued over conventional business formalities such as legal contracts. Farmers tend to abide by the rules of the game when they have social respect for the person in the organization. As such, having strong social ties such as spending time within the community, attending social events such as weddings and funerals, corporate social responsibility (CSR) support in education and health, are heart-winning factors for sustained business relationships.

Engaging in public-private partnership

Effective public-private partnership is a critical success factor in the Ethiopian business context in general and in the seed sector in particular. On top of the traditional role of defining and enforcing generally binding laws and providing infrastructure and market intelligence support, government has a number of direct roles within the seed sector. Private seed producers are reliant on governments for the following:

- › supply of seed varieties (variety development and release is solely controlled by public research institutes);
- › price is regulated by government;
- › public seed enterprises are usually principal buyers and used as distribution channels by private seed suppliers;
- › quality assurance and certification are carried out by government entities.

In addition, government has a strong influence on farmers' cropping decisions through public extension agents and local administrative bodies. Due to all these reasons, engagement with government bodies is a highly critical success factor. In addition to government, there are a number of non-governmental organizations working in the seed sector: the Local Seed Business (LSB) unit of the Wageningen UR Centre for Development Innovation (CDI), USAID, Gates Foundation on value chains and nitrogen fixation, and AGRA on variety development. These organizations could help in facilitating access to finance for the farmers, providing business plan training and also linking GGCF with international seed companies.

Ongoing coaching and follow-up

Building a small-scale inclusive business requires a large amount of information. This begins as the overall approach is being conceived, and over time a new business will need detailed information on existing models and solutions, market data, technical information about products and practices that might be integrated into the business, and more. This information derives from many different sources, and it is difficult to assess its overall availability, as environments differ across the region. However, it is clear that access to information in Africa remains constrained by a lack of communications connectivity, and that data specifically related to the low-income market is limited.

Compared to grain production, seed production demands robust extension support: proper land preparation, fertilizer and seed application to the right specification, weeding and regular agronomic follow-up. There should also be proper care at harvesting and threshing as well as post-harvest management. For all this to happen there must be regular coaching, follow-up and training for farmers.

Quick return and increasing scale

When companies consider investing in starting or scaling inclusive business models, they compare the expected rates of return with those of alternative investments. Inclusive business investments may have lower expected rates of return because the cost or risk of doing business at base-of-the-pyramid markets is high, anticipated margins are low, and/or a long time horizon is needed to break even. Base-of-the-pyramid markets may also be so new and unfamiliar that expected rates of return cannot be calculated with enough certainty. Both of these circumstances make it difficult for corporate decision-makers to justify the opportunity cost of investing in starting or scaling inclusive business models when other investments with higher, more certain rates of return are available.

However, generating quick profit is a very important success factor when the business partner has limited access to internal and external sources of finance. Profit serves as a quick win to build confidence of farmers and motivate the business partner to continue the business engagement. GGCF is an example of emerging companies that have limited financial capacity and hence the quick return from the seed business is one way of sustaining the engagement.



3 Possibility to increase inclusiveness

Including fruits and vegetables in the seed assortment

One possible area for further inclusiveness is to introduce new seed assortment, particularly fruit and vegetable seed. Ambo is located within a 200 km radius of Addis Ababa where there is a big market opportunity. The agro-ecology is suitable for growing vegetables such as potato and onion, and fruits such as mid-land apple. Having fruits and vegetables in the seed business is interesting both from a market viewpoint as well as for gender empowerment. From the market side, fruit and vegetables fetch a high value per hectare, while from the empowerment perspective it is mainly women who are involved in fruit and vegetable farming, which provides an important source of income for households.

Forward integration with the feed processing plant

The other opportunity is in creating a market for forward chain integration. The company is setting up an animal feed processing plant which uses maize, soybean and chickpea as the main ingredients. This will create an opportunity for farmers growing these crops. For GGCF, it will also create an opportunity to act as an input supplier as well as a market for farmers. Furthermore, by supplying the right seed and providing extension support, including post-harvest management, the quality of raw materials can be improved.

‘Having fruits and vegetables in the seed business is interesting both from a market viewpoint as well as for gender empowerment. From the market side, fruit and vegetables fetch a high value per hectare, while from the empowerment perspective it is mainly women who are involved in fruit and vegetable farming, which provides an important source of income for households.’

The farm center will serve as a one-stop shop and knowledge transfer hub

In addition to the seed business, the farm centre is another big opportunity for enhancing inclusiveness. It is a model one-stop shop launched in six places within Oromia region. The project is supported by USAID and based on farmers’ needs. It is planned to serve as a one-stop shop for farmers where they can get seed, fertilizer, herbicides, pesticides, veterinarian services, AI and training on agronomic practices as well as rental of machinery. It will also serve as an off-farm training and coaching center. This provides an interesting opportunity for resource-poor farmers to enhance their agricultural knowledge and information as well as obtain all the necessary inputs to help them increase their income, improve their livelihood and ensure sustainability by enhancing their resource use efficiency (water, forest, cropland and grazing land).

Out-grower scheme for apiculture and distributor scheme for milk

The dairy and apiculture businesses also have potential for enhancing inclusiveness in the form of out-grower or distributor models. The honey out-grower model is very popular in Ethiopia. The fact that the honey market (domestic and export) is untapped means that GGCF has a big window of opportunity to increase its current volume by having out-grower farmers. For the dairy business, the company can step out of distribution, which is logistically complex, by subcontracting the activity to women’s self-help groups.

4 Is the business model scalable?

Scalability indicators

1 Household food security is the most important determinant of scalability for the GGCF seed business. In subsistence farming, cropping decisions are highly affected by the extent to which the crop can be utilized at household level, or how quickly it can be converted to cash to purchase food crops. Gadisa Gobena Farm is currently dealing with cereals such as teff, wheat and maize that are main food crops in Ethiopian households. Ambo is a relatively surplus-producing area and hence there is room to expand the seed assortment to include cash crops such as fruits and vegetables.

2 Commercial viability has three components: market size, market distribution and profitability. Data about trends are hardly available, but with the growing economy and increasing technology penetration the demand for seed is growing. On the farmers' side, market linkage is extremely important. In addition to market size, access to seed is very critical for farmers mainly because the farmers are widely spread, which leads to high transportation and logistics costs. Currently, over 90 % of the seed distribution is made through unions and cooperatives. The best viable option, as it now stands, is to maintain distribution through farmers' organizations (unions and cooperatives). Profitability for GGCF, as well as smallholder farmers, is the other important scalability factor. Currently the seed margin is fixed by government at 20 % and, as such, cost minimization is key to achieving better profitability. Farmers need either high-value crops that can compensate for the lost opportunity in grain crops, or food security crops. A quick win is highly valued by farmers as it serves as evidence for the scaling-up.

The key scalability indicators relevant for the seed business are:

- 1 Impact on household food security
- 2 Commercial variability
- 3 Technical simplicity and adaptability
- 4 Public-private partnership
- 5 Packaging and relevant services

4 The fourth important factor is **public-private partnership**. As mentioned before, government has strong hands in the seed business, including price-setting and influencing the type of crop decisions through extension agents and local authorities. It is the sole research and extension service provider. In addition to government, cooperatives and unions are the other public partners. These organizations are the major distributors of agricultural inputs, including fertilizer and seed, to small-scale farmers. Linkages with traditional NGOs such as USAID and the Gates Foundation, as well as seed-related project initiatives like the Local Seed Business of CDI, are important in providing the necessary capacity-building for the scaling-up process.

5 Any agricultural technology should be packed with the right know-how and **relevant services**. The fifth scalability indicator is **packaged service**, which refers to access to finance and to business development services (both upstream and downstream). Farmers have a shortage of cash to buy seed and agricultural inputs that are the key success factors. The economic development of low-income communities is vulnerable to the financial shock of adverse events such as crop failure, serious illness, death and natural disasters. Such shocks can wipe out years of steady progress by a household in a matter of months. These communities also have limited access to insurance products that could help them manage these risks more effectively.

3 The third scalability factor is **technical simplicity and crop adaptation**. When scaling up technologies, a major challenge for farmers is getting the full understanding of the technology and its related benefits. Generally, farmers don't want to spend too much time and energy on crops with a high cost of production (input, agronomics and post-harvest) and limited immediate returns. An incremental technology that builds on existing wisdom and practices has more acceptance than radical technology. Likewise, cropping decisions are significantly determined by the risks associated with crop adaptability to disease, shortage/excessive rainfall and other natural calamities.



Assessment of scalability

Figure 5
Scalability matrix for Gadisa Gobena Commercial Farms PLC

	Success factors/Criteria for a high score	Score for seed business	Decision factor for scaling (importance for scaling, scale of 1)
	Impact on household food security <ul style="list-style-type: none"> › Product can easily be consumed at home. › Product can be converted into cash or other food items. › The household is already into excess production. 	<ul style="list-style-type: none"> › Teff, maize and wheat are the top three food security crops in Ethiopia. › Ambo area is relatively food secure and multiple cropping practices exist. 	0.5
	Commercial viability <ul style="list-style-type: none"> › There is enough and/or a growing market for the product. › The market can be served with prudent marketing and a distribution network. › The product is profitable for both the commercial farmer and the smallholder. › Alternative seed portfolio (fruits and vegetables). › Focus on cost saving. › Think of woereda outside the home market. 	<ul style="list-style-type: none"> › The seed business is highly untapped and growing at an average of 25 % per annum. › Farmers are sparsely distributed and most have limited road access. › Teff, maize and wheat are profitable but perform less compared to fruits and vegetables. 	0.2
	Public-Private partnership <ul style="list-style-type: none"> › Aligning with government seed strategy (focal crops). › Linkage with cooperatives and unions as sales and distribution channels. › Synergy with development organizations and projects. 	<ul style="list-style-type: none"> › Increasing production and productivity of food security crops is a top priority for government, and all the three products fit into this agenda. › Ambo Union is one of the strongest in Oromia region and can reach millions farmers. › Many development organizations (Gates Foundation, USAID and LSB) are working in the sector within the area. 	0.2
	Access to finance and business development (BDS) services <ul style="list-style-type: none"> › Farmers can access finance with soft collateral. › Repayment grace period (post-harvest repayment). › Low cost of finance (interest + transaction cost). › Robust extension and agronomic support. › Crop insurance. 	<ul style="list-style-type: none"> › Farmers can get a loan via the cooperative but it is inconsistent and untimely. › Interest rate is over 15 % (3 % above the commercial lending rate). › There are government extension agents in each locality but there is a large competence gap. 	0.1

Sector overview

Oilseed crops are important components of the Ethiopian economy. They support the livelihoods of over 4 million small-scale farmers and businesses involved in trading, transportation and oil crushing, as a source of employment and income generation (UNIDO, 2009). According

1 Introduction

to Central Statistical Agency (CSA, 2012), the country produced 0.73 million tons of oilseeds on a total of 0.77 million hectares of land. The Ethiopian oilseed sector has an estimated annual turnover of USD 1 billion. Together with pulses, the sector accounts for 25 % of export earnings. Oilseed crops generated over USD 480 million in 2012 and their export value has doubled over the past five years (ECRA, 2007/2012).

Sesame is the most important export seed, accounting for 90 % of oilseed exports. The Ethiopian white sesame seed is used as a benchmark for grading internationally. Besides sesame, an increasing trend in the export of noug seed, groundnuts and soybean has been observed over the last three years.



4

Ethiopia

Depasa Agro PLC

Yared Sertse



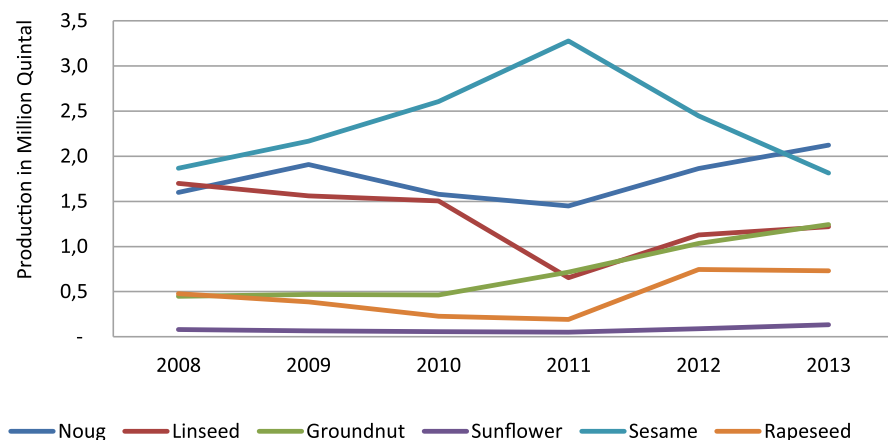


Figure 1
Production of Oilseed Crops in Ethiopia

Ethiopia is the fourth biggest producer (preceded by Myanmar, India and China) of sesame seed in the world. Sesame accounts for nearly 55 % of the total oilseeds produced in the country (CSA, 2012). In the period between 2007 and 2011, production increased by 119 %, up from 149 387 to 327 741 tons. The average productivity per hectare in the period between 2007 and 2011 was 0.885 tons/ha and showed a marginal increase of about 1.8 %. The potential yield of sesame is still much higher than the actual yield with improved agronomic practices (Wijnands et al., 2009). Sesame export has dramatically increased in the last five years, on average by 56 %; the export amount in 2012 was over 7.6 billion birr (ECRA 2012 report). The massive boost in production arose from bringing new land into sesame cultivation. According to CSA (2012) a total of 763 893 farmers were engaged in sesame production in the 2011 planting season.

The major sesame producing regions of Ethiopia are situated in the northwest and southwest lowlands of the country. However, due to the increasing export demand and government interest, production is expanding to other regions in the eastern and

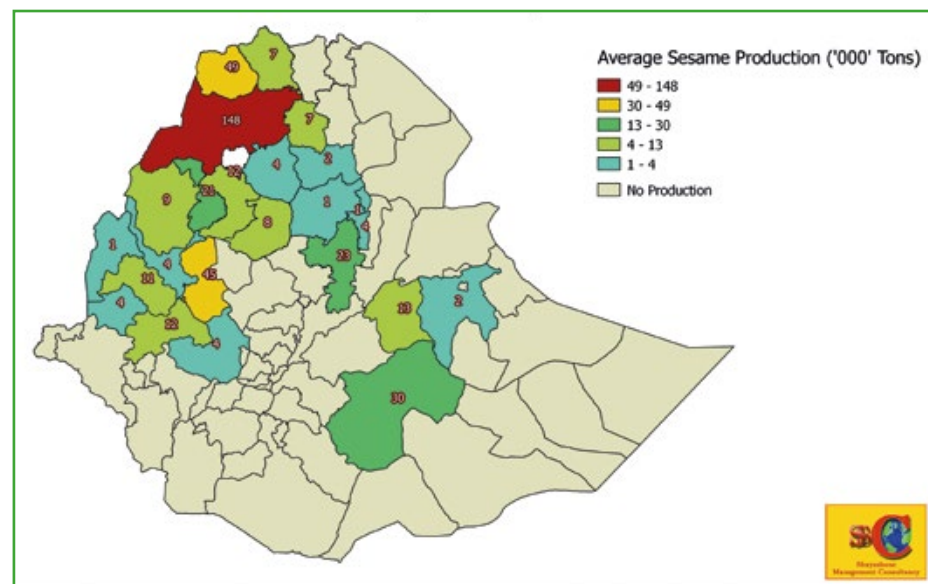


Figure 2
Average Annual Production of Sesame for 'Meher' Season 2007/08 – 2012/13

south-eastern parts of the country. Tigray (mainly Humera), Amhara (around Metemma) and Oromia (Wolega) are well known high-production areas of sesame. However, Southern Nations, Nationalities, and Peoples' Region (SNNP), Gambella and Benshangul Gumuz are also involved in sesame production because of the promising world market demand. Over 80 % of the sesame production is by small-scale farmers, but currently large-scale investors are entering this farming business. There are three sesame varieties commonly used for commercial production:

1. Humera
2. Gondar
3. Wollega.

These varieties are suitable for various applications. For instance, Humera, which is the t-85 variety, is internationally popular for its predominantly white and comparatively large uniform seeds, its sweet, nutty taste and sweet aroma. These features make it suitable for bakery products. Humera is also used as a reference for grading on the international sesame market.

Since 2010, the Government of Ethiopia made it mandatory that sesame trading can only be conducted at primary transaction centres and at the Ethiopian Commodity Exchange (ECX). Based on traded quantities, producers are also able to export sesame seed independently or through a cooperative. All sesame traded on the ECX floor is categorized into the three varieties: Humera, Gondar and Wollega. The sesame for each type is graded 1–4, depending on the level of admixture, damaged seeds, moisture content and colour. The purchase price of sesame for export is largely determined by the evenness of colour, taste, dryness and purity. The oil level is mainly important when selling the sesame to the oil industry.

There are two major producer groups:

1. Small-scale farmers account for 80 % of total production. Most small-scale farmers are organized into cooperatives and hence they deliver part of their products to the cooperatives/union who trade through the ECX or export on their own. Other small-scale farmers sell to local licensed or unlicensed traders. The licensed traders deliver to ECX local stores and trade with exporters or local processors, while the unlicensed traders either sell to the licensed traders or smuggle the produce to Sudan.
2. Large-scale farmers mostly produce for export by adding value through cleaning and de-hulling. Occasionally they also sell to local processors or to the ECX.

According to the Ethiopian Revenue and Customs Authority (ERCA) and CSA, nearly 80 % of the sesame produced in Ethiopia is exported to the international market. This makes Ethiopia the second biggest exporter of sesame seed after India. Earnings from export quadrupled between 2007 and 2011, and the crop is the country’s biggest foreign currency earner after coffee. Within the period 2007 to 2011, the country exported a total of 1.1 million tons of sesame seed for a total value of USD 1.3 billion within the same period.

Ethiopian sesame has proven to be suitable for a range of processing industries. The *Humera* variety is appreciated worldwide for its aroma and sweet taste. This type has large, uniform white seeds, which makes it very suitable for bakery products. The *Gondar* type is also suitable for the bakery market which requires a high level of seed purity that sometimes proves to be problematic. The major competitive advantage of the *Wollega* type is its high oil content which reaches up to 56 % (compared to a maximum

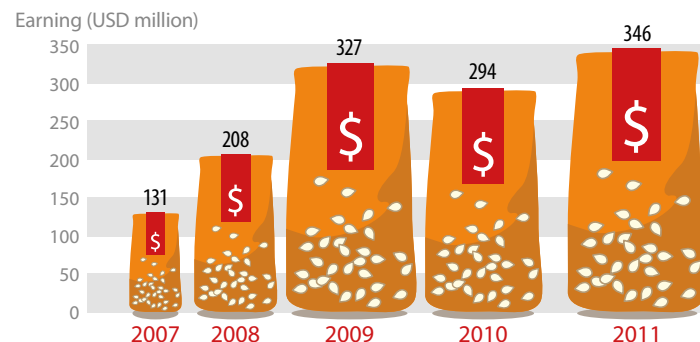


Figure 3
Earning from Sesame Export (2007–2011)
Source: ERCA, 2012

of 52 % for other varieties). China, India and UAE are the top three destinations for Ethiopian sesame.

Although some value addition takes place in the country (i.e. de-hulling), the majority of the exported sesame is traded in raw form. The most common domestic processing of sesame is done by individuals or small-scale companies engaged in the preparation and packaging of a food product known as ‘Baltina’. At commercial level, companies such as Selet Hulling, Depasa Agro, Ambasel Trading and Fronti Plc are engaged in hulling and oil extraction.

Company	Ownership	Processing	Location
Selet Hulling	Ethio-Dutch Joint venture (JV)	de-hulling	Legetafo
Depasa Agro Plc	Ethio-Dutch JV	de-hulling	Burayu
Ambasel Trading House Plc	Ethiopia	de-hulling	Gondar
Fronti Plc**	Ethiopia	edible oil	Gondar
Selam Baltina	Ethiopia	sesame flour	Addis Ababa

Table 1
Major sesame processing companies in Ethiopia
Source: from interviews



Background information on the company

Depasa Agro Industry was established in 2008 by Ethiopian and Dutch investors. The key business of the company is processing and exporting of hulled organic sesame, mainly to high value markets in the EU, USA and Japan. The company has 20 employees and an export volume of 5000 tons of hulled and raw sesame on average. The processing plant is located in Addis. The company processes and exports solely Humera, a hallmark of quality sesame on the international market. Recently, the company has been developing a new business to process sesame and chickpea for the export market. An agreement has been signed with two chickpea cooperatives, Lume Adama and Becho Woliso, located in Oromia region.

Depasa Agro Industry adopted contract farming and out-grower models to secure its raw material and ensure compliance. In this regard it is a pioneer in legally-binding contract farming in Ethiopia. The company started contract farming agreements with three cooperatives: Adebay (Miebale) and Bereket (Maebel), and a third one which failed to keep its promises and later withdrew. The two primary cooperatives have over 3350 member farmers and 67 000 ha of land. By taking this step, the company

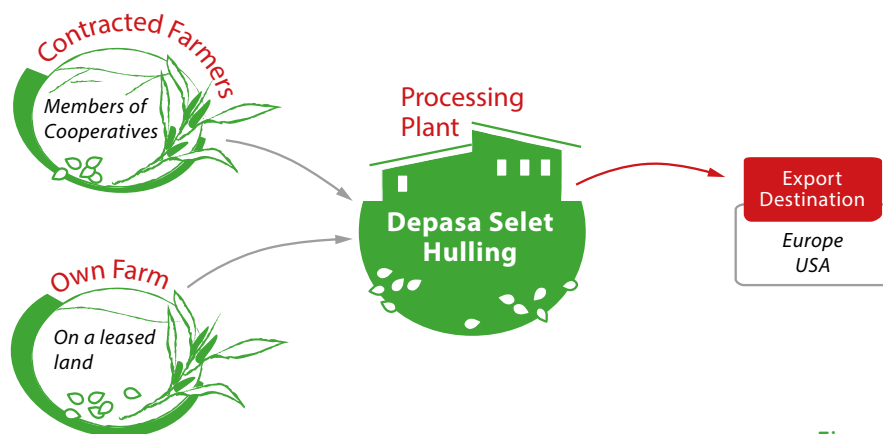


Figure 4
Business model of Depasa Agro PLC

has overcome the raw material shortage for its hulling factory and, as a result, it has started to pay its debts and become profitable. Currently, the company practises the out-grower scheme. As Ato Elias, the owner of the company told us, his experience in agronomics and his professional network added to his educational background in agriculture, has helped him a lot. He started the company with no investment capacity and so chose to work with an investor who wanted to invest in agriculture. Depasa and its sister company have become one of the best performing exporters in Ethiopia today.

Depasa Agro adopted contract farming and out-grower models from the start, but the company went through a difficult period implementing these schemes. In order to set up the out-grower scheme, the Ethiopian law required companies to have their own nucleus farm. At that time Depasa was not in a position to own land and start farming. In addition, there was no binding legal framework for contract farming. Companies could sign informal agreements with farmers, but enforcement of such agreements was impossible. In the midst of this situation, the company decided to sign an informal contract-farming agreement with three cooperatives in Humera. At the same time, it started lobbying for a legal framework for farming engagement. After a two-year struggle, the founder managed to put the issue forward to the late Prime Minister Meles Zenawi, by whose direct order the company was permitted to engage in contract farming. Depasa became the pioneer in the adoption of contract farming in Ethiopia and also set the legal foundation for a number of other companies that followed suit.

Alongside lobbying for a legal framework, the company also engaged farmers at grassroots level and signed an informal contract with three farmers' cooperatives. The criteria for selection were:

- › farmers with bigger holdings, and
- › farmers with connecting land.

The direct formal relationship is between the company and the cooperative, but the company has power in selecting farmers for inclusion in the contracting scheme.

Value chain

The sesame value chain includes numerous supporting service providers and facilitators. For example, research institutes provide high-yielding varieties such as Setit and Humera 1. There are farmer training centres (FTC) to demonstrate new varieties of seed, technology, pre- and post-harvest preparation and prevention. The Bureau of Agriculture (BoA) monitors farmers and provides extension and agronomy services. Different NGOs (SBN, ACIDI-VOCA, Agri-terra) provide capacity-building for extension, agronomy and market linkages.

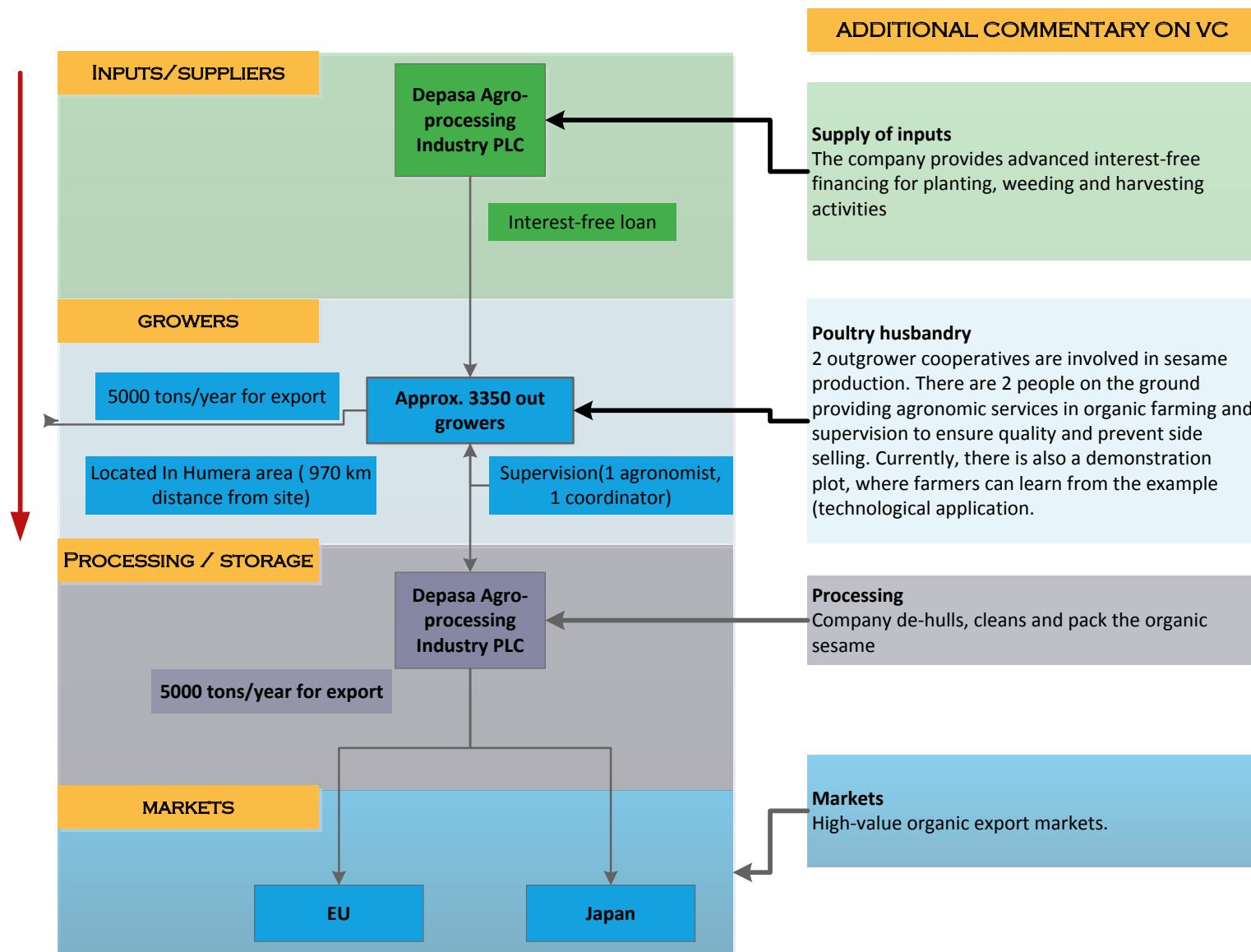


Figure 5

The value chain of Depasa Agro Plc



2 Current inclusiveness of the chain

Access to services

As per the current contract, Depasa Agro Industry guarantees a market for out-grower farmers and provides agronomic support on good farming practices and quality management. The company also gives interest-free loans to the cooperatives as working capital for weeding and threshing. The cooperative distributes the loan to farmers by adding a 3 % transaction cost. In 2013, more than 1600 households benefited from 9.1 million birr in interest-free loans during the weeding and threshing period.

Development projects such as ACDI/VOCA, Agritererra and SBN also provide some generic support towards this model, but sometimes these interventions have distorted the market by creating suspicion between actors. Depasa Agro also has strong links with its customers in Japan, Europe and America and since the company is supplying organic sesame, there is support for organic certification and traceability.

Depasa Agro has dedicated staff on the ground intended partially to support innovative practices by farmers. The company has demonstration plots at two locations in the region. The purpose of these plots is mainly to promote innovative practices and use of best technology for sesame production. Farmers in these areas indicated that Depasa Agro has improved their knowledge on planting, use of fertilizer, crop rotation and product harvesting and handling. The company also maintains ground-level presence to facilitate farmers' learning.

Access to market and supply

On average, the company needs to collect 3000 to 15 000 quintals of sesame per year.

The primary cooperatives collect farmers' produce on behalf of the company at the market price plus 85 birr. The local market price for sesame is determined by the international market price which can be accessed via the ECX. For the farmers this set-up has dual benefits:

1. The price they get from the company is higher than the market price.
2. They have a secure market, which is sometimes difficult due to fluctuating demand and inaccessibility of the ECX. Farmers who have a volume of 50 quintals and above can deliver their sesame to the nearest ECX warehouse. However, as most ECX warehouses are located in towns, coordinating logistics and transporting produce to these warehouses is difficult for the farmers. Not only does it take long to unload produce at ECX stores, farmers are also unhappy with the grading system. Delays at the ECX collection point raises the transport cost, which forces retailers to lower the sesame purchasing price. In comparison Depasa Agro Industry gives them clear advantage of price as well as purchasing at farm gate. Many other farmers showed interest to be part of such an arrangement.

The fact that the company is dealing with cooperatives also has two important benefits for the company and for the farmers:

1. Cooperatives are the smallest unit of farmer organization and they are present at grassroots level which eases the traceability of products.
2. There are fewer administrative hurdles when dealing with cooperatives, though they lack managerial capacities.

The cooperatives are also members of Setit Union where they can get access to alternative markets. There are ECX warehouses and ECX-licensed traders in the region where farmers can deliver their products. Farmers are not restricted to supplying to Depasa alone, which gives them the flexibility to look at other options. But there are some challenges related to geographical bottlenecks due to the location of the farmers i.e. 970 km from the central market.

› Commitment

At the start of the operations, the absence of binding laws for contract farming and the impossibility for farmers to get access to finance from banks, resulted in a huge loss for the owners of the company who lent money to the farmers. One of the cooperatives sold the produce to a third party and did not pay back the initial loan. After 2 years of lobbying at different governmental levels, the owner succeeded in recuperating the pre-financed money. The other two cooperatives have maintained their loyalty and continued to work with Depasa.

› Shared goals and vision

Before the partnership started, there was intensive discussion with relevant stakeholders including farmers, local authorities, BoA, regional and national government, as well as development organizations. The main challenge at the take-off stage was to create common understanding among the different stakeholders who often had conflicting priorities.

There is a regular consultative platform between the company and farmers' cooperatives. There is also a high-level regular engagement between the general manager and government officials at national and regional levels on ongoing issues.

› Certification

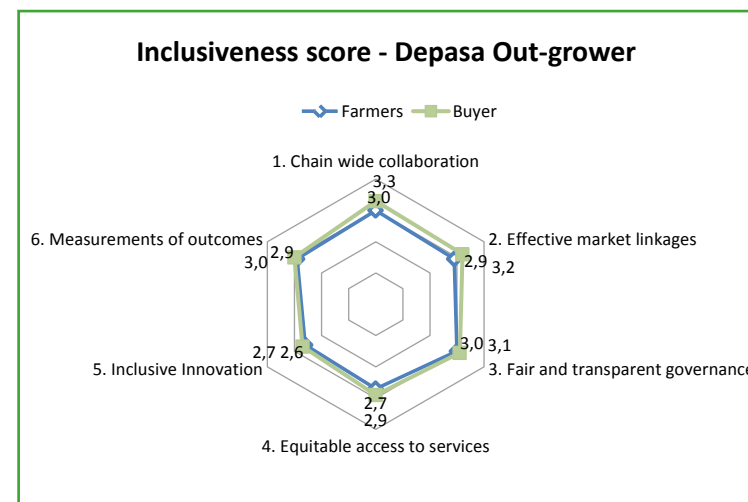
Depasa Agro Industry is a fair trade registered company and hence, fair and transparent chain governance is very important. Under the existing arrangement the company pays higher than market price. In return, the cooperatives supply the sesame in labelled form indicating which pack comes from which farmer.

› Access to information

In addition to market and pricing, farmers also have access to information from different sources such as the ECX, mobile networks and other NGOs and development partners working in the region.

› Stable relationships

The partnership between Depasa and the cooperatives in Humera started in 2012. Though there was no baseline established at the beginning and no formal tracking of the venture's impact on the livelihood of farmers, many farmers as well as the company appreciated the stable relationship. Nevertheless, the cooperatives noted that the credit they were receiving was not sufficient.



3 Possibility to increase inclusiveness

Product Development

Depasa Agro Industry is expanding its business into tahini processing. The company is trying to replicate the same business model with different cooperatives for the supply of chickpea. The new product will consist of 50 % sesame. This creates a further opportunity to include additional farmers in the scheme.

Farming technologies and seed

Sesame is highly sensitive to improved farming practices such as planting, weeding and harvesting. Depasa Agro has a big opportunity to introduce shared manual harvesting machines which will reduce harvesting and threshing loss, and increase yield by 10–15 %. On its own nucleus farm, Depasa can also focus on growing seeds for its suppliers and this can have an impact on quality and productivity.



Sesame field in vegetative stage

4 Is the business model scalable?

The Depasa Agro Industry contract farming model seems to function very well. The key scalability factors relevant for this business model are the following:

Owners' experience

The founder and owner of Depasa Agro Industry Plc is an agronomist by profession and has served in different governmental and non-governmental offices before he set up his own business. This has played an invaluable role in the existing business engagement with farmers. From the discussion with him, four distinct personal attributes were observed:

1. passion and energy for agriculture;
2. perseverance in dealing with long and complex issues, for example, lobbying nearly two years to get approval for contract farming;
3. thorough knowledge of how the Ethiopian system functions;
4. extensive network from grassroots to ministerial level.

Ground-level presence

There are four key advantages of having ground-level presence for both out-grower and contract farming models:

1. It signals the seriousness of the company in the business and boosts the confidence and trust of farmers.
2. It helps to foster innovation and learning on both sides; farmers receive coaching and practical support while the company gets a deeper understanding of grassroots community practices, beliefs and values.
3. It builds the emotional attachment that usually governs business with small-scale farmers, rather than following the formal approach.
4. It fosters quick responsiveness to emerging issues, for example, in cases where other interest groups may try to create doubts about the business partnership and when this happens it is extremely important that a representative of the company is there to clarify and defend issues.

Public-private partnership

There are strong hands of government involved in the sesame sector. It is mandatory to trade on the ECX floor, but exceptions are made in the case of commercial farmers and unions who can directly export their own produce. Public institutions control supply and distribution of seed, fertilizer, pesticides, herbicides and other inputs, as well as provision of extension and research services. In addition to enforcing contracts, authorities can also influence farmers' cropping decisions through extension agents, which impacts on company planning. Consequently, private-public partnerships are very important, and can exist at national, regional, zonal and district levels. Generally, government is highly supportive of export-oriented agro-processing businesses, though not all actors within the hierarchy may have the same level of understanding and commitment. In such cases, the involvement of senior officials and engagement of grassroots authorities are key factors for success.

The fact that Humera sesame is a leading international brand means that there are a number of competitors for the seed, for example, Setit Union, Tigray Marketing Federation, Selet Hulling, Guna Trading, Ambasel Trading and many other ECX-licensed, as well as non-licensed traders (who usually deliver to the licensed traders or illegally export to Sudan and Eritrea). Usually these entities have conflicting interests and may lobby against such long-term business engagement. In this regard, it is also important to have a well-functioning private-private partnership platform that works on a sustainable code of business conduct and synergy amongst private actors.



Advance financing

Sesame has a very short planting and harvesting window. Most farmers in Humera plant within a one-week difference which results in critical shortage of labour for planting, weeding, and harvesting. The Ethiopian saying 'you won't attend your mother's funeral if your sesame is ready for harvest' sums it up. Farmers need hired labour for weeding, harvesting and planting, as family labour is not sufficient. Most of the labour comes from the highland areas of Gojam, Gondar and Tigray and is usually expensive. Access to finance is therefore very critical either to pre-finance farmers for such activities, or to arrange value-chain financing by guaranteeing loans with banks. Unfortunately, the latter is not the preferred option as it incurs interest over time and accessibility is challenging.

Focus on relationships

Having a legally binding contract is important to minimize risks related to pre-financing, but even more important is the soft relationship with farmers, cooperatives and authorities at the grassroots. Farmers attach a higher value to this relationship than the contractual obligation, partly because they may not understand the implication of defaulting on a contract, but also because they may be misguided by other interest groups. Maintaining good relationships with key groups enables smooth business operations.

'...you won't attend your mother's funeral if your sesame is ready for harvest' sums it up.



Harvested sesame

Sector overview

After years of decline, highlighted by the collapse of Kenya Cooperative Creameries (KCC) in 1997, the dairy industry in Kenya has been growing over the last decade (TNS, 2008). The dairy sector accounts for 3.5 % of Kenya's GDP and 40 % of the national livestock GDP¹. During

1 Introduction

the last eight years the growth rate of the dairy sector was estimated to be 4 to 5 % annually, resulting in a yearly production of roughly 5 billion liters. Smallholders account for approximately 80 % of this production. Various estimates set the number of households involved in the dairy sector at 700 000 (SNV, 2013), although other appraisals go up to 1.8 million households (TNS, 2008). Since the sector employs many women and youths and contributes to nutritional and food security, it can be seen as a key sector for pro-poor economic and social development (SNV, 2013).

Around 55 % of all milk produced in Kenya is marketed, while 45 % is used for home consumption, feeding calves or sold to neighbors.

¹All statistics concerning the Kenyan dairy sectors should be regarded as estimates (TNS 2008 and SNV 2013).



Kenya

Dairy Business Hubs

Henric Verjans



Of the marketed milk, it is estimated that only 32 % reaches the market through formal channels. The formal milk market in Kenya is dominated by a few large players such as New KCC, Brookside and Githunguri Dairy.

The Kenyan dairy sector has huge potential. Currently, the average yearly consumption in Kenya is estimated to be 145 liters per person, whereas the WHO recommends a yearly consumption of 200 liters. Together with the increasing population, this gap presents a huge opportunity to grow the national dairy market. Moreover, the sector has potential for export to Eastern and Southern Africa, as well as the Middle-East (SNV, 2013).

Regardless of this potential, there are also challenges which have implications specifically for pro-poor economic and social development. Given that the informal channels operate outside the legal framework, no taxes are paid and no health or hygiene standards are enforced, resulting in a distortion of the business environment for the dairy sector. Nonetheless, the informal market has its place in the sector. In areas where the formal market is non-existent, field interviews indicate that the informal dairy sector provides incentives for increasing production, rather than hampering the sector's growth. Moreover, in Kenya there is a mismatch between dairy production and processing. During the rainy season milk production exceeds the processing capacity, while during the dry season processors cannot source enough milk to use up their processing capacity (SNV, 2013).

Despite growth, dairy productivity in Kenya is low compared to international standards. This is mainly caused by poor and inadequate feeding and breeding practices. Feeding practices are hampered by the availability, quality and cost of feeds. Regarding breeding, artificial insemination (AI) is still not adopted as the main breeding practice in many areas (TNS, 2008).

There are several other challenges, most of them derived from the fragmented nature of the Kenyan dairy sector, both on the supply and marketing side, as well as in the formal and informal channels. This fragmentation hampers growth and competitiveness of the dairy sector (TNS, 2008 and SNV, 2013).

Background information on the company

One of the schemes designed to overcome the fragmentation in the Kenyan dairy sector was to introduce Dairy Business Hubs (DBHs). Dairy Business Hub is a term primarily linked to the East African Dairy Development (EADD) Project; other terms used to describe the same idea are 'input supply and service hubs' (Jaleta et al., 2013) and 'chilling and business hub' (SNV, 2013). The idea is an example of an inclusive business model and a 'new' way of organizing the dairy sector for smallholders—inclusive innovation. The concept is commonly used in Eastern Africa to enhance the development of the dairy sector. DBHs are set up '*...either as a single business entity supplying inputs and providing services, or the existence of several business entities supplying inputs and/or providing services in a specific geographic area serving beneficiaries' needs. These different entities could be private, cooperative, or public owned. They may or may not coordinate with each other in running their business.*'

Benefits gained

DBHs can improve both input and output marketing opportunities for smallholders. By linking several supply chain actors together in a DBH, transaction costs can be decreased and smallholders can gain access to more formal markets. Expected benefits for smallholders are increased profit resulting from economies of scale, ease of business and bargaining power. Farmers can gain more leverage during negotiations and a check-off system allows them to use services before income becomes available in cash.

Input providers, service providers and processors can benefit from DBHs using the opportunity to cooperate with large groups of smallholders in an economically viable way. The aim is to develop DBHs in a way that enables them to become sustainable businesses after an initial investment in capacity-building, infrastructure and equipment. Using a centralized service center, transaction costs should decrease and supply and demand should become more balanced. Additionally, service and input suppliers will be able to serve more clients and have more security regarding payments.

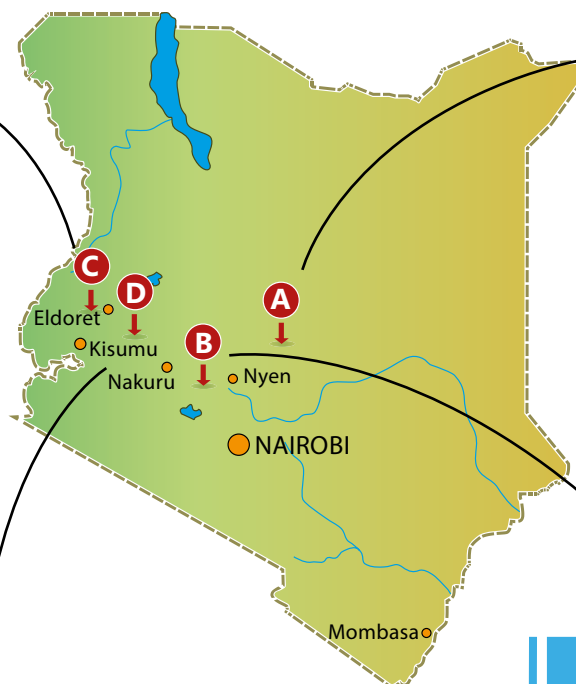
Expected indirect outcomes of establishing DBHs are that the transaction costs will drop sector wide as a result of increased efficiency, and that traded volumes and quality will be boosted by the availability of better services and input (Van der Lee and Giani, 2013).

The following four Dairy Business Hubs were studied in Kenya:

C

Tanykina Dairies Ltd.

Tanykina dairy plant is located in the North Rift, almost 35 km west of Eldoret. Tanykina was registered in 2003 and started its operations in 2005 with the support of Heifer International. In 2008 it became one of the pre-existing hubs in the EADD project. Tanykina serves over 11 000 smallscale farmers and aims to empower its members to improve and sustain their milk production. Moreover it facilitates farmer participation in the dairy value activities, enabling them to benefit from the value chain by adopting a hub model. In addition to transporting, bulking, chilling and marketing milk, the Tanykina hub facilitates services such as a healthcare scheme, financial services and farm-related services.



A

Meru Central Dairy Co-operative Union

Meru Central Dairy Co-operative Union was founded in May 2005 by 19 affiliated cooperatives. Currently the union serves around 30 000 members, of which 10 000 are active suppliers grouped in cooperatives (affiliated and non-affiliated), self-help groups and individuals. The aim of the organization is to serve their suppliers, giving them the best possible services and prices. Currently the union is supported by SNV, mainly in the area of extension.

B

Muki Farmers Co-operative Society

Muki Farmers Co-operative Society (FCS) is located in the central province of Kenya. It was established in 2001, growing out of the milk department started in 1998 as an additional activity of Muki SACCO. Muki FCS has around 11 500 members, of which 5050 are active. Next to Muki SACCO, the cooperative is closely collaborating with Muki Investment and the processor Kinangop Dairy Ltd. These four entities work together to protect the farmers' interests and to empower them economically. Similar to Meru Central, this cooperative is supported by SNV; in the past TNS provided business advice, links with other organizations and business visits.

D

Metkei Multipurpose Company Ltd.

Metkei chilling plant was established in 2009 and is located in Keiyo district, roughly 70 km southeast of Eldoret. Metkei is one of the DBHs established from 'scratch' by EADD. Currently it has 2524 members registered as shareholders, 6881 as milk suppliers and around 3200 active suppliers. Metkei sources milk through hired transporters, cooperatives, individuals and middlemen. Alongside transporting, bulking, chilling and marketing milk, the hub offers agroveter, artificial insemination and financial services to its suppliers.



Metkei Multi-purpose Company Ltd.

Value chain

All DBHs perform similar operations. However, it can be deduced from the brief descriptions that they have different backgrounds and consequently different organizational structures.

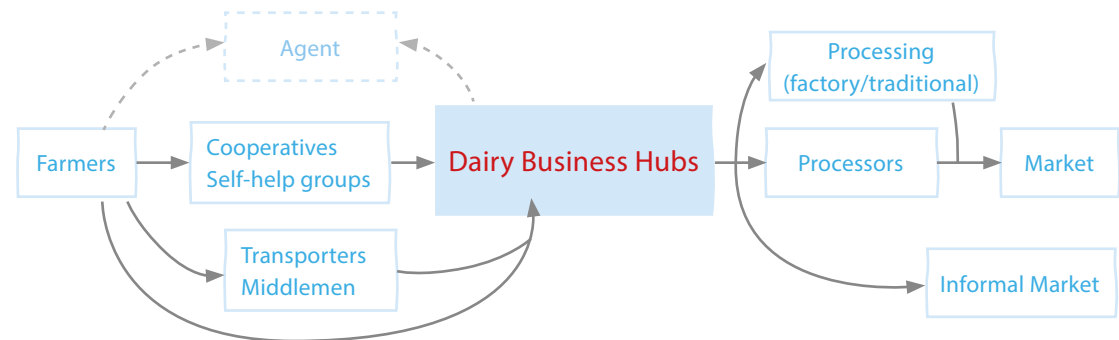


Figure 1
Simple representation of the DBH model

Figure 1 gives a representation of the DBH model. The solid lines represent the flows of milk in the chain and the dashed line represents the service delivery. Farmers can deliver their milk to the DBH; most farmers use a transporter, but when they live close to the DBH, they can deliver the milk themselves. Transporters might be organizations, meaning that cooperatives or self-help groups arrange the transport. Usually the milk is bulked at the cooperative level or other collection centers before it is taken to the DBH. Another option is for the DBH to employ transporters at a flat rate, or hire private transporters who are paid for each liter of milk they deliver. In Metkei milk might even be transported by middlemen (hawkers) who buy the milk from farmers paying cash and then sell it at a higher price to Metkei (or somewhere else). Metkei tolerates this practice because they do not want to lose milk from their dairy chain.

After the milk reaches the DBH, it can be chilled and sold to a processor, or to the informal market. Or if the DBH has the facility, the milk can be processed. Meru Union and Muki FCS have their own processing factories and Tanykina processes some of its milk into traditional products such as mala and yoghurt. Usually a combination of the former takes place. Meru Union have an agreement to sell milk to New KCC when they are not able to process all of it. As yet Muki FCS does not have enough market to sell all their milk and therefore part of it is sold to Brookside and New KCC. Tanykina sells to different processors (currently Buzeki and Sameer) and to the informal market, and also processes a small share. Only Metkei sells all its milk to one processor, Daima.

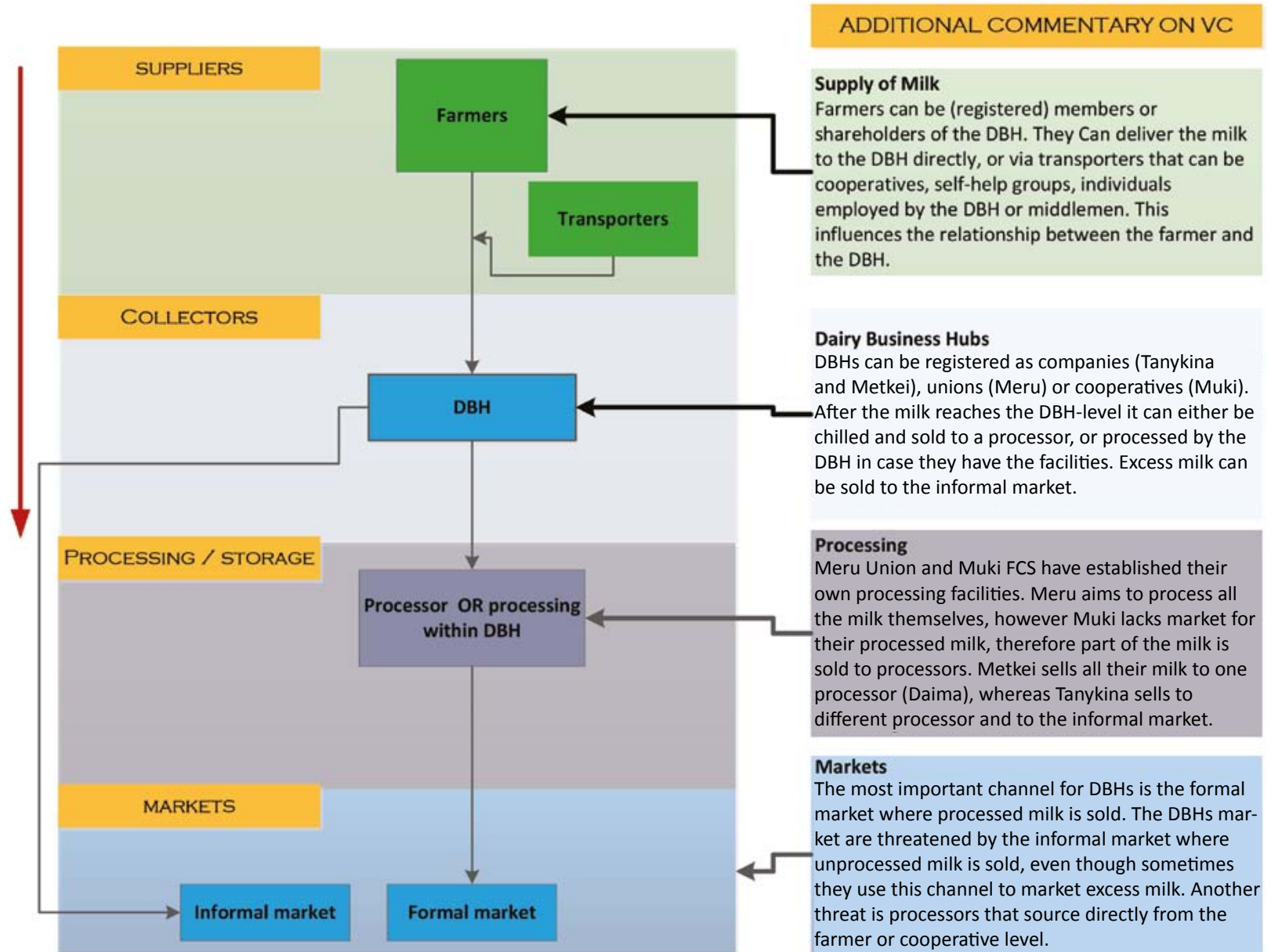


Figure 2
Value chain of Dairy
Business Hubs

2 Current inclusiveness of the chain

A cooperative or DBH unites the power of many smallholders in order to benefit from economies of scale regarding inputs, services and outputs. The drivers of inclusion that can be identified in the various DBHs are:

- › DBHs are founded and (partially) owned by farmers, who still influence the strategy of the organization.
- › The need to create a large farmer and supply base in order to bulk a substantial amount of milk, to attract cheaper services and to improve the negotiation position towards buyers.
- › Creating a competitive advantage over other milk buyers to attract farmers.

On the one hand, DBHs compete for farmers/milk against other milk buyers such as middlemen, other farmers' organizations and processors. Strategies used to attract farmers include offering good prices and/or services. On the other hand, DBHs need to have a strong negotiation position towards input suppliers, service providers and processors.



One of the 'village banks' connected to Tanykina Dairy, Kipkarren Branch

Promoting collaboration

In theory, DBHs are an ideal platform for bringing together all chain actors (farmers, DBHs, processors, input suppliers and service providers) and promoting collaboration between them. In reality the DBHs seem to mainly protect the interest of farmers, who often are involved both as suppliers and shareholders. However, the relationship between an average farmer and the DBH seems to be mainly based on milk supply and service delivery. This is illustrated by the large gaps between registered and active suppliers. All hubs have difficulties keeping the farmers loyal. Although there might be other reasons (e.g. dry cows) for a supplier to be inactive, the most important is that the farmer has started selling to another buyer. Two farmers who started selling to a processor indicated that their main reason was price. One of the farmers was still using some services provided by the DBH as there were no barriers to accessing them. Farmers that have remained with their DBH indicate that they prefer a stable market; others say that the presence of a DBH is important, stating that 'As Muki [...] established the milk factory and has permanent offices in the village, I can be sure they will stay'.

Incentives to join the chain

Within the EADD project, the aim was to give farmers a sense of ownership over their DBH. The community had to write a proposal in order to receive support from the project. After receiving the proposal, EADD studied whether the proposal was feasible. The conditions that the community had to meet for EADD to assist them included a minimum of 1 000 registered farmers contributing at least 10 % equity (estimated at 1–1.5 million KSh) of the total project cost. These conditions were part of an effort to give farmers a sense of ownership over the DBH project, but considering the high percentage of inactive members, it is questionable whether the incentives were enough.

Aggregation of supply

In Meru and Metkei, the link between the DBH and a large share of the farmers is established through cooperatives. In Metkei, the cooperatives were used as an easy place to reach groups of farmers.

Currently, the main function of the cooperative is to bulk milk and supply it to the DBH. In Metkei, the cooperative and its members are registered as one supplier, and the lump sum is paid to the cooperative which redistributes it to its farmers. Metkei is not able to influence the price that is paid by the cooperative to the farmers. In some cases the cooperative competes with the DBH, providing its own services to members, for example, running their own agro-vet shop.

Upgrading

The relationship between the processors and the DBH is similar to that shared between a seller and a buyer. When working together, both DBHs and processors could benefit from a stable relationship, increasing efficiency along the chain. Initially the processors felt threatened by the hubs, because prices of raw milk would increase. Moreover, both sides act as competitors as many DBHs are moving up the value chain by going into processing, whilst processors are moving down the value chain by establishing their own collection centers.

- › Both Muki and Meru have already established their own processing factory, which is their most important outlet. Muki still sells part of its milk to Brookside and NKCC, because they are not able to find a market for all the milk they collect. Meru Union has a contract with NKCC to take their milk in case of emergency, meaning NKCC will pay a rather low price for it.
- › Tanykina used to deliver to one of the major processors, but found that they were not honoring their contracts. Therefore the manager of Tanykina now prefers to cooperate with smaller processors, who are more flexible (e.g. regarding supply shortages) and honor their contracts. Moreover, the CEOs of smaller processors are present during contract negotiations, as opposed to major processors who would send an employee with no authority to negotiate. The manager of Tanykina believes they are able to maintain better relationships with smaller processors, and currently they are delivering to Sameer and Buzeki. The contracts between those processors and Tanykina contain a clause for extension. Furthermore the contracts agree on prices, volumes and quality standards. As the dairy business is volume-based, the processors seek consistency in supply. Therefore, the contracts contain penalties in case agreed volumes are not supplied, and in which case a lower price will be paid by the processor.

Access to input supply

Another good initiative, more closely related to dairy production, is the cooperation between the extension team and input suppliers. Representatives of input suppliers are invited to train farmers on certain topics, lowering extension costs for the DBHs and presenting the input suppliers with an opportunity to market their products. These initiatives are good examples of collaboration between the service sector and the DBHs, although overall this seems to be an underused opportunity. Most of the services offered by the DBHs are started and operated by the DBHs themselves. Although in some cases this might be profitable, not using established businesses and expertise presents risks for the DBHs.

Access to market

The DBHs have partly succeeded in providing better market opportunities for their members. Farmers indicate that they are facing little risk when selling their milk to DBHs, whereas in the past processors have proved to be unreliable partners (e.g. late payments). Nevertheless, DBHs have not succeeded in guaranteeing the highest price for their members, illustrated by the fact that members are side-selling to other processors or involved in the informal (cash-based) market. The bigger picture is that DBHs are forcing processors to pay higher prices.

Innovation/upgrading

Two of the DBHs, Meru Union and Muki FCS, have their own processing facilities. Many farmers support the idea of having processing facilities at DBH level, because they feel this will result in higher prices. However, the establishment of processing facilities in Meru and Muki has not resulted in significantly higher prices paid to farmers.

The manager of Tanykina indicated that the company had gained negotiation power, as they are offering something processors want. Tanykina has switched to selling to smaller processors, because smaller processors are more flexible in terms of negotiation and better in respecting contracts.

Metkei seems to have the most stable relationship with their processor Daima. Daima indicated that Metkei milk is used for the production of a specific product requiring a higher quality milk. If the manager of Metkei is offered a higher price by another processor, he will first contact Daima and inquire if they will go above that price.



Moreover, the contract with Daima goes further: Daima contributes 0.20 KSh per liter delivered and also pays for the maintenance of the tanker that is owned by Metkei and used to transport the milk from the DBH to the factories. Nonetheless, the manager of Metkei indicated that he is looking for innovative ways to add value to their milk (e.g. Milk ATM).

Transparency

The quality assurance manager of Metkei described the problem-solving process at their DBH. The quality check at the DBH consists of five tests: organoleptic (human sense), lactometer, alcohol, acidity and 10-min Resazurin test. Once a month Metkei sends a sample to an international laboratory in Nairobi to make sure the milk complies with the standards established by the Kenyan Dairy Board. The processor also performs quality tests at DBH level, meaning that a staff member of the processor checks the quality before the milk leaves Metkei. Once the milk is accepted, it becomes the responsibility of the processor. The same idea holds for the acceptance of milk by the DBH. Processor rejection is very rare according to the quality manager and it should be avoided, because it would mean that Metkei is obliged to pay the farmer even without receiving any payment themselves. When milk is rejected by the DBH, it is possible to trace its origin back to farmer level. For farmers that supply their milk individually, this is very easy. For cooperatives or milk that comes through transporters, it is more difficult as a 50-liter can might contain milk from eight to ten farmers. In that case the extension team will visit those farmers in order to locate the problem and afterwards they will support the farmer(s) to solve it.

Services

The DBH delivers services to farmers, usually through an agent, which might be a cooperative, service provider (e.g. AI specialist) or NGO. The types of services provided by DBHs include:

- › Transport, chilling and marketing;
- › Extension;
- › Agrovets;
- › AI services;
- › Veterinary services;
- › Cow insurance scheme;
- › Milk testing;
- › Administrative services (for cooperatives);
- › Buying semen and bulked feeds (for cooperatives);
- › FSA (Financial Services Association), SACCO or Village Bank;
- › Healthcare scheme. For example, on realizing the need for a community healthcare plan, Tanykina started an online search for partners to support them. After discovering that the national insurance scheme was not an appropriate alternative for their members, Tanykina got together with Health Insurance Fund (HIF) and PharmAccess to establish TCHP—a healthcare scheme. With the support of PharmAccess Foundation, five health centers in the Tanykina area were upgraded by providing materials and training. Although the scheme is 25 % subsidized by donors, it is a good example of how a DBH can cooperate with the service sector.

Usually farmers are able to access the services offered by the DBH on check-off. However, this is only possible for farmers who are active suppliers, meaning those

currently delivering milk. The check-off system entails that whenever a farmer uses a service (e.g. inputs, AI, insurance) from the DBH, the corresponding costs will be registered and deducted from the milk payment at the end of the month. At Metkei and Muki, the services are available to all farmers in the area on a cash basis. The reasons for offering their services to all farmers are to attract new ones and to serve the community, as the hubs also have social objectives. Next to the advantage of accessing the services through the check-off system, Muki recently started to subsidize the AI service for members, giving them a 100 KSh discount.

The DBHs run some of the services, while others are outsourced to service providers such as AI specialists. For example, Muki owns two agrovets shops and has several others as outlets. Moreover, some services are generating profits for the DBHs while other services operate at break-even. The primary reason for DBHs delivering services to their members seems to be to attract farmers and keep them loyal. Another reason could be that the service runs profitably for the DBH. A final reason could be in order to increase the milk quantities.

	Meru Union	Muki FCS	Tanykina	Metkei
Registered as	Cooperative	Cooperative	Company	Company
Founded	2005	2001	2003	2009
Collecting from	30 000 suppliers 10 000 active	11 500 suppliers 5 050 active	6 800 suppliers 3 500 active	6 881 suppliers 3 200 active
Services offered (excl. transport, chilling and marketing)	AI services Milk testing Administration* Semen and feeds*	SACCO Agrovet AI service Veterinary service Extension NHIF (on check-off)	Healthcare scheme Village bank Cow insurance Agrovet AI service Veterinary service Extension	FSA Agrovet AI service Veterinary service Extension
Selling to	Marketing their own brand	Marketing their own brand, Brookside, NKCC	Buzeki, Sameer, informal market	Daima
Processing	Yes	Yes	Only traditional	No

*Offered on cooperative level

Table 1

Key characteristics of the Dairy Business Hubs

‘Moreover, they take members out for training on invitation, but I have never been able to access one. I do not know why, because I have stopped teaching and they could have always invited my husband. There are people who always go and those who never go, I do not know the criteria they use for choosing.’ (Female farmer in Meru)

One of the strong aspects of the DBHs is that the check-off system allows farmers to use services or buy inputs before cash becomes available at the end of the month. When the farmer wants to use a service, the service provider can check the creditworthiness of the farmer. This is based on the amount of milk that the farmer has supplied so far and the services he has taken. At the end of the month, the costs of the services will be deducted from the payment. Cooperatives (Metkei and Meru) are usually registered as one supplier, therefore the check-off system also has to pass through the cooperatives. Usually, non-members or inactive farmers are not excluded from the services provided by the hubs; however, they cannot use the check-off system. Muki FCS is trying to incentivize membership by subsidizing the AI service with a reduction of 100 KSh for members.

The interviewed farmers seemed to be able to access the available services without trouble. Although in some areas the farmers were located quite far from the hub or the nearest service point, usually through informal ways they were always able to get the services. However, farmers are not always informed about the services that the DBH is offering. Similarly at Metkei, some farmers indicated that they would like to access services that, according to the manager, were already available. Another challenge regarding services was that farmers indicated that feed, and feed supplement, were too expensive for them.

The access to extension services seems to be less equal, partly due to limited resources and to choices made by Tanykina. For example, at Tanykina the extension team was reduced from six to two after EADD stopped financing it. Consequently, Tanykina started to focus efforts on the 20 percent highest producers, labeled ‘strategic farmers’. The reason for doing this is because they believe this approach will be more effective in securing a stable supply base. Providing training on invitation is not uncommon as one woman in Meru stated. Another issue revealed by a local capacity-builder of SNV is that participants in trainings are usually men, while women typically remain in charge of managing the dairy business at home.

Innovation

Farmers indicated that there are two ways for them to exert influence on the DBH. The first is by electing the board members and the second method is through the Annual General Meeting (AGM).

Important decisions in the DBHs are taken by the board of directors, while the management is responsible for executing these decisions. The boards always consist of representatives from different areas or cooperatives. Board members are elected by the farmers and usually serve for a period of three years, meaning that one-third of the board is changed every year. In theory, the farmers are represented by the board member from their area or cooperative. However usually average farmers are not elected to be board members. During the AGMs, the farmers are informed on developments of the DBH. Moreover, the plans for the coming year are discussed and farmers are able to give their input. When the DBH has plans to make an investment, the farmers have to agree and in case there is no consensus the decisions will be taken by voting.

Another method for farmers to influence the development at the hub is that they can choose to invest or not. Sometimes, when a hub is starting a (new) service, they will ask the farmers to contribute by offering shares. Recently, when Metkei started an FSA, farmers were requested to buy shares at 300 KSh. In case farmers do not support the new service by buying shares, the hub will not be able to execute their plan or will have to look for other means of finance. These mechanisms are ways in which farmers can actively influence the development of their DBH.

Farmers can also passively influence the development of the hub. Assuming that the services made available to farmers are actually based on business (and not subsidies), it is essential that these services are demanded by farmers. When farmers are not interested, the services will not survive.

Measurement of success

Regarding the EADD hubs, it is clear that the program is monitoring its progress, a task mainly performed by ILRI. According to an employee of ILRI, the monitoring task was characterized by a shift from M&E (monitoring and evaluation) to MLE (monitoring, learning and evaluation).



Farmers are informed about the performance of the hubs during the AGMs. According to one farmer at Metkei, balance sheets are presented to farmers. Another shareholder of Metkei, who has decided to sell his milk to NKCC, indicated he would like the company to be more transparent about their performance. He believes the figures are manipulated so that farmers cannot understand them; he thinks he should be receiving dividends, but according to the numbers presented a loss was made.

Exclusion

Some drivers of exclusion could also be witnessed mainly regarding the extension service and the board structures:

- › Tanykina has scaled down their extension service since the EADD project is no longer financing it. Instead of six, they now employ two extension officers. In order to make their extension system more efficient, they have started to focus their efforts on around 600 'strategic farmers'—the 20% with the highest daily supply. They have taken this measure in order to create a stable supply base. Meru Union currently relies on SNV for extension, while SNV has selected several high potential cooperatives to work with.
- › In all cases the board of the DBH was elected directly or through representatives by farmers. Although the Kenyan constitution states that (in cooperatives) at least one third of the board should consist of women, in reality boards contain mostly older men. Similarly, youths are also underrepresented on the DBH boards.

Table 2
Women on DBH boards

	Meru	Muki	Tanykina	Metkei
 Number of board members	10	12	13	13
 Number of women on the board	1	1	2	0

3 Possibility to increase inclusiveness

In addition to board representation and improving extension services, increased transparency is key to success. For DBHs which do not have their own processing facilities, the weakest link in the value chain is their relationship with processors. Processors consider DBHs a threat to their business, and so resulting in poor linkages between these two parties, with potentially negative impacts on the long-term sustainability of DBHs. This weak relation prompts the DBHs to look into opportunities to start their own processing ventures, which is a risky investment because of the high initial costs, the competition from much bigger processors and the fact that the expertise required is entirely different. NKCC has opened a new department responsible for managing relationships with their suppliers. This department is headed by a former employee of Heifer International who participated in the EADD project. One of the actions undertaken by this department was to benchmark the price along the value chain. Initially farmers accused processors of taking an excessive share of the milk price. The department investigated costs made along the full value chain and agreed with the farmers on the share of the milk price that was received by each actor. After the prices were benchmarked, pricing stopped being an issue. Actions like these can improve the transparency in the value chain leading to more trust between chain actors.



Sign presenting overview of Tanykina Dairy Plant Ltd.

4 Is the business model scalable?

Scaling can be subdivided in 'scaling up' and 'scaling out'. 'Scaling up' refers to growing numbers of people, activities or products without changing the underlying structure; 'scaling out' means replicating the intervention (in this case operating as a dairy business hub) in a different context. Both scaling processes are relevant to dairy business hubs. Scaling up could, for example, mean including more farmers, handling higher amounts of milk or venturing into new services for farmers or into new parts of the value chain. Another idea coined to upscale the DBH approach is to consolidate several hubs into a cluster, centralizing common services that can profit from economies of scale (SNV, 2013). Scaling out would involve establishing a dairy business hub in a new area or country.

The three typical ways for a business model to go to scale (business growth, expansion via partners, and business model replication) are potentially viable for DBHs. Farmers may be interested to start benefitting (more) from the approach. Processors may be interested in lowering the transaction costs in their collection chains by using DBHs. The government may be interested in scaling the DBH approach in order to regulate the dairy sector. And finally, development partners may be interested in scaling the DBH approach, because it is a promising way of facilitating pro-poor economic and social development.

In reality, there are plans to scale the DBH model within Kenya and several other East African countries. However, only the future will prove whether this approach will be successful and, most importantly, sustainable. Key issues to scaling include:

Commercial viability of the business models

All cases have benefited to some extent from external aid. In case of Tanykina and Metkei, the EADD project was a major contributor. EADD did not plan to give gifts; the total costs for the hub establishment were financed through 10 % farmer equity, 30 % interested-free loan provided by the project and 60 % commercial loan. Muki FCS was established through a split from Muki SACCO, but this hub was championed by a rich local entrepreneur, who is still the major shareholder. In the case of Meru Union it is not entirely clear how the hub was established, although it also originated from a SACCO. The hubs were not only supported for the start-up costs, but also received aid from various partners, usually for extension, capacity-building and materials (motor-bikes, ICT, production machinery). It is unclear whether the support has enabled the hubs to grow faster or whether it is necessary to keep them economically viable.

Other external factors limiting the ability to scale commercially

All hubs are struggling to keep farmers loyal to them and prevent side-selling to other buyers. Especially in milk-deficit areas or places close to urban centers, there is strong competition from the informal market. Recently a new VAT act was passed in Kenya raising the prices of processed dairy products compared to raw milk. Such measures can limit the potential for scaling DBHs and the Kenyan dairy sector in general.

It might be more challenging to scale the hub approach to other countries. EADD has adapted the hub approach, for example, in Uganda where they have started pre-bulking hubs. There, it was not appropriate for farmers to start bulking milk, either because they already received high prices or because of their geographical spread; therefore farmers are connected through services and not through bulking. This shows that the hub approach is a flexible one, a fact that naturally increases the potential scalability of the concept.

Market demand

This challenge does not relate to the DBH approach, but it does apply to the services that are offered through the DBH. Newnham (2013) stresses that it should not be assumed that a 'need' translates into sustainable (market) demand. The two important challenges for smallholders in Kenya are feeding and breeding. Regardless, many projects focused on feeding or breeding (AI) have failed. Adding to Newnham's statement, it should not be assumed that smallholders always aim to perform 'best practices'. For example, AI is not accepted in all cultures, therefore it makes no sense to start offering farmers AI services where it is culturally not acceptable.



Gitongho Dairy FCS, one of the cooperatives affiliated to Meru Union

Access to growth capital

Regarding the DBHs, the highest costs are typically the start-up costs. In case of Tanykina and Metkei the EADD project helped to finance these costs; 10 % of total project costs were obtained through farmer equity, 30 % from an interest-free loan provided by the EADD project and the remaining 60 % from a commercial loan. The idea is that after helping with the establishment of the DBH, the business will grow and become sustainable without external funding. The other two hubs, Muki FCS and Meru Union, grew out of other (financial) organizations. In the case of Meru Union the government helped the DBH to clear an outstanding loan with the organization it split from.

Given that the hub approach is designed for smallholders—and it is unlikely that the farmers' organizations will be able to cover the start-up costs—scaling out will depend on the interest of potential partner organizations such as development partners, banks and the government. Another option would be to have hubs established by the processors or by private entrepreneurs, rather than by farmers. Once the hubs are established they can start scaling up, extending their business.

The first option for investment finance is to request the farmers whether they are willing to contribute. Farmers can sometimes invest in shares when a new service is established.

Another option is to partner with other organizations, as illustrated by Tanykina with their health-care plan and visa cards. As a Meru staff member indicated: *'We are able to receive a lot of support, because everybody wants to be associated with the development of an upcoming company'*. Moreover, there seems to be an internal driver within the DBH model to grow; more services attract more farmers and vice versa. However, farmers will only be able to use extra services if their (dairy) income grows. Nevertheless, a pitfall would be that farmers reduce farm inputs in order to use other services.

Structural and capacity constraints to business growth

Legal structure

The hubs that were established or supported by the EADD consortium are registered as companies. In Kenya several options for registration exist, but the Company Act was preferred over the Cooperative Act because it limits government interference. Under the Cooperative Act, DBHs will be restrained to a certain catchment area and not allowed to make a profit.

Management capacity

Challenges regarding management are more difficult to overcome. According to some people working for the EADD project, capacity-building of DBH board members was one of the main challenges. Because the board is established through democratic elections, it may not necessarily consist of people who know how to run a business, but of people who are popular or respected within the community. EADD tried to overcome these challenges by facilitating capacity-building of existing board members and establishing structures to make sure new board members receive training as well. Another measure was that during the project, a business advisor from TNS was present at all board meetings in order to give advice. A TNS employee stated that it is critical to find a balance between the development of the business and the development of the board.



Economies of scale for the business model

The DBH model is based on economies of scale. A bigger scale will allow a DBH to offer more, better and cheaper services. But the opportunities to create economies of scale do not stop at the individual DBH. SNV (2013) argues that in order to improve the financial performance of a hub, consolidating several hubs into a cluster should be considered. Some of the services that could be handled at cluster level are already identified:

- › Price negotiations.
- › Bulk purchasing of feeds and other agro-vet products. Some chilling hubs have invested in feed mills. With a cluster model, economies of scale as well as hub profitability can be enhanced.
- › Bulk storage of feeds and other products.
- › Veterinary, AI and extension services.
- › Financial services.
- › Shared services including management, accounting and ICT etc. (SNV, 2013 p. 27).

Unstable trading relationships

A factor that might make processors and private entrepreneurs reluctant to invest in the sector is unstable trading relations. For example, why would you invest in training if you cannot be sure those farmers will be producing for you?

Overall, the DBH approach has a lot of potential for scalability, especially within Kenya. This potential is increased by the interest of development and commercial partners in the hubs. A threat to the scalability of the model is the weak link with processing companies, a challenge that both SNV and EADD have identified and that will be considered in future projects.

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Sector overview

Cassava is the most important staple food in Mozambique. Four provinces in central and northern Mozambique (Zambezia, Nampula, Cabo Delgado and Niassa) produce over 85 % of the country's cassava production (FAO, 2010). Due to its adaptation to poor soil conditions and

1 Introduction

virtually no requirements of costly inputs, cassava is mainly cultivated by small-scale growers. Classified as a subsistence crop, nearly 65 % of all small-holder farmers in Mozambique grow cassava, 90 % of which is destined for home consumption.

Despite the sustained impact of cassava on millions of households, the government of Mozambique has been reluctant to promote specific state regulations and policies targeting the cassava sub-sector. The trend changed in 2011 when SABMiller launched the first commercial cassava-based beer, Impala. The central government had agreed to reduce the excise rate for the newly created beer. The measure has already had a positive impact for thousands of small-scale farmers in Nampula and represents a key measure for transforming the cassava sector in Mozambique.



Workers fill a plastic bag with the end-product: cassava cake



Mozambique

DADTCO

Yeray Saavedra



Background information on the company

While being a key dietary staple broadly cultivated across Africa, cassava has remained a subsistence crop. Inefficient transport and processing facilities, low market demand and rapid spoilage after harvest were the common denominators for poor market linkages of cassava growers in Africa. In order to unlock the door to commercialization, Peter Bolt, the founder of DADTCO (Dutch Agricultural Development & Trading Company) devised a new technology that brought the cassava processing factory to the farmers. The patented Autonomous Mobile Processing Unit (or AMPU) processes the perishable cassava cake into a product that can be stored up to 6 months before being used as raw material for many food items as well as for industrial applications.



Farmers unload their harvested cassava from a DADTCO's transport truck at the site

DADTCO started in 2002 with the innovative idea of providing a new fresh market for small-scale cassava growers. Taking off in Nigeria, the business activities have been expanded to Mozambique and Ghana. Future planning aims at further growth in other countries and their markets, including Zambia, Tanzania and Kenya.

The goals of the innovation (www.DADTCO.nl) were:

- › engaging with farmers as business partners to create a commercial and profitable cassava production/market;
- › increasing smallholder farmers' sustainable production;
- › improving income of farmers through increased cassava production and sales;
- › addressing post-harvest losses and adding value by processing cassava near the farms.

In order to shift cassava from a subsistence to a cash crop, the Netherlands' Directorate-General for International Cooperation (DGIS), the International Fertilizer Development Center (IFDC) and DADTCO launched a public-private partnership (PPP) known as Cassava+.

DADTCO Mandioca Moçambique Lda (DMM)

DADTCO Mozambique started its operations in Nampula in 2011. By 2013, the company had introduced a second AMPU in Nambui. Since its establishment, the AMPU located in Nampula has collected cassava at least once from about 4 600 small-scale farmers in proximity (max. 50 km) to the AMPU sites. At the moment, DADTCO sources from two main districts: Ribaué and Murrupula. The AMPU stays on each site from 4 to 6 months, moving on to the other site once the harvest campaign is finished. AMPU will be returning to the sites each year. At the time of writing this case study (2013), DADTCO commenced the construction of a third AMPU site in Meeuburi.

Value chain

Figure 1 details the actors and processes involved in the value chain (VC). Additional commentary can be found at the right side of the figure.

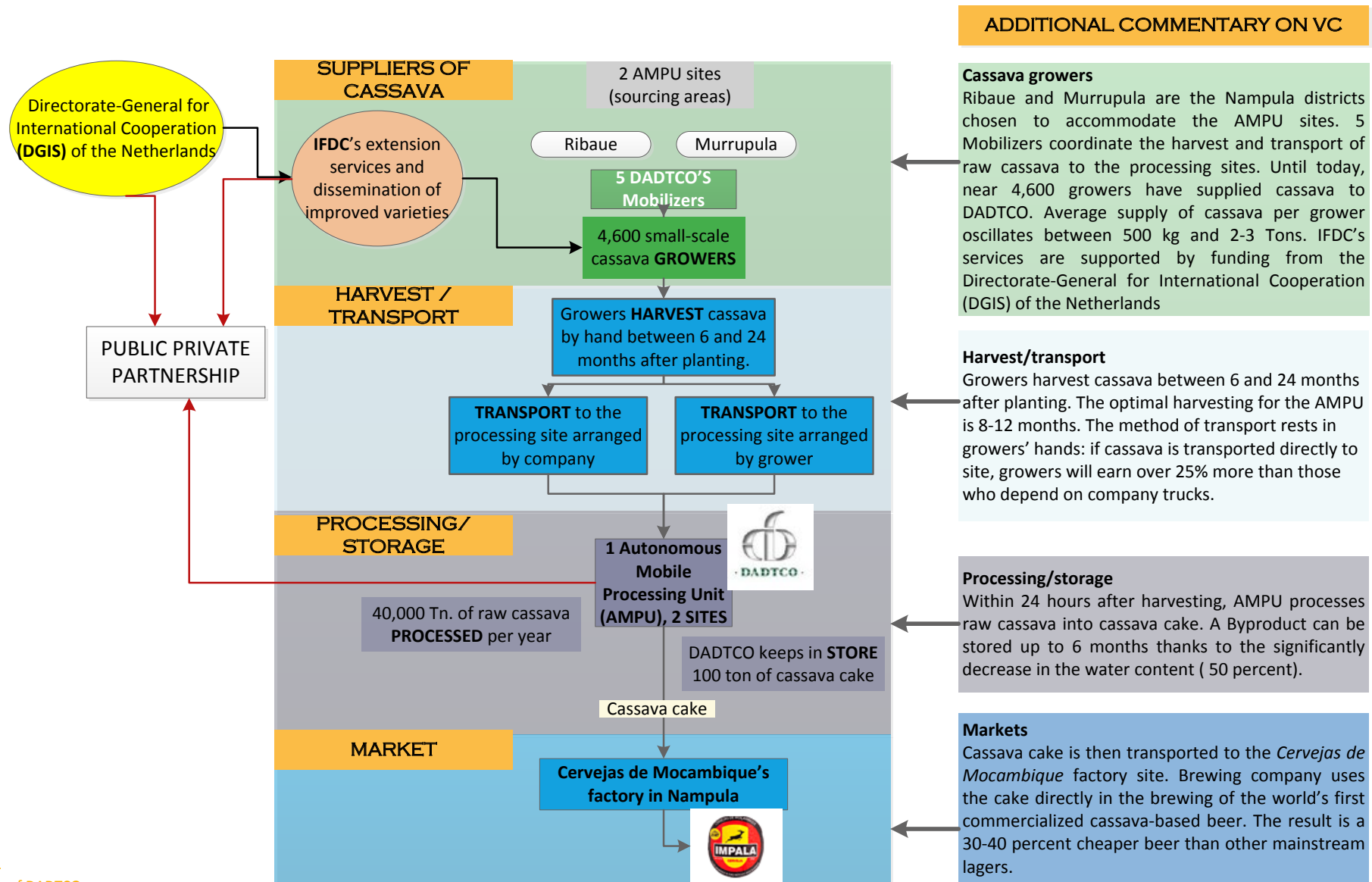


Figure 1
 Value chain of DADTCO



2 Current inclusiveness of the chain

Phases in the development of the model

The DADTCO-IFDC partnership has followed an approach of identifying, approaching and promoting long-lasting relationships between cassava growers and DADTCO.

1 First phase

Reaching out to farmers

With the new company established, and with a newly acquired client, Cervejas de Moçambique (CDM) and AMPU sites set up, DADTCO faced the first big challenge of reaching out to small-scale farmers and ensuring that farmers understand DADTCO's business model.

DADTCO aims to source from cassava growing areas located near the AMPU sites. However, before the sourcing of cassava takes place, DADTCO must present its business case to the community leaders and farmers' organizations in the intended area of penetration. In cooperation with staff from the International Fertilizer Development Center (IFDC) and government agricultural extension officer(s), DADTCO organizes a series of explanatory meetings about the company, collection points or price. In addition, the team spends time with the audience addressing remaining questions or doubts. After these sessions, DADTCO and community leaders normally come to terms on the harvest period, collection points and the role of DADTCO's extension officer as a point of contact.

2 Second phase

Organizing the supply chain

On average, AMPU stays on one site for four to six months before moving on to the next site. During that period, the sourcing must be organized in a way that all farmers who are willing to sell their cassava can harvest and deliver the product to the collection point or directly to the AMPU site within 24 hours after harvest. This phase is crucial for farmer inclusion: a reliable sourcing process builds up trust needed for prosperous cooperation between the company and farmers.

3 Third phase

Catalyzing changes (current phase)

After several months of material and intangible investment, DADTCO and partners are now in a position to transform the cassava sector in Nampula. During the transition from subsistence to commercial cassava farming, DADTCO and IFDC identified three major aspects:

- 1. Local vs improved varieties:** local varieties are prone to pest and disease occurrence, a more fibrous core, lower starch content and yield potential. Improved varieties address these problems and offer a new commercially viable alternative to growers.
- 2. Increasing yields through more efficient spacing:** cassava growers in Nampula use a 2 x 2 meter planting scheme. To increase yields, IFDC and DADTCO recommend a 1 x 0.75 or 1 x 0.8 meter spacing. The recommendation is to have 10 000 cassava plants in 1 ha, or the equivalent in a given area.
- 3. Good management practices:** cassava can be grown on most soils. However, the crop has a reputation of depleting a large amount of nutrients from the soil, which often results in acute reduction in soil fertility. To avoid further soil depletion DADTCO and IFDC suggest including an alternative crop to rotate with cassava. Partners also emphasize the importance of good weed management, prevention of soil erosion, appropriate growing cycle, and potential uses for cassava leaves. Though currently limited to plot demonstrations, another topic in IFDC's curricula is the use of fertilizer.

As a combined result of the ongoing activities, DADTCO's and IFDC's forecasts expect that yields will increase from the current 3–5 tons per ha to 15–25 tons per ha of cassava in the future (without the use of fertilizer). A large part of this increase will be improved cassava with high starch content and high dry matter content.

What makes the business model inclusive?

DADTCO's innovative and collaborative approach is creating an emerging market for fresh cassava in Nampula. At the core of the business lies the Mobile Processing Unit, an exciting and versatile innovative machine designed to process fresh cassava into cassava cake onsite. How does this innovation help small-scale growers to generate income?

First, growers' overall acceptance of this new business has been overwhelming, with an increasing number of them showing interest in supplying cassava to DADTCO. This is due to careful organization of the supply chain and providing a reasonable price.

Second, DADTCO's partners, IFDC and the Ministry of Agriculture, follow up with the growers on the objectives of improving management practices and introducing improved varieties.

Third, having a strong relationship with the sole buyer, CDM, is instrumental for consolidating a viable commercial sector. If this commercialization channel came to an end, the inclusion of growers in the business would decrease.

Mechanisms that promote inclusion

Price

Although growers' aspiration is always to receive the highest return, DADTCO provides a reasonable and steady price. DADTCO pays 1.5 MZN/kg of cassava collected at the growing area and 2 MZN/kg of cassava delivered by growers themselves to the AMPU site. Usually, the company issues the payment to the growers on the site.

In the case of sun-dried cassava—the only market alternative for growers to cash in—the revenues are 10–15 % higher. However, discounting the labor invested and considering a conversion rate of 1 kg fresh cassava = 0.25 kg of dried cassava, growers are better off when opting for the fresh market.

Sharing improved local varieties and best practices with farmers

It is in the interest of both DADTCO and small-scale growers to work closely together towards a vibrant and reliable cassava sector. Concerned players agree that this transformation needs to be supported by improved local varieties and better management practices. In this way, DADTCO would get a steadier and high starch-content supply of improved cassava. Additionally, growers would pave the way for a successful transition to commercial cassava farming.

On the road to cassava development, IFDC plays a central role. The NGO takes responsibility for the training of farmers and facilitation of improved seeds. The former revolves around provision of training on topics such as best crop practices (i.e. proper weeding and spacing), intercropping or land management. Training takes place in the sourcing areas and brings together growers from different regions and community leaders. IFDC estimates that around 3 000 farmers have been trained in cassava management practices since the training program started in 2011.

With regards to improved seeds, IFDC holds the patent for 4 cassava varieties that were purchased from the IIAM (Mozambique Institute of Agricultural Research) in 2011. A year later, IFDC contracted Corridor Agro Limited (CAL) to multiply 11 hectares planted with new varieties in Namialo. Stems were later distributed among 100 lead growers under the condition that 80 % of new stems had to be given to 5–6 other cassava farmers. Those farmers receiving the new varieties must also follow the 80/20 rule. With this initiative, DADTCO and IFDC set their hopes on an efficient dissemination system. DADTCO representatives estimate that cassava farmers will start supplying improved cassava in 2014.



Challenges

DADTCO's mission 'to initiate a cassava revolution' is as ambitious as challenging. Many factors come into play and, if mishandled, may hamper drastically the inclusion of growers.

Threat to food security

Improvements in productivity are linked to increased supply of cassava in Nampula. However, until those yield increases are improved, the area continues to gamble with its food security. Further compounding this problem, is that farmers focus on the immediate short-term opportunities and sell much of their increased production in bulk. While this does benefit the farmer with cash, it also often places the farmer at risk in regards to food security. This may cause food shortages later on during the year. Another issue that might threaten food security is the harvesting time. Sometimes, households face a dilemma on harvesting; selling the cassava when income is needed rather than at its optimal growth. DADTCO's harvesting preference oscillates between 8–16 months. However, no specific threshold has been set. As the market for cassava is open to cassava harvested at different stages, households' needs might well cause food shortages later on in the year. Unintended risks like these must be addressed quickly in an effort to harmonize and align business practices and food security.

Natural hazards

In the likely event of drought or floods, small-scale growers turn to their 'insurance' crops. As a survivor of fires or droughts, cassava offers a vital source of food to millions of families. DADTCO understands that the threat of hunger may harm the company's future activities.

Supply chain management

When harvested, cassava spoils within 48 hours. Accordingly, DADTCO must coordinate the collection and transport to the site very carefully. Here, the roles of mobilizers and supply chain managers are key since they understand the timing and logistics needed in sourcing cassava from small-scale growers. As the company grows, such issues need to be given more attention and a larger amount of resources.

Need for research and monitoring

Unchaining the commercialization of cassava in Mozambique requires a deep understanding of the social-economic-environmental impact on local households. Related assessments should include topics such as gender relations, access to services, and/or use of generated income. A monitoring and evaluating system would also help to avoid undesired effects on food security or increased alcohol consumption.

Dependence on a sole buyer

The prosperous commercial relationship between DADTCO and SABMiller, parent company of the subsidiary CDM, extends into other countries. CDM and DADTCO's good understanding and alignment have helped to consolidate the inclusion of growers into a new market. Despite that, the cassava market has been limited to processing of cassava cake entirely sold to CDM. In addition to this market dependence, the potential of

the cassava flour and starch industry in Mozambique remains far from being fully realized¹. Therefore, if relations begin to stagnate, it is growers who will experience first-hand the consequences of a volatile market with as yet no feasible alternatives.

Appearance of new large-scale farmers

Apparently, DADTCO's resounding success has awakened a great level of interest to invest in cassava production. Reportedly, new 'growers' will be in possession of large numbers of hectares (ha) of land, and forecasts predict 30–40 t/ha of improved cassava at harvest. In principle, investors would set their sights on DADTCO as its sourcing policy entitles any growers to supply their cassava confidently. However, pushing away small-scale growers from the fresh market is still far from reality. DADTCO's sourcing needs are expected to grow. Thus, there would be room for new, bigger growers to enter the sector. Nevertheless, in the medium term DADTCO will inevitably face a sourcing dilemma—whether to rely entirely on small-scale sourcing, or to introduce a joint scheme (small-large scale) sourcing from both small and large-scale farmers.

Providing training and knowledge to all small-scale growers

Small-scale farmers are scattered in villages and are not organized. This lack of organization (hence the importance of community leaders) limits the reach of IFDC's extension services. In addition, IFDC has limited capacity to fully leverage its curricula within a reasonable timeframe. Increasing the number of growers in the near future will raise even more concerns on this side.

¹At the time of writing this report, DADTCO and a Japanese Multinational Corporation were in talks to set up a starch factory in Nampula.

Success factors

'Impala beer is the world's first commercialized cassava-based beer. It is brewed using 70 % cassava and its price in the market is 30 % cheaper than mainstream lager. This is made possible by a reduced tax rate agreed with the government of Mozambique.'

So far, 4 600 small-scale growers have benefited from DADTCO's innovative operation in Nampula since 2011. Projections for 2014 point to a continuation of the upward trend. To help shed light on the success resulting from growers' inclusion in the company, the following key factors were identified:

› Success of the beer produced from cassava cake

Launched in November 2011, Impala beer (product of CDM) is the world's first commercialized cassava-based beer. It is brewed using 70 % cassava and its price in the market is 30 % cheaper than mainstream lager. This is made possible by a reduced tax rate agreed with the government of Mozambique. The sales of Impala are increasing rapidly, and now account for more than 5 % of CDM's production. For 2013, the production target was set at 365 000 hectolitre litres. Therefore, the good reception of the Impala beer makes the supply of cassava essential to the continued success of the business.



Family place their freshly harvested cassava in 25-30 kg plastic, blue containers before weighing

› Partnership between IFDC and DADTCO

Both entities work in unison to bring about positive changes in Nampula's rural households. DADTCO manages the cassava value chain and IFDC is responsible for the knowledge transfer of best agricultural practices and dissemination of improved genetic material. As a consequence, the inclusion of growers in the business model has a natural follow-up in terms of extending the services provided by IFDC.

› Effective supply chain management

As challenging as it gets, organizing the cassava harvest, pick up, transport, cake processing and transport to the CDM factory has been carried out with great diligence.



3 Possibility to increase inclusiveness

DADTCO and small-scale farmers move forward together in the shift from subsistence to commercial farming. However, apart from creating a new fresh cassava market, a number of areas were identified that can consolidate and strengthen the relations between small-scale growers and DADTCO.

Cassava in animal feed

Dried peel of cassava is widely used as an ingredient in animal feed. Although livestock production in Nampula remains at a modest level, the provision of dried peel by DADTCO can enable cassava farmers to diversify their economic activity and ease their dependence on the agricultural production.

Water for irrigation

The mobile processing unit consumes high volumes of water. Once the processing ends, waste water drops in a deep borehole disposal. To make better use of the waste, DADTCO considers installing a filtration system so that the filtered water can later be used for irrigation, thereby helping to promote a sustainable environment.



Family loads the freshly harvested cassava roots onto trays before weighing

4 Is the business model scalable?

A robust fresh cassava market is forging in Nampula. The growing success of the Impala beer reassures DADTCO to promote commercial cassava production. Therefore, its business partners, the small-scale growers, will continue to thrive under the current conditions. The demand for cassava cake is rapidly increasing, an unequivocal indication of the upcoming trend: more growers obtaining higher yields with improved varieties. DADTCO's penetration in new sourcing areas builds upon the good organization of the supply chain at previous stages. However, understanding and handling a greater supply base will inevitably require an in-depth analysis of the sustainability of the activity. Aspects such as price, transport, training, environmental performance, social inclusion and economic impact will need to be assessed and monitored in a continuous fashion. The underlying rationale is that the model must continue to deliver the expected social-economic and environmental impact to the actors involved.



Workers deposit fresh cassava on the conveyer belt—the process continues with the washing & peeling phase

On the other hand, the demand across Africa for cassava byproducts—such as high-quality cassava flour (HQCF), starch and glucose—is expected to rise due to urbanization and global increases in grain prices. As in Mozambique, cassava cake is the only byproduct with a thriving industry. Starch and flour industries are yet to be developed, although their realization in the short- to medium term is certain. When that point is reached, the market demand will increase drastically, thus benefitting Mozambique's small-scale farmers.



Is this business model replicable?

The current business model in Mozambique builds on the success of DADTCO's first experience in Nigeria. To shift from subsistence to commercial cassava farming across Africa, DADTCO will make use of partnerships and the value chain approach that have been recently applied in Nigeria, Mozambique and Ghana. In this equation, SABMiller represents a reliable and strategic partner to continue developing the commercialization of cassava in Africa.



Cassava cake packed into bags and placed in containers

Sector overview

Egg production in Mozambique has been growing for several years. From 2004 to 2012 production increased by 80 %, climbing to 96 % for the period 2009–2012. Maputo Province accounts for 51.3 % of the total egg production in the country, followed by Manica Province with 41.4 %, and

1 Introduction

Nampula with 5.4 %. In 2012, the family sector had contributed to 14 % of total egg production (10 135 259 dozen).

While national egg production is rapidly growing, the import of eggs for consumption into Mozambique is also enjoying steady growth. In 2009, the number of table eggs imported from neighboring countries such as Zambia, South Africa and Malawi amounted to 10 000 000 dozen. Due to the high cost of layers, feed and facilities (layer houses), FAO estimates that 90 % of the eggs consumed in the country are cheap imported eggs from neighboring countries. These eggs are said to be inferior in quality.



Eggs are collected and placed on cardboards before transportation to the distribution centre.



Mozambique

Mozambique Fresh Eggs

Yeray Saavedra



Despite staggering growth, the sector is still a long way from reaching its ceiling. In 2011, FAO stipulated that the total quantity of eggs consumed in 2011, including those imported, was 7 990 998 dozen, which corresponds to an average availability for consumption of about 4 eggs per person per year. Recent communications with the interviewees reveal that the consumption per capita per year is double this number today, yet far from the average national consumption in countries such as South Africa (156 eggs per capita per annum) or Zambia (48).

Eggs can be bought either fresh at markets and shops, or cooked from local vendors who roam the streets daily.

'Recent communications with the interviewees reveal that the consumption per capita per year is about 8 eggs/person today, which is far from the average national consumption in countries such as South Africa (156 eggs per capita per annum) or Zambia (48).'

Background information on the company

August 2005 was the start of today's most successful chicken operation in northern Mozambique, New Horizons. But while business laid the groundwork for growth, part owner and entrepreneur Andrew Cunningham mulled over other business ideas. Since the early stages of the broiler operation, he and his colleague Wilfred van der Kooi realized the potential market for table eggs in Mozambique. At the time, New Horizons was already producing layer chicks and animal feed for external companies.

After several meetings with relevant actors within the sector, New Horizons partnered with brothers, Bruce and Kim Dooyema, part owners of Center Fresh Egg Farm, a privately held chicken egg company in Iowa, USA. The brothers had learned about New Horizons' interest in starting an egg operation in Mozambique, and as they are also committed to using business to combat poverty, an agreement was swiftly reached. Shortly after, another partner, Eggs for Africa, joined the venture.

The shareholding of the newly formed company, **Mozambique Fresh Eggs** (hereafter referred to as **MFE**), would be shaped as follows:

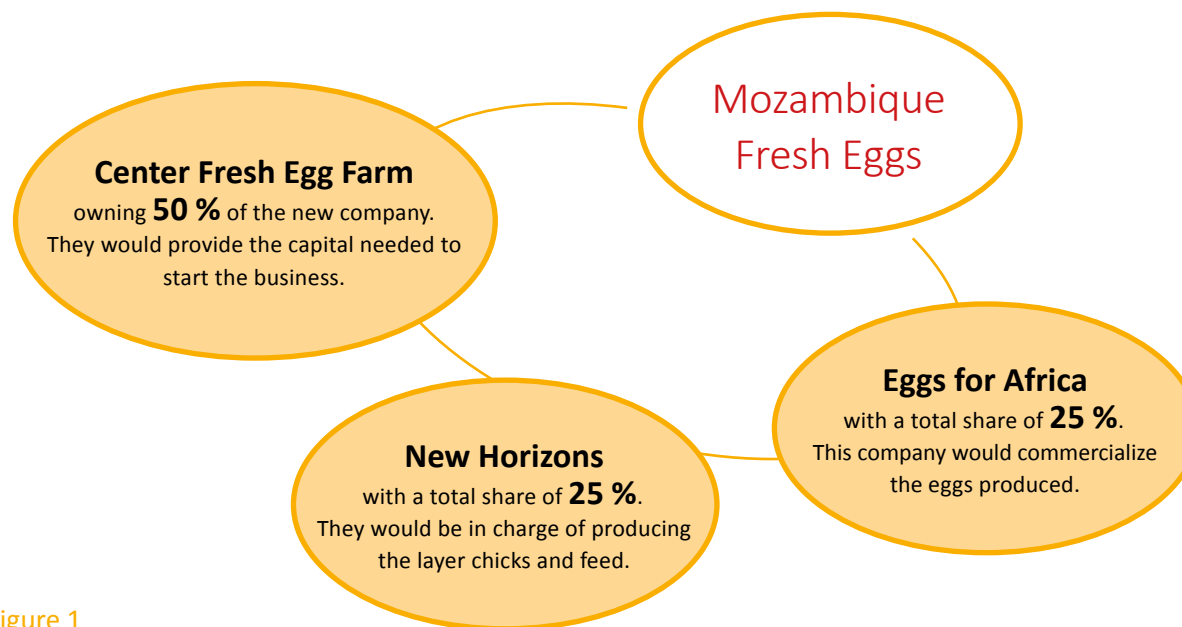


Figure 1
Shareholding of Mozambique Fresh Eggs

Value chain

As in the case of New Horizons, MFE has designed an out-layer model by which 12 small-scale farmers look after 500 specialized layer chicks for 55–60 weeks on average. Layers produce eggs (according to a laying curve), which are collected and transported to Eggs for Africa premises, the company that will market these eggs (in addition to the ones produced at their premises) in Nampula. Figure 1 depicts all segments of MFE’s value chain.

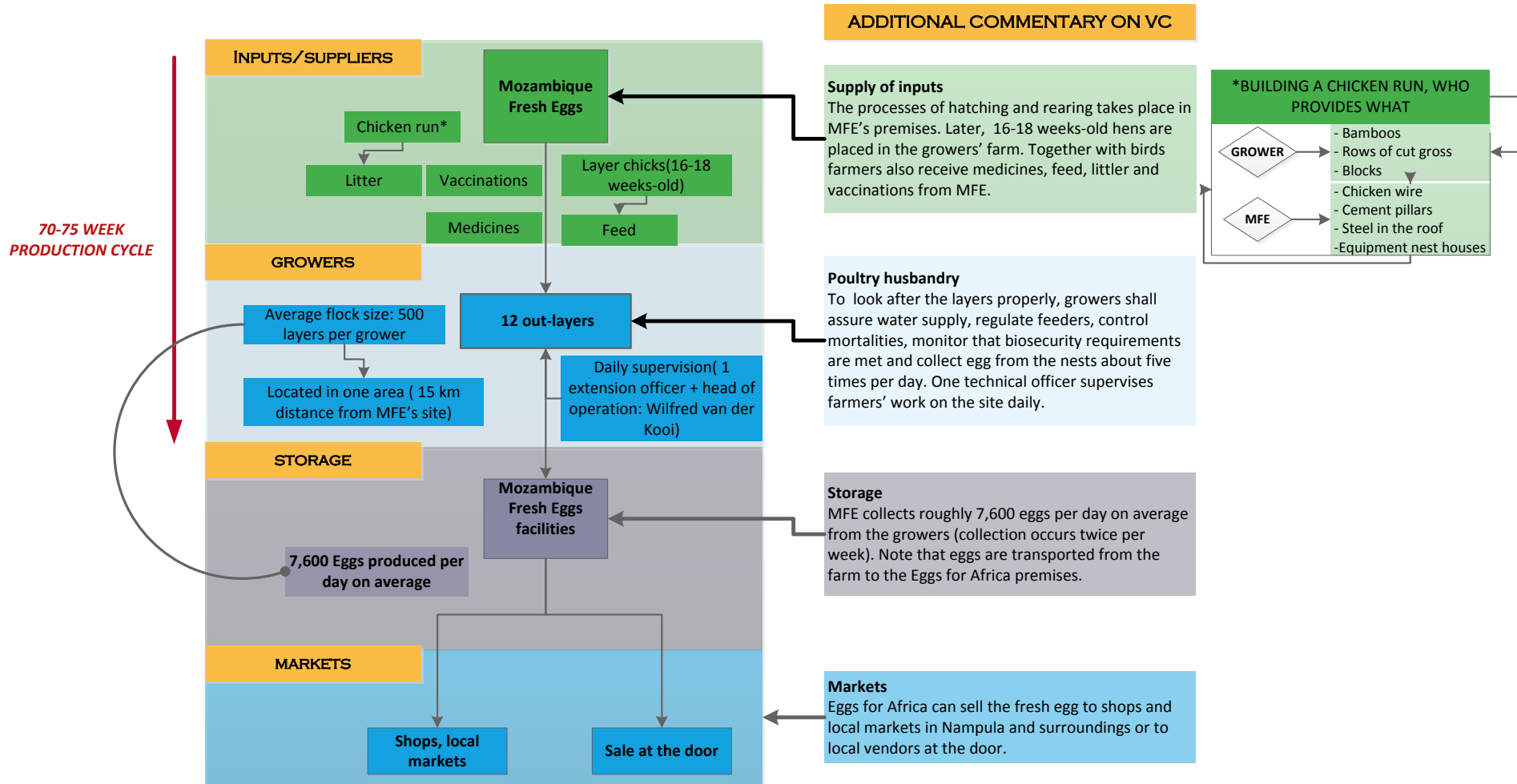


Figure 2
Value chain of Mozambique Fresh Eggs



2 Current inclusiveness of the chain

Drivers for inclusion

Mozambique Fresh Eggs (MFE) builds on the principles that have driven New Horizons over the years. Wilfred van der Kooi, MFE's managing director, also believes that Africa must become productive in a sustainable and profitable way. According to this view, much of the money invested in Africa by international organizations, donors or NGOs has failed to address the bigger picture and take a more balanced approach. Instead, Agri-businesses in Africa should be seen in terms of adding value to the environment: farmers can be solid actors in any business models if they are properly motivated to do what they do best. But for this to happen, leading actors must walk the extra mile, or in other words, they must have faith in the approach, going beyond short-term profitability.

In the words of van der Kooi, three factors should shape how inclusive businesses in Africa are conceived:

1. **Market linkages and partnerships:** often skillful small-scale farmers struggle to find suitable markets for their crops. In contrast, private companies possess the capacity to access modern and developed markets. Hence agri-business and farmers can capitalize on each other's strengths by establishing fruitful partnerships.
2. **Capital:** this is another constraint for farmers wanting to start their own business. A company, however, can allocate or invest resources when needed.
3. **Knowledge:** this is where farmers can make a meaningful impact on the business and, by extension, on their lives. To give an example: before MFE was created, New Horizons produced eggs for consumption on a small scale. Mortalities oscillated between 10–15 birds per week. Today, mortalities have dropped significantly thanks to the growers' good management.

Phases in the development of the model

As a newly established company (late 2012), MFE is still adapting the business model to the local conditions.

Initial (current) phase

The out-layer scheme is anchored on three pillars:

1. Growers must be located near the company's premises (maximum 15 km). In addition, any candidate that aspires to join the company must comply with the following requirements:
 - › access to land (being in possession of land title);
 - › access to water;
 - › family members must be willing to help with the activity;
 - › growers must show a contagious motivation.

2. Every grower is provided with layers, equipment and some materials to build the chicken run. MFE will make daily visits to the farms.
3. The financial model revolves around three variables: mortalities, lay percentage and feed consumption.

Because the layers' production cycle lasts between 52–56 weeks, MFE decided to launch the out-layer scheme with a sizeable number of growers (12) to monitor results and address problems more efficiently. One thing that illustrates the newness of the operation is that only one grower is nearing the cycle's completion as of end 2013.

Mechanisms that promote inclusion

In contrast to the poultry operation, proper management does not guarantee egg-layer chickens will lay in accordance with the projected laying curve. In reality, the growers and the company are better off when the actual laying curve comes closer to the projected one. For this reason, MFE has sought a perfect alignment between growers and business since the project inception. This translated into the following effective mechanisms:

- A Financial back-up**

Commercial egg production requires in the first place bio-secure, equipped chicken runs. As depicted in *Figure 1*, MFE provides most of the material and equipment needed, although growers also contribute some of their own materials. Financially speaking, setting up a chicken run is an investment worth USD 5 000 (layers aside), and the expenses are covered by the company. MFE is nevertheless entitled to remove all materials in case of continued poor performance or theft. Therefore, without the financial back-up growers would face insurmountable challenges.
- B Daily supervision**

One technical supervisor tours all farms daily. Areas that need continuous monitoring are the number of eggs produced, feed/water consumption and mortalities, and other minor features. Should problems arise, MFE can tackle and resolve the issue before it escalates.
- C Financial model**

The underlying rationale is clear: layers must produce eggs close to their maximum potential (laying curve), at a low feed consumption ratio and mortalities should not surpass 7–8 per week. If all these things are in place, growers can earn up to 3–4 times the minimum salary in Mozambique (MZN 2 000). In other words, the model rewards good management and penalizes low productivity. If layers are consistently producing eggs well below their potential, MFE discounts that negative differential in the payment. In other words, growers that produce say 15 % below their potential will suffer a 15 % cut in the profits over the period in question. MFE reserves the right to terminate the contractual relationship with growers if low productivity persists.
- D In-kind benefits**

In addition to the monthly payment, growers also receive between 10–15 eggs per week for home consumption. Moreover, MFE plans to donate all equipment and building materials to growers after 4 or 5 successful cycles. This measure should motivate growers to work towards a better future for themselves and their families.



Challenges

MFE is dedicated to ensuring a smooth inclusion of growers into the company, thus challenges derive from the normal course of business: delivery of feed or vaccinations in a timely manner, efficient egg collection and high layer performance.

However, side-selling can be an obstacle to increasing grower inclusion. Growers manage on average 500 layers, which are expected to follow the projected laying curve. Yet, layers often seem to lay below their potential. In principle, the reason behind this would seem to be poor management of water and/or feed. However, if these factors are under control, experience shows that growers are involved in the side-selling of eggs (or even birds). Even though it is hard to calculate the number of eggs sold or their destination, MFE has no choice but to remove all the birds, take away the moveable building materials and terminate the relationship. To avoid temptations MFE lets growers keep between 10–15 eggs per week so their families can enjoy the product of their labor.

Success factors

Although the company has only been operating for a year, the recent success is a result of the following:

› Improved layers

The cycle of layers lasts 74 weeks counting from birth to the end of the productive cycle. MFE places birds on the farms at approximately week 17, once the rearing period is complete. This phase is crucial for achieving a high laying percentage in the production phase.

› Company expertise

General Manager Wilfred van der Kooij has been producing table eggs himself for many years and knows everything about the business. Together with the technical officer, he tours the farms daily, monitors the activities and counsels growers on the best management practices. The result is sustained production throughout the farms.

› Effective division of tasks

As explained in the first section, three partners share the ownership of the company and each has its role to play: New Horizons manufactures the animal feed, Eggs for Africa commercializes them and Center Fresh Egg Farm provides the financial muscle to build chicken runs and keep up with payments. Seemingly, all these mesh together nicely for the benefit of the business and its growers.

› Understanding of family/cultural issues

Throughout its 8 years of existence, the parent company New Horizons has gained a profound understanding of community standards and cultural values. This knowledge played an instrumental role when setting up the fresh eggs operation. Aspects such as selection of growers, training and supervision were diligently addressed beforehand.

3 Possibility to increase inclusiveness

Due to the nature of the business, MFE dedicates part of its time to smoothing the process of grower inclusion in the company. As in any other egg operation, MFE must ensure that the production scheme is a near-flawless system by which the production flow meets the projections. If actual levels of production deviate from the objective, both the company and growers will face immediate problems. When proper inclusion is achieved, MFE will effectively capitalize on the growers' adequate management, which will in turn reinforce the relationship between the growers and the company.

What can be done to foster inclusion today? To carry out the activity, growers are provided with layers, building materials, equipment, feed and even daily supervision. The only input growers need to be able to afford is water.

Often, growers struggle to get the water from nearby boreholes to the farm. This collection and transport takes place several times per day. Therefore, securing water supply would undoubtedly ease the burden on the growers. The rationale is that, with all inputs secured, growers can attain the objective of producing eggs at the required pace, consuming the right amount of feed/water and maintaining low bird mortalities. To quote the words of Wilfred van der Kooi: 'If good farmers keep up the good work, they will soon find themselves caught in a profitable business with plenty of opportunities to continue growing'.

As in the case of New Horizons, the use of manure at the end of the cycle might foster inclusiveness by virtue of an extra source of income. Manure can be recycled in the coming cycle, used as fertilizer for crops or sold to neighboring farmers. Therefore, growers need to become more aware of the beneficial impact that manure can have on the farm and take advantage of the situation.



Egg layers flock

'If good farmers keep up the good work, they will soon find themselves caught in a profitable business with plenty of opportunities to continue growing.'



4 Is the business model scalable?

MFE planned to expand their supply base to 8 more growers by the end of 2013. The target is to have 20 growers, each managing nearly 1 000 birds on average. If this target is met, egg production would fluctuate between 15 000 and 17 000 eggs a day, which would make MFE one of the largest fresh egg companies in Mozambique.

Mirroring the factors that New Horizons considered for scaling up its business model, MFE has taken into account the following aspects:

- › **Desire for greater impact**
MFE could have decided to simply increase the amount of birds that each grower is producing. Instead, the company is committed to reaching out to more families that could benefit from the activity. This measure finds its rationale in the vision of the business: a successful agri-business for and by the local communities.
- › **Market demand**
The national consumption of fresh eggs oscillates between 8–10 eggs per capita per annum, well below other African countries' standards. With regard to market competitors, low-quality eggs from neighboring countries (e.g. eggs from Malawi into Nampula) are the only competitive force at the moment and consumer acceptance is said to be dropping as fresh local eggs become available.
- › **No structural or capacity constraints to growing**
As the business grows financing, logistics and data management issues set the limits to further development. At this early stage, however, an expansion of the supply base requires slight increases in overhead costs (investment on chicken runs aside) weighed against high potential benefits. Logistical and data management aspects are shown to be under control.
- › **Efficient commercialization**
The company in charge of the egg marketing, Eggs for Africa, has years of experience in the sector. When approached, they showed willingness to handle a larger amount of product whenever feasible. Their diligence and market presence are instrumental to the success of the company.

Is this business model replicable?

Yes, although with exceptions. There are some technical challenges associated with the out-layer model that could prevent new schemes from having comparable success.

Above all, the hatching and rearing process must be carried out by skilled personnel with suitable equipment. Anything that limits either the hatching or subsequent chicks' growth will affect their ability to lay well. Both processes take place on the company's premises, where personnel have been trained by professionals with extensive experience in the poultry business.

Once laying hens have reached sexual maturity at 16–18 weeks, MFE proceeds to place them at the growers' farms. This step precedes the other major challenge: making sure that birds lay close to their potential or laying curve. Growers must provide feed and water in a timely manner, as well as ensure the continued health of the layers. Any deviation from these practices will cause a drop in the number of eggs produced, which in turn will have an impact on business profitability. Also in an activity such as fresh egg production, side-selling should be handled cautiously. The company needs to trust the growers' good will, although it should never be complacent in this area.

In short, to successfully replicate the business model there must be a widespread belief that involved communities is the way to go, as well as technical knowledge, financial capital and the willingness to engage with small-scale farmers and local communities, although this is likely to be at the expense of short-term profitability.

Sector overview

The poultry sector in Mozambique has undergone major changes in recent years. In 2005, the national chicken industry was on the brink of collapse. Inflation in the local economy and avian flu outbreaks in South Africa had left the poultry sector adrift (FAO, 2012). In the light of these

1 Introduction

events, Brazilian chicken saw a surge in the number of imports, many of which were later flagged for low quality and unclear origin.

In 2005 with a view to promoting local economic growth, Technoserve, a non-profit organization that develops business solutions to poverty around the world, launched a program to promote locally produced chicken. At the time of project inception, local growers produced only 1/3 of total local consumption. In 2012, local growers provided 85 % of the total consumption.

Today, as in other African countries such as Zimbabwe or Angola, poultry consumption is on the rise. With an increase of 21 % over the 2000–2010 period, the government of Mozambique expects future demand to triple in the next 10 years. Presumably, increased demand will create significant business opportunities through the value chain.



Technical officer Miguel explaining how to regulate a chicken feeder.

8

Mozambique

Novos Horizontes

Yeray Saavedra





The type of feeder used by farmers: a long and conical feeder

Background information on the company

Novos Horizontes (New Horizons)—hereafter referred to as NH—covers a stretch of 300 hectares and is located 15 km east of Mozambique's third largest city, Nampula. It was established in 2004 and started operations in 2006. At the time of its creation, Andrew Cunningham and his brother Peter were the sole shareholders. In 2010, an American investor joined the business, expanding to three the company's ownership. Nearly nine years into its existence, NH employs over 300 workers and has the following business operations:

- › **Breeder chicken operation**
Eight chicken houses host around 56 000 chickens. Eggs produced go to the next phase/process i.e. hatching.
- › **Hatchery**
Hatching machines breed approximately 90 000 eggs per week into day-old chicks, of which 50 % are sold in the market and the other half placed in the out-growers farms.
- › **Out-growers**
The heart of the business, small-scale farmers look after the chickens for the cycle period (6 weeks of production + 2 weeks of cleaning).
- › **Abattoir**
Six-week-old broilers are slaughtered and frozen prior to sale to wholesalers and retailers.
- › **Feed mill**
Animal feed is manufactured and distributed to the different business operations.

Value chain

Although the company's revenues stem from different business segments, the out-growers scheme represents the bulk of profits. To make sense of the growers' activity within the company and to explain the current inclusiveness of the chain, a detailed value chain diagram is shown in Figure 1. Additional commentary can be found at the right side of the figure.

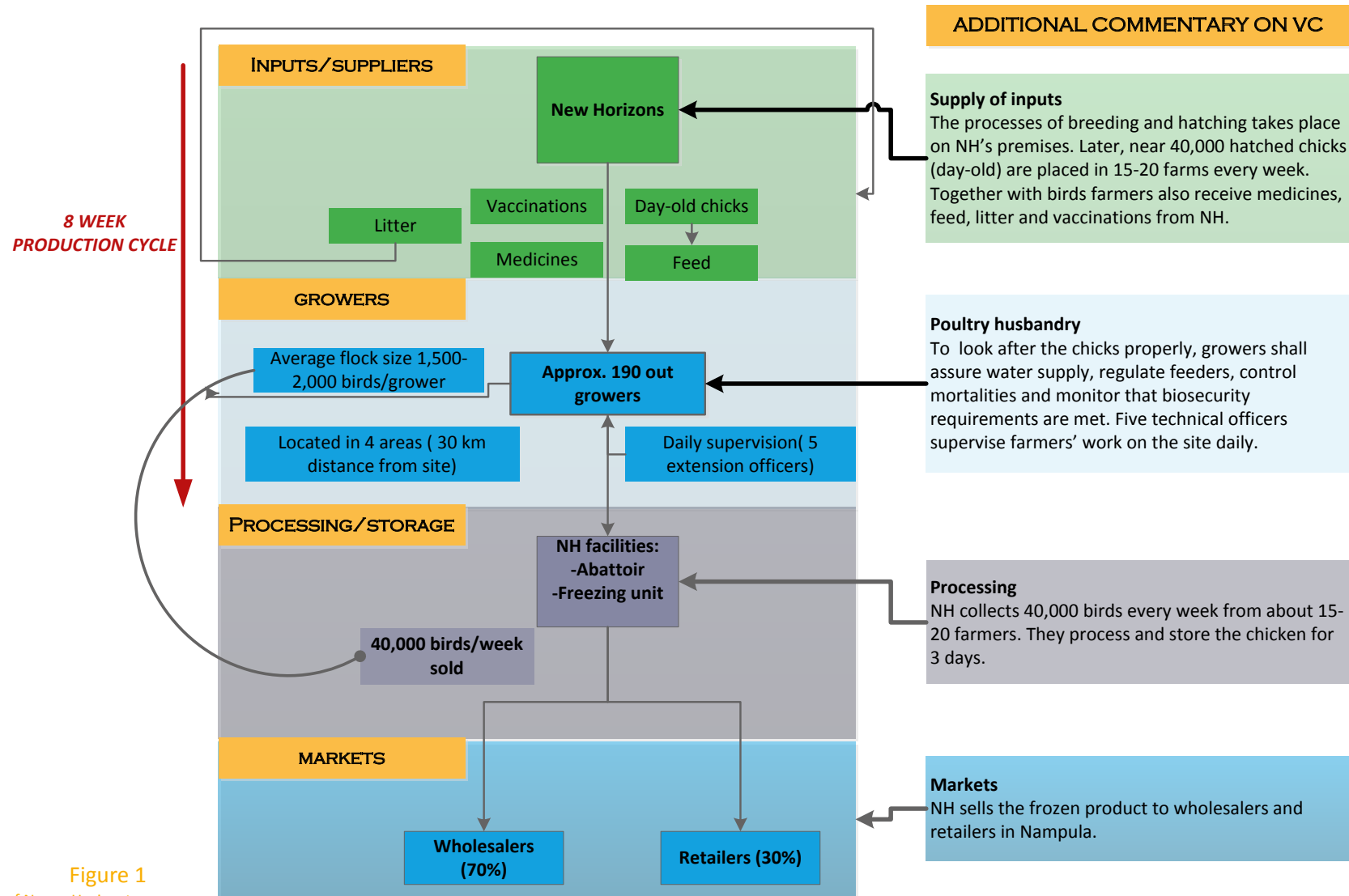


Figure 1
Value chain of Novos Horizontes



Owner's vision

A man of faith, courage and business vision, Andrew Cunningham is determined to make a real and significant impact on the local community. He believes today's African society must be developed for a more promising future and certainly not at the expense of the poorest. On the road to development, he considers that business in the agricultural/livestock sector should be the vehicle for people's personal and professional empowerment in Africa.

As a farmer with more than 20 years in the sector, Cunningham has always included small-scale farmers in his businesses with resounding success. His collaboration with farmers started in 1996 back in his mother country Zimbabwe. Together with his brother Peter, Andrew put in place a successful poultry and ostrich enterprise.

However, in 2004 he and his family felt the call to move to Mozambique and start a new operation. The reason that led to this decision was rooted in a business diversification strategy. With a convulsed political situation shaking Zimbabwe's economic sectors, Andrew and his brother decided to expand business boundaries and set up another operation in a foreign country. The reasons for which they chose Mozambique were:

- › Andrew and his family had spent some time in the country back in the early 90s. During that time, they came to grips with the language and basic cultural issues.
- › Commonly, a chicken business is set in a location where grains (maize or soya) for feed are available at a relatively low price. The north of Mozambique fulfilled this requirement.
- › To replicate the model used in Zimbabwe, the chosen location required small-scale farmers spread across the area. Northern Mozambique satisfied this requirement as well.
- › The new site had to be located near a large city with a growing poultry market and good communications to ease transportation.



Side view of a broiler house

Considering all the above, Nampula in northern Mozambique seemed the best possible option. Today, NH can boast of making a constant developmental impact in the area. Nearly 200 local families earn an average income three times higher than the minimum salary in Mozambique (MZN 2 000), and NH plans to produce more chickens in the future.

However, despite its current business success the company has gone through difficult moments in the past. Mr Cunningham recalls:

'During the first two or three years the company made big losses; however, we never lost sight of what was important for us: to have a positive impact on people's lives through a successful agri-business'.

There is no doubt that efforts have paid off handsomely so far.

2 Current inclusiveness of the chain

Drivers for inclusion

New Horizons (NH) was born out of Andrew Cunningham's keen sense of business and profound Christian faith. Although for some these may seem contradictory, he believes that business in Africa must procure a developmental impact on the local economy, and the best way to accomplish this is through local empowerment.

In his view, to achieve a consistent business development in Africa, entrepreneurs and national/international organizations should consider the following principles:

'We might not be the company that produces the best chicken, but we are proud to be the best company managing the interface between smallholders and large-scale farmers.'

- A** Development in Africa must be directed at sustainable business growth. Often, international aid, NGOs and international organizations fail to provide good results as far as the long-term sustainability of African enterprises is concerned. Investment should occur in a way that benefits all actors in the chain and has a long-lasting effect on their economies.
- B** Focus the growth of the business on market opportunities. In contrast, the life of input-driven systems barely lasts more than a year, with controversial results. Here, an understanding of the environment surrounding the forthcoming developmental action is crucial.
- C** The world needs to realize the potential of small-scale farmers. When the company was set up, the Cunninghams realized that for the business to be prosperous, they would need a vast range of farmers: those with more means to sustain an important investment if needed up front, and those who, despite their lack of capital, possess the skills and motivation to be efficient farmers in the future.
- D** When development impacts are the objective, parallel activities should be designed to foster entrepreneurship and innovation among growers.
- E** 'Ecosystem for success.' In America, the population benefit from a stimulating environment in which to do business. If equipped with the appropriate skills and financial muscle, entrepreneurs can strive with apparent ease. Despite this enabling environment, entrepreneurs in America count for less than 2 % of the population. In Africa, this figure drops. Therefore, parties need to consider the ease with which business can be done in the area prior to project design.

The combination of the above principles led to the creation of 'Novos Horizontes'. With regard to the importance that those principles had in the company's success, realizing the potential of small-scale farmers has been very instrumental. In the words of Andrew Cunningham, it is on this principle that the company has built its solid position in the market.



Phases in the development of the model

NH began its business activity in 2005 and along the way the out-grower model has experienced substantial changes.

1 First phase

Absorbing the risk

Initially, NH partnered with 210 small-scale farmers who produced 500 birds per cycle on average. At the time the poultry sector was taking its first steps in Nampula, so NH was bound to absorb much of the financial risk associated with any new business. Not only were the farmers given the day-old chicks, feed, medicines and vaccinations, but the company also carried the financial burden of building the chicken runs and providing the feeders and drinkers.

2 Second phase

Problems mount

During the first three years the company faced increasing hardships. Problems were detected in almost every step of the chain. But the biggest struggle was the scant regard shown by growers for the business in hand. Broiler chicken requires efficient management and a great deal of honesty. The latter entails the avoidance of chick/feed side-selling and long-term commitment to the endeavour. Whether as a result of erratic management or deceptive behaviour, margins were squeezed and losses ensued. The decline in business sent a clear message to Cunningham: the model had to be redesigned. From the initial 210 growers, only 50 continued with the scheme, this time producing about 1 500 chicks per cycle. With a more sizeable supply base, NH laid the groundwork for a lasting recovery.

3 Third phase

Sharing the risk—and profits—with the out-grower

Over the following months neighbouring farmers started to show a genuine interest in the activity. Chastened by early events, NH only allowed farmers with demonstrable upfront commitment to join the company. In other words, farmers had to build the chicken run to NH specifications at their own expense, as well as provide drinkers and feeders. These measures had a two-fold objective: to share the risk of setting up a new chicken farm with the farmer and to make farmers implicitly responsible for the success/failure of the company.

4 Fourth phase

Letting the farmer fly

The new requirements set by NH catalysed the creation of a new generation of farmers with a strong sense of responsibility and good business skills. The number of farmers quickly increased from 50 to 190 producing 2 000 chickens per cycle. Of the current growers, about 5 to 10 grow about 6 500 birds each and most of them plan to continue operating under the umbrella of the company.

Mechanisms that promote inclusion

NH is a vertically integrated poultry operation. From the breeding process to the chicken sale, NH monitors every step thoroughly. But what makes the business model inclusive is the out-grower model put in place. Commonly, the business operations of a poultry company are clustered on the company's site under intensive or semi-intensive productive systems.

NH, staying true to its principles, employs a different scheme: small-scale farmers are responsible for growing the day-old chicks off-site using inputs provided by the company. To help make the scheme inclusive, NH has come up with simple but effective mechanisms over the years that have spurred greater inclusion of farmers in the company's supply base.

NH only works with husband-wife households

Many of the first farmers who joined the company back in 2006 often spent their profits unwisely. What followed next was an abandonment of activity after pay-day. To put an end to this problem, NH decided to engage more actively with the farmers' wives, who were believed to possess superior management skills. Results proved that the empowerment of the women has brought about noticeable improvements to the household's quality of life. For example, the family would invest part of the profits in paying off their debt (if any), buying water buckets or installing a new roof.

Sharing risk and profits with farmers

NH spread the risk associated with the operation by having numerous growers. Those with a proven record of reliability and high performance make up for the losses accrued during unprofitable cycles. Meanwhile, farmers who do perform well earn higher returns and face almost no risk of being excluded in the near future.

By contrast, starters or struggling farmers need to turn their efforts into profits in the space of two to three cycles if they want to stay in the company. However, those farmers with the right motivation are bound to succeed under the current model.

Daily supervision

In the words of the head of the out-growers division at NH, 'provided with feed and water, chickens will grow, surely'. The winning formula is clear; with basic management farmers will obtain the required 1.1–1.2 kg chickens at the end of the cycle. However, managing feed and water might be problematic for some farmers. These factors, coupled with the need to vaccinate chickens at days 1, 7, 14 and 18, have the potential to increase bird mortality drastically.

For these reasons, five technical officers make daily visits to all farms in their assigned area to monitor activities. Each farm has a record sheet in which details about weight, vaccinations or feed consumption are registered.

As one might expect, daily supervision not only helps solve problems on the farm, but also motivates farmers to play an active part in the success of the business.

Enabling environment for farmers to realize their potential

NH usually encourages the best farmers to take on a larger number of birds in future cycles.

Financial model

Payment to farmers is based on the so-called 'Efficiency Performance Factor (EPF)'. The model combines the weight of the birds, the days taken to achieve that weight, mortality and the feed conversion ratio to estimate the earnings owed to the growers. As it is conceived, growers can significantly increase their earnings by improving their management skills. NH does not negotiate credit or debt with growers.

Method of payment

Upon agreement, farmers can receive cash, goods or a combination of both at the end of the cycle. Goods can be as diverse as drinkers, feeders or toys for the children. In addition to the payment NH also provides farmers with empty feed sacks and 10 chickens worth MZN 100 each on the market.



Challenges

We can differentiate between short-term challenges and medium- to long-term challenges that might pose a risk for the model, the company or both.

Short-term challenges

› Water

Although growers are currently well integrated in the company's structure, access to water poses a risk of exclusion in the near future. The majority of farmers have access to boreholes near their farms. However, with likely increases in the number of birds under management the demand for water will inevitably increase. This, together with the pressure of climate change, makes water a limiting factor for further inclusion.

› Side-selling

Looking at the big picture, a flock size of nearly 2 000 birds is worth the equivalent of 10 years of the monthly minimum salary (MZN 2 000). Growers, especially those recently included, may feel tempted to sell a fewer number of chickens (or feed) hoping that the wrongdoing will go unnoticed. However, with the financial model in place, this type of practice is duly reflected in the final profits made by the growers. If, despite good husbandry practices, profits are still minimal, side-selling is the next likely reason behind poor performance. Should low revenues continue in future cycles, NH would have no choice but to terminate the contractual relationship with the growers.

Medium- to long-term challenges

The following is a list of issues that pose a risk for the company in the medium to long term and by extension to the out-grower scheme, an instrumental part of the business.

› Cash flow issues/feed

Above all, NH must ensure the flow of feed to growers. Any disruption at this end can cause tremendous damage to the company.

› Logistics and access to information

To support business growth, the company constantly revises its data management system and logistics. Aiming to ease the management of the two factors, NH is working towards implementing a dynamic information system across the company. As for the logistics, NH hopes that the state of roads and access to farms will improve in the future, so that transportation time could be reduced.

› Committed workers

NH carefully selects its personnel according to its values and the general commitment to NH's mission. Misalignment between company and workers should be avoided for the benefit of the business in the future.

› Challenges posed by the environment (grain/poultry market)

According to Cunningham's projections, the price of maize and soya is likely to go down in coming years, which may consequently increase the pressure on demand. On the other hand, the poultry market is growing steadily and no changes are expected in the near future.

Success factors

NH's success relies on the mechanisms for business inclusion described earlier, as well as the following factors:

› Managing the interface between different farmers' size

NH grows at a rate of 40 % every year. To sustain this growth some growers have effectively increased the amount of birds under management. However, the majority of farmers need to build capacity at a slower rhythm before they can take on more production. As a result, NH efficiently manages a wide range of growers with different demands and needs.

› Understanding cultural/family issues

Besides the technical/logistical challenges, engaging with small-scale farmers requires a proper understanding of cultural and family issues. NH uses the knowledge gained by working with local communities to strength relations with growers.



Interior of broiler house

3 Possibility to increase inclusiveness

In the poultry business, the cost of feed represents up to 70–80 percent of the total business expenditures. For NH, the feed manufactured on site and composed of a mixture of maize, soya and additives, represents 70 % of total costs. To keep up with the monthly demand, NH—through intermediaries—buys large amounts of maize and soya produced by smallholders in northern Mozambique. To foster inclusiveness in the future, NH plans to source only from farmers that take part in the out-grower model. Diversifying the farmers' portfolio of products not only strengthens relations, but also results in a greater developmental impact on the local economy.

Yet, the scheme is far from completion. The main constraint at this point is to develop the appropriate business model for the future. Farmers should diversify their operations to manage risks, and NH could be instrumental to this process.

NH is considering two scenarios:

1. An external company takes over the diversification endeavour and becomes a business partner of NH.
2. NH works directly on the diversification with current or future suppliers (growers).

External factors should also be considered when developing the business model. Severe weather conditions, water shortages and agricultural policies will play a role in the shaping the future model.

Other areas likely to foster inclusiveness (by virtue of higher productivity or extra source of income) is manure. It can be recycled in the coming cycle, used as fertilizer for crops or sold to neighbouring farmers. Still, growers need to realize the beneficial impact that manure can have on the farm and take advantage of the situation.



4 Is the business model scalable?

According to the World Bank, the term 'scale' or 'scaling-up', in the development context, 'is used with reference to replication, spread, or adaptation of techniques, ideas, approaches, and concepts, as well as to increased scale of impact'. If replication is possible, how can the business model studied here be scaled up?

Under the current conditions, NH predicts a steady business growth anchored on an increased flock size per grower and larger numbers of growers taking part in the business. For that to happen, the following conditions should be met:

A Desire for greater developmental impact

As for the first stage of the business, patience and drive are required. Cunningham explains it as such: *'whether your drive is Christian faith or something else, you must have a long-term vision of this type of business otherwise your short-term expectations may never be matched'*.

B Market share

As mentioned in previous sections, the poultry sector is ready to absorb more production as demand grows. Furthermore, competitors are far from catching up on the company's success. All of the above conditions reassure the poultry market in the future.

C Diversification

NH plans to sustain part of its business growth by producing 2.1 to 2.2 kg chickens, to be sold in parts. From the growers' point of view, producing heavier chickens only adds one extra week to the production cycle and a slightly different feed. Revenues would certainly be increased. For NH, diversification would involve a slight increase in costs against the higher expected revenues.

Cunningham lays out the medium-term objectives of the company: *'...in two or three years we expect to be working with nearly 360 farmers producing nearly 2 500–3 000 birds average per cycle'*.

Once business growth is underway, other factors play an important role in keeping the business going:

D Investing a share of the profits in increasing efficiency

NH is looking for ways to improve the efficiency of chicken production. Although competition is not yet noticeable, the competitiveness of the market will increase and the company will have to adapt. In other words, invest today and be in a privileged position tomorrow.

E Addressing the social impact

Providing a steady source of income to growers is only the first step. There must be a follow-up program with families that focuses on the household, use of the wealth gained from the poultry production and helps families to develop plans for their future.

F Assessing the financial model periodically

Can the financial model sustain the inclusion of more farmers? Will limiting factors influence the model? If yes, how? All these questions (and more) need to be considered in the future.

Is this business model replicable?

Yes. In the first section we have provided the principles that have guided the company over the years. However, it must be emphasized that principles do not guarantee immediate success. Rather, principles should be used as a guidance tool subject to local conditions.

Land reform

In 1994, with the end of Apartheid in South Africa, a wide land reform program was set up. At the time, 90 % of land was owned by white South Africans, who made up less than 10 % of the population. The goal of the land reform was to transfer 30 % of these lands to black residents

1 Introduction

as part of the wider context of Black Economic Empowerment, a central government program to empower disadvantaged blacks and coloureds¹. Within this policy, empowerment was defined as access to land. The land reform had two main ways of achieving redistribution: restitution and redistribution. Restitution involved financial compensation for people who could prove legal claims to land but where a direct land transfer was not possible. These were often lands in the cities. These claims can no longer be made. Redistribution involved a grant for claimants to directly buy land at market prices. These transfers were based on the *willing buyer willing seller* concept. In other words, when the current owner does not want to sell the land, no transfer takes place.

¹People of mixed race.

Petrus Bosman, managing director
of Bosman Family Vineyards



South Africa

Bosman Family Vineyards

Wytse Vellema



Equity share schemes (ESS) are an intermediate form, where land is not directly transferred but the grant is used to purchase ownership rights to an existing company that owns land. Rather than breaking up the actual farming unit, ownership is divided between owner and workers. The government makes a fixed amount of money available per worker which is used to buy shares in the company. These shares give workers a right to dividends as well as some decision-making power. In exchange for the grant, the workers are expected to provide 'sweat capital', a number of hours outside of their regular working hours they work for free for their partly owned business as a symbolic payment.

Such a scheme is attractive for different reasons. First of all, by leaving the farming unit intact, beneficiaries can benefit from existing production structures, such as economies of scale, on-going contracts, and management experience. Second, it creates an incentive for the white farmer to sell his land. In equity share schemes, the farmer voluntarily gives up part of the ownership in exchange for a capital injection, the size of which is based on the market value of his land and the number of participating workers.

There are three main kinds of equity share schemes:

ON-FARM

Workers gain ownership rights to land within an existing farming operation.

OFF-FARM

Transferred money is used to buy new land. The farmer co-finances this new land, creating a new company which is partly owned by workers and partly by the farmer. The original farming operation remains 100 % owned by the farmer.

NON-FARM

In this type of scheme there is no land bought, but rather infrastructure. Most commonly this infrastructure is a pack house, which can be 100 % owned by workers or partly owned by both workers and farmer. The pack house is operated as a separate business, but with fixed off-take agreements with the original farm.

Equity share schemes (ESS) are an intermediate form, where land is not directly transferred but the grant is used to purchase ownership rights to an existing company that owns land.

Equity share schemes were implemented throughout South Africa. In the Western Cape, the southernmost province, there are currently 83 equity share schemes active. There are two government departments involved with the share schemes: the national Department of Rural Development and Land Reform (formerly Land Affairs) and the provincial Department of Agriculture. The Department of Rural Development is responsible for approving the share schemes and providing the financial resources. The Department of Agriculture provides training and support, and supervises the implementation of the project.

Background information on the company

The Bosman farm is located near Wellington, in the South African province of the Western Cape. This farm started in 1699 and has been in the hands of the same family since 1798. It is currently managed by the 8th generation. Although it was traditionally a wine business, since the middle of the last century the family started focusing more on their vine nursery. This shift in focus paid off: they currently operate the largest vine nursery on the continent. In 2007 the winemaking business was actively re-started by attracting a master wine maker and re-investing in their 250-year old wine cellar. Wine making now generates 30 % of company revenues. The estate covers 430 hectares and employs 260 workers. It is the largest equity share scheme in the wine industry.

Wine production in South Africa has a long history. On 2 February 1659 Jan van Riebeeck, the founder of the Cape colony, pronounced the famous words:

‘Today, praise be the Lord, wine was pressed for the first time from Cape grapes.’

From humble beginnings, the wine industry has grown quickly and currently covers over 100 000 hectares and produces 520 million liters of wine, representing 4 % of global production. This makes South Africa the 11th wine producer in the world in planted hectares and 8th in production volume.

2 Current inclusiveness of the chain

Bosman Family Vineyards had a history of empowering their workforce which began before they set up the equity share scheme. With the end of Apartheid in 1994, a workers’ committee was created with two bi-annually elected representatives from each of the eight farms making up the company.

Most workers live on the farm and have access to a wide range of facilities including sports clubs, social clubs, a music school, library, and a retirement home in Wellington for retired employees.

In 2007, at an information meeting held by the company’s accountants PricewaterhouseCoopers (PwC), Janny and Petrus Bosman first learned about equity share schemes (ESS). They immediately realized the potential for their own company. When they found support for their enthusiasm with their family board members, the idea was shared with the workers’ committee. The workers’ committee visited all farms one by one, proposing the idea to the workers. It was met with great enthusiasm.

The decision was made to hire a consultant to provide guidance in the process. This consultant was R.C. Olckers from Agri-expert, an independent consultancy specializing in Broad-Based Black Economic Empowerment (BBBEE) in the agricultural sector. His fees were paid for by the company. Based on meetings with the workers’ committee and company management, he suggested an extensive training program to familiarize all 260 employees with finances and management. These trainings were meant to develop a complete understanding of what the project entailed before implementation. The outline of a business plan was completed by the consultant in early 2008. After discussions with the committee and employees on what was needed and what was feasible, the business plan was finalized and presented to the government on 14 July 2008. It was accepted the same day.

‘A credible example of BEE (Black Economic Empowerment) at work.’

<http://www.bosmanwines.com/pdfs/overview.pdf>



Actors and drivers

Three main groups of actors were involved in realizing the equity share scheme: the government, the Bosman family and the farm workers. Although other parties, including external consultants and training organizations, contributed to the process, they did not have any decision-making power. The government was represented by the national Department of Rural Development and Land Reform (RDLR) and the provincial Department of Agriculture (DA). Representatives from both departments were present during the presentation of the business plan. RDLR was interested in the scheme because it would contribute to achieving the land distribution target set out in the land reform program. They were responsible for verifying listed land values and existence of participating beneficiaries as well as providing the financing. The viability of the business plan itself was evaluated by the provincial Department of Agriculture.

The Bosman family wanted to take the empowerment of their workers to the next level.

At the time they heard about the existence of government-funded Equity Share Schemes they already had a long history of empowering their workers. They hoped to increase their workers' intrinsic motivation by actively involving them in the running of the farm as co-owners. Since the structure required to successfully integrate their workers in the operation of their farm was already largely in place, the project required little investment. At the same time, it provided a large injection of interest-free funds which could be used to take the development of their wine-making business to the next level.

Most workers considered the chance to become co-owner of the business they and their families were so involved in, often for generations, as a once-in-a-lifetime opportunity. Their active involvement in the process and the willingness of management ensured that none of the existing reward structures, including bonus payments, were changed. In addition, they would receive dividends whenever a profit was made—however small these payments might be, this resulted in increased income—and the paying out of the principal when the owner of the share passed away—in effect free life insurance. All employees that had worked at the farm for at least three years were eligible for participation, as were all recently retired employees. Every eligible employee participated.

Phases in the development of the model

1 First phase

Set up of the Equity Share Scheme (ESS)

Bosman Family Vineyards consisted out of eight separate farms and one 'running farm'. The separate farms had only land on their balance sheet; all equipment was owned by the running farm. This structure was favorable for the implementation of the ESS because it allowed the government to spend most of their money on land, the redistribution of which was the main justification for the financial transfer. R 110 000 was made available for investment per worker, allowing the purchase of 50 % shares in two of the largest farms and a 5 % stake in the running company. The initial transfer of R 24 million took place in October 2008, with an agreed additional transfer of R 5.2 million conditional on the provision of matching funds by the Bosman family.

The additional transfers were required to invest in equipment needed to make currently unused lands on the purchased farms ready for wine grape production. This purchased equipment was put on the balance sheet of the farms on which it was used and which previously contained only land assets. The equipment were put on the balance sheet of the two purchased farms in order to justify the 50/50 co-investment structure and to make the separate farms as viable as possible, in the interest of the Department of Agriculture. Whenever the equipment owned by the farms was insufficient, they could rent equipment from the running company. Over time, as equipment needs fluctuated between farms, the worker owned farms also started renting out their own equipment to the other farms at the same rate, creating a situation where worker owned farms and running company rented equipment from each other.

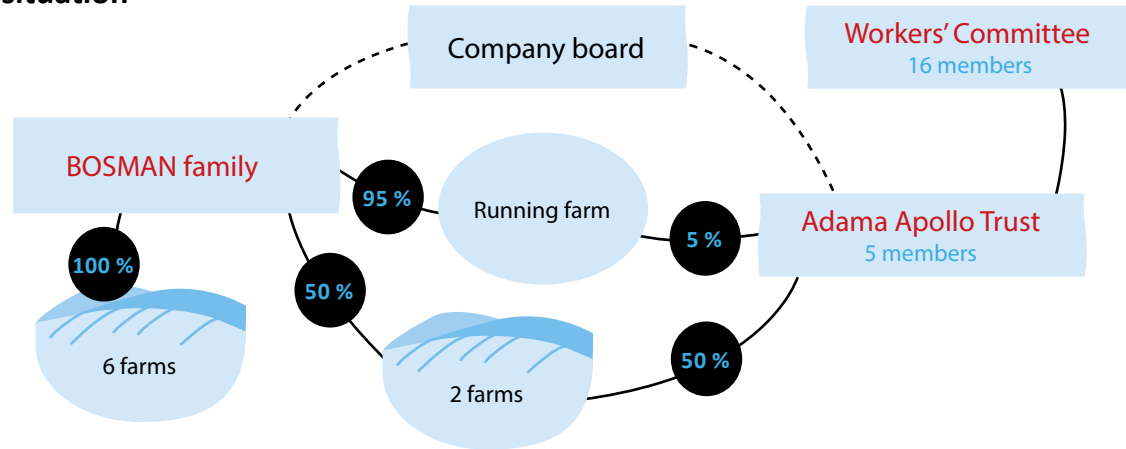
Employees are represented by the workers committee and a Trust. The workers committee is composed of 16 members. For each of the eight farms, two representatives are chosen at bi-annually held elections. The workers committee is the voice of the workers in matters concerning working conditions and other labor relations. Since the start of the ESS, it is also responsible for selecting the members of the Trust. The Trust is composed of five members and represents the workers in their position as shareholders.

It participates in board meetings and shares information regarding the financial position and management strategy of the company with all employees. The annual meeting of the Trust is held in October each year.

The company board consists of the Trust and Bosman family members involved in the company, currently consisting of Janny Bosman, his daughter, and three sons. The board meets quarterly to review financial performance and discuss company strategy. Decisions regarding large investments are made at these meetings. Day-to-day management is the responsibility of the executive committee, which consists of Janny Bosman, his oldest son Petrus, and Ivan, one of the trust members.

Value chain

Old situation



New situation

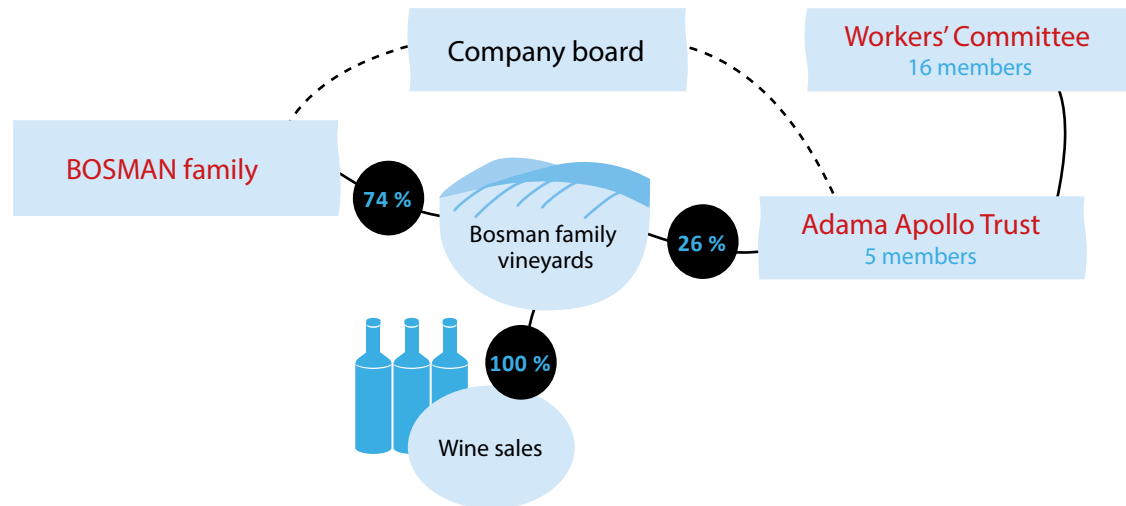


Figure 1
Situation before and after introducing the equity scheme

Rights and responsibilities of the shareholders of the Trust are defined in the Trust Akte. There are three types of shares:

- A** **Type A shares** are those held by original beneficiaries and give rights to yearly dividends and to a final capital payment. Each person eligible to receive shares when the ESS started, received 11 shares. After retirement, beneficiaries continue to receive dividends. They lose this right only when they pass away. Then, as soon as the financial position of the Trust allows it, but always within five years, the value of the shares is paid out.
- B** **Type B shares** only give rights to receive dividends and are given out to new employees i.e. those who joined the company after the scheme had started. After working for the company for four years, new employees receive the first five shares. Four years later, they receive an additional six shares. Type B shares do not give rights to a capital payment.
- C** **Type C shares** are held by those who have lost their right to receive dividends due to death or having been discharged. They are held until the Trust is able to pay out the shares in cash but always within five years after the date at which the right to dividends was lost.

Only type A shares are transferrable after being held for at least five years or when the Trust grants an exemption to this rule. When an employee wants to sell shares, he or she first has to offer them for sale to the Trust. When the Trust cannot or does not want to buy the shares, the shares are then offered to other shareholders. The shares on sale are distributed evenly between all interested buyers unless the Trust considers this inappropriate, in which case they are distributed amongst interested buyers through a lottery system. When shares are sold internally, the price is determined by their fair value. Only when neither the Trust nor any of the beneficiaries is interested in buying the shares, can they be offered for sale to employees who are still in the process of receiving their first shares. When none of these parties are interested in buying the shares, the shares are converted to type C shares, making the holder eligible to receive their fair value at the latest within five years after their conversion.

2 Second phase Centralization

The equity share scheme was initially structured to accommodate the preferences of company management, workers, and the government. The structure where ownership was balanced between company management and workers for two of the farms was preferred by the government, as it allowed them to invest the bulk of the money in land assets. Moreover, on paper it ensured an equal distribution of ownership and hence power between owners and workers. However, well-functioning farms require more than just land. The inclusion of equipment in the farm units partly overcame this hurdle but introduced the problem of equipment rentals. This proved administratively burdensome. In addition, because the workers owned shares in three separately registered companies, three government audits were required to verify compliance. This administrative burden was further increased when the vineyard acquired Fair Trade certification. Other motivations to change company structure concerned taxes and cash flow. In the old structure, it could happen that one of the companies was paying taxes while another was making a loss. Similarly, one company could have a large positive cash flow while another needed to borrow to maintain liquidity.

To counter these issues, in 2012 the various farms and companies were merged into one. This company contained the assets of the entire farm, both land and productive assets. Wine sales are still done by a separate company, which is a 100 % subsidiary. The new company is owned by the Adama Appolo Trust (26 %) and by the Bosman family (74 %). The management organization of the company has hardly changed. Each farm still has a farm manager who is responsible for overseeing all activities and employees still work primarily on the farm where they live.

Looking back, the only regret mentioned was not having implemented the re-organization earlier.

On the other hand, the initial structure did prove useful because it forced all actors to accurately keep a record of equipment rentals. This forced accountability removed possible sources of distrust, enabling the new partners to get used to the new way of running the business. After four years in operation, sufficient trust had been built to enable a structure which relied less on paper trails and accountability and more on trust.

Support for the process

The most significant support for the project was undoubtedly the initial transfer provided by the government. Although the process of empowerment was already well underway at the Bosman farm, without the equity share scheme it would have taken much longer to reach the current level of involvement of workers in the management and decision-making at the company. At the same time, this support would likely have been far less useful if the employees were less prepared to handle these responsibilities. In addition to the initial investment, funding was made available through Casidra², a semi-governmental development organization residing under the provincial department of agriculture. This funding was used to expand the business through purchasing of land and other assets.

Extensive training of all company staff before embarking on the development of the business plan was crucial to make effective use of the initial government funding. Topics for the trainings were suggested by the consultant in agreement with the workers, and primarily concerned finance and management. Both the consultant and the trainings were paid for by the company. By ensuring all employees understood the

All interviewed parties indicated the outcomes of the project exceeded initial expectations.

implications of the change before negotiating the terms and conditions of the business plan, a sense of common purpose was created which increased the willingness of the partners to accept their responsibilities and honor their commitments.

To ensure the continuous development of the program, the board decided to hire an external consultant, Frans Van Wyk. As a former director of PricewaterhouseCoopers at their sustainable agriculture division, this consultant is regularly asked for advice regarding how to make the best use of existing regulations to the benefit of the company, in particular regarding optimizing the company's BEE score and accessing funds. Since the objectives of management and employees are well-aligned in the company structure, the benefits of his suggestions are shared.

²www.casidra.co.za

Outcomes

Before starting the project, each of the stakeholders had clear expectations. The company expected increased employee commitment and productivity, the workers expected increased incomes, and the government expected successful employee empowerment. All interviewed parties indicated the outcomes of the project exceeded these initial expectations.



Vine planting at Bosman Family Vineyards

The company has seen stellar growth since the start of the project. In 2008, the year in which the project started, company revenues were at R 26 million. By 2012, these revenues had more than tripled to R 85 million. Integrating the ESS with their long-term growth strategy allowed the company to constructively re-invest the equity injection into their business. A large share of the funds were allocated to developing their wine production capacity.

Fast growth enabled consistent dividend pay-outs. These dividends were a direct evidence for employees that the project was delivering on increasing their incomes, and encouraged their enthusiasm. In the run-up to the project, every care had been taken to create realistic expectations regarding the size of the dividends. Employees were told that it could be many years before the first dividends would be paid out and their size might be limited. In fact, in the first year of the project the company made a substantial dividend pay-out, even though the funds could have been used for additional investment. These above-expectation pay-outs greatly increased the belief of the employees in the potential of the project. Just how satisfied the employees are is evidenced by their exceptional non-participation in the agricultural strikes for increased wages in the aftermath of the 2012 mining strikes.

Employees are actively included at different management layers in the company. Whenever a position opens up, employees are given an opportunity to fill the position. Where 20 years ago all employees were general staff, now several have joined management positions. Two of the high risers in this regard are Ivan, who is now on the company executive committee, and Rita, who is responsible for human resources. Both are also members of the Trust. Education of employees and their families is encouraged. Each year several scholarships are given to promising students to pursue tertiary education. After obtaining their degree they are encouraged to apply for work within the company. There are now several children of employees occupying administrative positions at company headquarters and management hopes many more will continue to join. These increased opportunities for both employees and their families might have an even stronger effect on employee satisfaction than the dividend pay-outs. As one employee remarked: *'we are all family here'*.

Not only do employees grow through promotions, they also start taking more responsibility for their work without being promoted. Even though the company has almost tripled in size since the start of the project, field management staff have not been increased. In fact, two farm managers that left the company over the last two years have not been replaced because the farm workforce is able to do their work independently. Company management is hopeful that this trend will continue, creating opportunities to further reduce management staff.

Spillovers

Certification

In 2009, Bosman Family Vineyards obtained Fair Trade accreditation for all their wines. Currently as much as 70% of all their wine is sold under the Fair Trade label, with the majority going to the United Kingdom. For every bottle of wine sold, a fixed sum is transferred to the Bosman Foundation. This fund is used to undertake community projects. One of the funded projects concerns the construction and operation of a day care center for children of the employees.

Extra benefits

Talks are underway with the government to make benefits that are currently available to all companies in the wine sector restricted to BBBEE-certified companies. These benefits include tax reductions and preferential access to the European export market. Companies can attain BBBEE certification if they score high enough on including previously disadvantaged people in the fields of ownership, management, employment equity, skills development, preferential procurement, enterprise development and socio economic development.

Bosman Family Vineyards is certified and, if the planned changes to the preferential treatment for certified companies is put into place, they stand to gain a substantial competitive advantage over their rivals.

This dependency [on the main farm] undermines the bargaining position of the employees... and severely limits opportunities for empowerment.

Challenges of the Equity Share Scheme (ESS)

Dependency on the main farm

The equity share scheme as implemented by Bosman Family Vineyards can be seen as a real success story. However, most ESS have not fared quite so well. The most commonly encountered issues are purchase of non-viable production units, incomplete employee involvement, unequal power distribution, reduced employee incomes, and distress sales. Non-viable production units are often purchased because the majority of the government grant has to be directed towards land. Especially in more capital-intensive production processes, the extra money available to purchase non-land production assets is insufficient to form a stand-alone unit of production, in effect making the ESS dependent on the original farm. This dependency undermines the bargaining position of the employees versus the farm owner and severely limits opportunities for empowerment.

Lack of real a decision-making authority for employees

Most ESS are initiated by the farmer/owner because they so crucially depend on his willingness to participate. In most cases it is therefore the farmer that writes the proposal and applies for funding, a process which might take place without any involvement of the employees. Although employees do need to sign up in order to become eligible, often they do so without fully comprehending what they have signed. In such cases, the structures put in place to give employees decision-making authority existed primarily on paper.

Unequal power distribution between farmer and employees

This inequality does not necessarily result from unwillingness of the farmer to include employees, but often stems from historical inequality and lack of education. Before the ESS, the employees had a traditional boss-employee relationship with the farmer. This power difference is tremendously aggravated by the legacy of the Apartheid regime. For many employees, making the transition from seeing the farmer as a boss to seeing him as an equal business partner is almost insurmountable. Another cause of inequality is the employees' lack of education. From one day to the next, they are expected to go from working the fields to managing an often large agribusiness. Many—especially the older—employees only finished primary school and these schools were not amongst the best in the country. With such a limited background, the employees can hardly be considered equals in management decision-making.

Income is not increasing as expected

Employee incomes are expected to increase because of participation in ESS but in fact might also decrease. The main culprit for this decrease is the removal of bonuses. At most farms, employees receive bonuses when they meet certain production targets. With the introduction of an ESS, often these bonus schemes are 'replaced' by dividends. Because dividends can only be paid out when a profit is made, in some years employees would actually earn a lower income than before the ESS was introduced. Moreover, because many schemes start with mostly land assets, it is common that in the first

year all accrued profit is retained within the company for investment in non-land production equipment, meaning no or little dividend can be paid out.

In other cases, employee incomes might decrease because as owners they are expected to work for free for their own company. After all, an owner is expected to receive his income mostly from company profits. In structures where work for the equity scheme is not remunerated, but work for the 'old' farm still is, there is usually a distinct labor shortage at the ESS. Furthermore, officially workers are expected to provide 'sweat capital' in exchange for receiving the grant from the government. This sweat capital are hours they are expected to work for the ESS outside their regular working hours as a symbolic repayment of the grant.

Change in situation of the main farm

Finally, many ESS schemes failed when the main farm became insolvent or changed ownership. The schemes are usually dependent on the willing cooperation of the main farm. Because usually an ESS cannot operate independently, when the main farm ceases to exist or the new owner refuses to cooperate, this heralds the end of the ESS.



Solutions to challenges

At Bosman Family Vineyards, these common issues were either prevented or overcome.

Goodwill of the owner

The assets acquired by the Adama Apollo Trust were essentially non-viable to the extent that the ESS would not have been able to operate independently of the main farm. However, through the goodwill of the owners and the setting of reasonable renting rates for equipment, they were able to operate from the start as efficiently as they had done before the transfer. Given that the money of the grant was effectively invested, the ESS became more productive over time.

...through goodwill of the owners and the setting of reasonable renting rates for equipment, they were able to operate from the start as efficiently as they had done before the transfer.

Employee empowerment

Employee involvement in the ESS was clear from the very beginning. Although the process was initiated by the farm owner, the employees were completely informed about the plan and asked explicitly for their permission before the actual proposal was submitted. Furthermore, extensive training on finances and management was given to ensure employees understood the full implication of the scheme. Finally, after having completed the trainings, they were involved in drafting the business plan through consultations with an external consultant.

The inequality which is often inherent in an employer-employee relationship was definitely present at the company, although it might have been less severe than in some other cases. There were already several community projects active even before the end of apartheid. However, the knowledge gap was likely lower than on average. Several schooling initiatives were active at the farm, and talented children were always encouraged to develop. Moreover, the extensive training helped overcome part of the gap in management-specific knowledge. The power inequality was also reduced through the engaged leadership of some employees, who took responsibility and maintained open communication between management and other employees.

Stable income and risk-sharing

Care was taken to maintain employee incomes at least at their pre-ESS levels. All wages and bonus payments were maintained as usual at both the company and the ESS farms. Furthermore, dividends have been paid out every single year since the very start of the scheme.

Financial distress is a risk that is hard to curb. However, for the Bosman ESS the risk of such sales are born equally by family and workers. In the new structure, the entire farm is owned like a joint venture, meaning that if financial distress forces a partial or complete bankruptcy, both family and employees would be equally affected.

Unaddressed issues

Future ownership

An issue that might still affect the long-term success of the equity share scheme at Bosman Family Vineyards is the future of share ownership. Although the participation of new employees is ensured by issuing them type-B shares, no new type-A shares are issued. Therefore, over time the capital base of the ownership will erode. It is not yet clear how this will affect the share in the profit of the Trust. There are two alternatives.

One is that with every capital payment, the equity share of the Trust in the overall company falls. However, the number of people have a right to share in company profit increases with every new issue of type-B shares. Therefore, over time the profit per share will fall until the last capital payment on type-A shares takes place, at which point dividends will be zero.

The other alternative solution is to maintain the initial 26 % equity stake as the percentage of profits the holders of type-A and type-B shares have rights to. However, in that case there is no underlying equity justifying this profit distribution. Currently this issue is not very salient, because very few type-A shares have been paid out. Over time, however, this problem could jeopardize the survival of the equity share scheme.

The power inequality was also reduced through the engaged leadership of some employees.



Vine planting at Bosman Family Vineyards

3 Possibility to increase inclusiveness

Rotation of employees in different functions

Employees enjoy different levels of involvement in the business and hence different degrees of empowerment. The degree of inclusiveness within the farm could be increased by enforcing the rotation of committee and Trust members. Although representatives for the workers committee are elected every other year, the same persons have been in the Trust since its inception. Although there is a risk of reducing efficiency, the explicit opportunity for more complete participation in itself should have a beneficial effect even for those workers who are not elected.

Transferring ownership over managing the business

An area in which progress is already being made concerns the shifting of traditional management responsibilities to employees. This progress is exemplified by the non-replacement of two farm managers, whose original supervision and management functions are now taken over by the farm employees themselves. Not only does this lead to cost reductions, it also allows employees to further develop their skills, increasing their labor market potential.

The business model currently involves all employees on the farm and their family members, and the extent of the inclusiveness is unlikely to increase beyond that. The current structure already allows new employees to participate in the equity scheme, but the nature of the scheme does not allow for anyone outside the permanent staff to become involved. Therefore, the extent of inclusivity is directly tied to the size of the business as a whole.



4 Is the business model scalable?

A necessary pre-condition for scaling any inclusive business model is that the model is successful in delivering both commercial and social returns. Both conditions are met by the equity share scheme at Bosman Family Vineyards. In the five years since its inception, company revenues have more than tripled, and this success can at least be partly attributed to the equity scheme. By making the pie bigger, rather than merely changing the way it is distributed, all stakeholders have benefited. Social returns have also been substantial, as shown in increased incomes, increased participation of employees in management functions and drastic reductions in staff turnover. Through funds generated by Fair Trade certification, there is also an increase in social activities and quality of life, for example through the acquisition of a school bus.

Due to the structure of the equity share scheme business model, scalability can only be increased by growing the business or replicating the business model in other organizations. Business growth over the last few years has been stellar, but this has not yet had a large impact on the number of people the company employs. If current growth rates are sustained, over time it should create new employment opportunities. The success of the expansion of the business model depends crucially on the sustained demand for company products, especially in the wine business, and the availability of land suitable for vineyards. For the foreseeable future, the business model is unlikely to require structural changes to sustain such growth.

A more promising expansion of the business model is replication by other companies. These companies do not need to be in the vine or wine business in order for the business model to work, and therefore do not necessarily pose a threat to the company. However, given the current policy environment, such replications are unlikely to occur in South Africa. The government has stopped financing equity share schemes from the land reform budget, thus removing the opportunity for companies or employees to apply for the initial cash grant. Without this grant, it is extremely unlikely companies will decide to hand over a large share in the company to employees. Perhaps a model in which employees slowly build up shares over time might be an alternative.

Although new start-ups of equity share schemes are unlikely, there are a number of equity share schemes across South Africa that are far less successful than the Bosman Family Vineyards case. In cases where either the whole scheme is unsustainable or inclusiveness is incomplete, important lessons could be drawn from the Bosman case. The most important lesson is that it is possible for equity share schemes to simultaneously benefit both employees and company.

Sector overview

Sugar is one of the largest agricultural industries in South Africa. It provides around 79 000 jobs in direct employment in cane production and processing and 350 000 jobs in indirect employment in support industries. Approximately one million people, more than 2 % of South Africa's popula-

1 Introduction

tion, depend on sugarcane for a living (SASA, 2013). Sugarcane is grown and processed in the provinces of KwaZulu-Natal, Mpumalanga and the Eastern Cape, which are among the poorest in the country. The industry produces an average of 2.2 million tons of sugar per season. More than half of this sugar is marketed in South Africa and in other members of the Southern African Customs Union (SACU), which includes Botswana, Lesotho, Namibia, and Swaziland. The remainder is exported.

Sugar is grown by 29 130 registered sugarcane growers, of which 1 550 are large-scale commercial farmers and 27 580 are small-scale growers. Around 19.9 million tons of sugarcane is produced annually, of which 84.69 % by large-scale growers and 8.59 % by small-scale growers. The remaining 6.72 % is grown on sugar estates owned by milling companies.

Cooperative director on his farm with cooperative buildings in the background



10

South Africa

Tongaat Hulett

Wytse Vellema





Contractor spraying recently planted cane

Sugarcane milling is highly concentrated. There are six milling companies operating a total of 14 mills and five refineries.

- › The two largest companies, Illovo and Tongaat Hulett, each own four of these mills;
- › TSB Sugar owns three;
- › Gledhow Sugar Company, UCL Company, and Umfolozi Sugar Mill own one mill each.

In addition to sugar, some of these mills also produce ethyl alcohol, furfural and its derivatives, and animal feeds.

In order to curb power relationships in the chain, the South African Sugar Association (SASA) was created to ensure adherence to the Sugar Act of 1978 and the Sugar Industry Agreement. It is an industry body with equal representation by the Sugar Millers' Association Ltd (SASMAL) and CANEGROWERS. The members of SASMAL are the six milling companies. CANEGROWERS was established in 1927 to represent the interests of independent sugarcane growers. Individual growers are members through one of the 26 grower groups. In each milling area, these groups are represented by a Local Grower Council. At each level, representatives are chosen through elections.

The sugar industry benefits from government support in three ways:

1. First, through a tariff which is levied on sugar imports only when the world price is below a certain level.
2. Second, by the Sugar Cooperation Agreement between members of the Southern African Development Community (SADC). This agreement contains a set of policies to stimulate sugar production and consumption in all member countries.
3. Third, a risk-sharing provision between millers and growers which is formalized through the Sugar Act and the Sugar Industry Agreement. This provision enforces a pre-determined distribution of proceeds, such that the consequences of fluctuations in world sugar prices are shared between growers and millers. As a direct consequence of these agreements, the sugar price in South Africa consistently exceeds world prices.

The risk-sharing agreement provides for the calculation of a price by SASA which is equal for all growers, the so-called RV price. This price is based on the sales of local sugar, exported sugar, and molasses. After deducting levies, the remaining proceeds are distributed between millers (36 %) and growers (64 %). The final price received by the growers depends on the quality of the cane delivered to the sugar mill and is determined by the sucrose, non-sucrose, and fiber content of each batch of cane. Out of each batch, a sample is taken at the mill which determines the price. The fixed components of the price are recalculated and published monthly by SASA.

Sugar production

Sugarcane is quite a particular crop because of its high bulk-to-value ratio and the impossibility of producers to side-sell. The only way to generate value out of sugarcane is to crush it at the mill, and given the distances between mills, there usually is only one viable buyer. The immense bulk creates high transport costs, meaning farms need to be located close to the mill in order for supply to be profitable. At Tongaat Hulett, they use a 40-kilometer radius around the mills as a rule of thumb. These factors give mills monopsony power, which is curbed by the central price-setting done by SASA. Growers depend on millers.

To set up a sugar mill requires a substantial capital investment. Therefore mills should always operate near or at full capacity. After cane is harvested, it should be at the mill within 72 hours, otherwise the cane becomes harder to crush and its value deteriorates. However, because prices are fixed, no price incentives can be used to encourage timely supply. Millers depend on growers.

Sugarcane develops from a perennial rootstock. When well maintained, replanting only has to take place once every ten years. In the first months after planting, the sugarcane requires intensive maintenance, including fertilizer and herbicide applications, until it reaches canopy stage at 6-7 months after planting. At canopy stage the foliage is so thick that no more weeds develop. There is also no more need for fertilizer applications. The cane is left on the field until the plant is 12-15 months old, when it can be harvested. Before the cane can be cut, the field is burned to remove excess plant material. This also kills any snakes that might be hiding in the undergrowth. Cutting needs to take place within three days after burning and is done manually. After cutting several tons, the cane is bundled up and tied together using a chain with a special locking mechanism. Each cutter cuts and binds one bundle per day; bundles weigh several tons. The bundles are pulled on a cart with a built-in leveraging mechanism which is pulled by a tractor. Carts are offloaded at loading areas, from where the cane is hoisted up by a specialized crane into a truck. Before loading, each bundle is weighed to determine how much the cutter gets paid. This is registered. The truck carries the cane to the crushing mill and is paid based on tonnage.

After cane is harvested, it should be at the mill within 72 hours, otherwise the cane becomes harder to crush and its value deteriorates.

Before loading, each bundle is weighed to determine how much the cutter gets paid. This is registered. The truck carries the cane to the crushing mill and is paid based on tonnage.

Land tenure

There are three main types of land tenure in South Africa:

- A** **Government land** covers only a small area of the country and is mainly confined to infrastructure, public spaces, and undeveloped nature.
- B** **Communal land** is not held by individuals but by traditional authorities. Often this land has been used by the same family for generations. When children reach maturity, they receive a piece of this land on which they build their own house. This continuous subdivision has led to communal lands being easily recognizable because of being covered by a patchwork of houses. Due to steady population growth, most landholdings are small. Community leaders give user rights to families.
- C** **Private land** covers the majority of the country, and is generally the most fertile.

At the end of Apartheid in 1994, land ownership was very unequally divided between whites and blacks. A Land Reform program was set in motion that aimed to redistribute 30% of private land owned by whites to previously disadvantaged people. This process is still ongoing and has caused divestment of large parts of company-owned plantation land to black entrepreneurs.

Capacity utilization

In the 1990s SASA developed a loan scheme called Umthombo to help farmers who had no access to traditional financing. These access problems existed because farmers had small landholdings and no deed to their land, since they farmed on communal lands provided through tribal authorities. Although this scheme helped farmers to overcome their liquidity problems, the knowledge gap and coordination problems persisted. Therefore, after almost 10 years in operation, the scheme was abandoned. Over time, productivity continued to decline and more and more farmers left farming altogether because they were unable to finance re-planting, causing a steady fall in overall production. In addition, production from land redistributed from large commercial farmer operations under the Land Reform of 1994 was also dwindling.

The fall in production put tremendous pressure on the profitability of sugar millers, who were now operating far below full capacity, which, in an industry as capital intensive as sugar milling, is an outright disaster.

To get up to full capacity, supply to the sugar mills needed to increase. In the short term, millers sometimes buy from producers slightly outside their normal delivery zone. Although transport costs are higher, a non-working mill is often even more expensive. However, because of the way the mills are distributed, the opportunities to buy from farmers outside the zone are limited, especially since no price incentives can be used to encourage a grower to switch buyers (prices are fixed). In other words, Tongaat had to increase production within their delivery zone, where there was almost no unused private land still available. Buying and producing using their own estate was therefore out of the question. The most likely source of supply were the communal lands, the small-scale farmers.

Background information on the company

Tongaat Hulett is an integrated agri-business company in sugar and starch products refined from sugarcane and maize. It employs over 40 000 people in its operations in South Africa, Botswana, Namibia, Swaziland, Mozambique and Zimbabwe. Revenues over the financial year of 2013 were R 14.373 billion¹. Of companies listed on the Johannesburg Stock Exchange, it is the 14th largest employer and the largest single private employer in Zimbabwe and Mozambique. In 1994, at the end of Apartheid, it sold half its sugar land holdings to previously disadvantaged individuals, comprising 11 871 hectares of cane.

Tongaat Hulett produces sugarcane on its own plantations and purchases sugarcane at arm's length from three main sources:

- › **Large-scale commercial growers** typically dedicate over 100 hectares of land to cane production, the larger farms owning several thousand hectares of land.
- › **Land-reform growers** are medium scale, with farms typically between 50-80 hectares in size. These farmers received land and training from the company as part of the Land Reform in 1994. They now own the land.
- › **Small-scale farmers** usually have only a few hectares of land, with the largest of them owning around 30 hectares. This land is not privately owned, but communal.

Well over half of the purchased sugarcane comes from large commercial farms (around 65 %); the rest is provided in about equal shares from land-reform farmers and small-scale growers.

Tongaat Hulett has been sourcing sugarcane from small-scale growers for several decades. In the traditional model, farmers were completely independent and had a straightforward off-take

agreement with Tongaat. However, this model suffered from limited and low-quality cane production, originating from limited use of inputs and insufficient coordination. Shortly after harvest, cane needs to be weeded and fertilized to make sure it outgrows weeds. Many small-holders had insufficient knowledge to properly manage their cane and did not have the funds to invest in such maintenance, reducing cane harvests over time and aggravating the problem. Furthermore, when cane is not well maintained, it needs to be replanted more frequently, which is costly. While a well-maintained field only requires re-planting every ten years or so, badly maintained fields might require re-planting after as little as six years. In addition, insufficient coordination frequently led to cane not arriving at the mill within 72 hours of harvesting, reducing the quality and thus the price received. This problem is called burn-to-harvest-to-crush delay (BHTCD) in the industry and considered a wide-spread problem. Low-quality cane can even cause hold-ups in the cane crushing process. Because of too high fiber content the process would sometimes grind to a halt, costly business.

¹Equal to slightly less than USD 1.4 billion at exchange rate of 8.11.2013.

Value chain

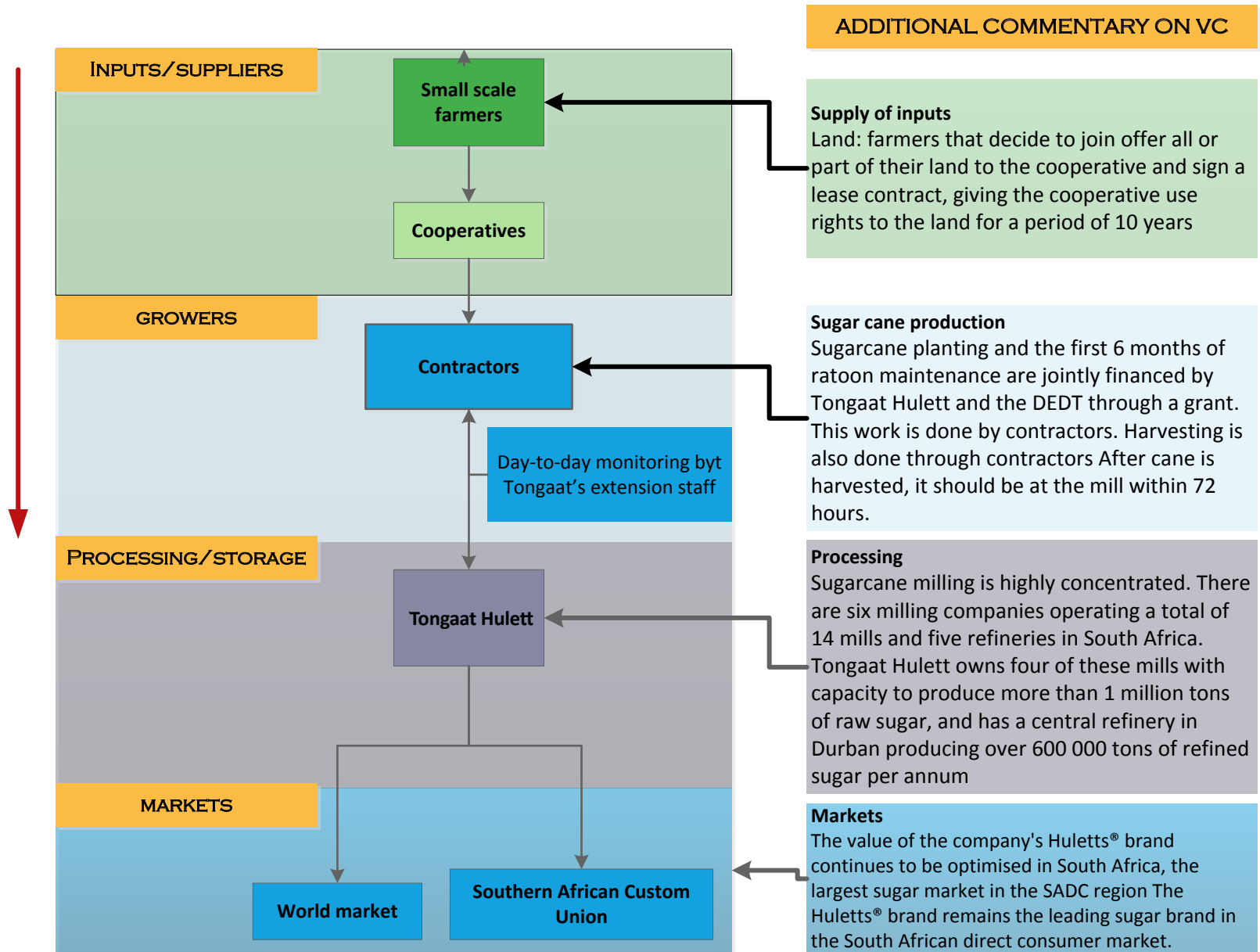


Figure 1
Value chain of Tongaat Hulett

2 Current inclusiveness of the chain

Increasing production and quality required more intense coordination, which is costly; economies of scale were needed. In order to reach this scale, land units would need to be grouped together into larger farming units, which could be managed more effectively by using machinery and benefiting from economies of scale in input purchases. In addition, extension services would be more effective by making group trainings possible. During a discussion of the supply problems with the management team, consisting of the leader of the Small Scale Grower unit and the area managers who led the extension staff, cooperatives were suggested as a possible solution. This way, the ownership and decision power would remain within the community and its members, and there would be a production unit large enough to benefit from economies of scale. Internal support for the project was strong, going up all the way to top management. In 2008 a proposal for funding was written to the KwaZulu-Natal Department of Economic Development and Tourism (DEDT), which has an on-going call for proposals that encourage inclusive regional development. After some negotiations, the partners-to-be sat down together and agreed on a plan. The contract was signed on 12 October 2009.

The plan: Project Vuselela

Vuselela is the Zulu word for revival. The project aims to 'revive' areas formerly used for cane production. Farmers that used to deliver sugarcane to the mills, but for some reason or other had not been able to deliver in the last few years, would be invited to join a cooperative:

- › Farmers that decide to join offer all or part of their land to the cooperative and sign a lease contract, giving the cooperative use rights to the land for a period of 10 years.
- › The cooperative pays the farmer rent equal to 10% of gross proceeds of sugarcane sales. This rental fee is 10% of gross proceeds and treated as an expense for the cooperative (for tax reasons).
- › At the same time, the farmer is a member of the cooperative, giving him the right to vote and to be elected to the management committee, and the right to share in the profits of the cooperative.
- › His share of the profit is equal to the share of the land he brought in, ensuring that all farmers, regardless of the size of their landholdings, can participate.
- › Finally, the farmer can make money by working for the cooperative or for contractors—if the cooperative's management decides to work with contractors. For this work he will be remunerated based on his hours of work, using a fixed, pre-determined wage rate.

Sugarcane planting and the first six months of ratoon maintenance are jointly financed by Tongaat Hulett and the DEDT through a grant. This work is done by contractors. In order to comply with government regulations, a tender process is opened by Tongaat Hulett Sugar (THS) for local contractors. An advertisement is placed in the newspaper and the extension officers and participating farmers are encouraged to spread the message. Those interested in taking up the contract have to attend a mandatory meeting in which the requirements that contractors are expected to meet are explained. Initially, contractors are offered 30 hectares to work on. They are encouraged to visit THS extension staff to show them around the fields where they are expected to do their work. Each contract includes a clause stipulating that within two weeks of signing, the first two hectares need to be finished. These two weeks are, in fact, a trial period. If the contractor does not meet the target, THS can terminate the contract unilaterally. There are different contracts for field preparation and planting, and ratoon maintenance, which entails applying herbicides and fertilizer. All these services and input costs are paid for through the grant until the sugarcane reaches canopy stage, about six months, when the responsibility for the sugarcane is handed over to the cooperatives.

After the sugarcane has reached canopy stage, no more maintenance is required. The cane stays in the field until harvest, which takes place 12-15 months after planting. Harvesting is done through contractors, who bring in experienced cutters from the Eastern Cape who live in temporary shelters on the field or close to the contractor's house. Zulu men do not cut cane, as this is considered to be below their stature: *Ponda* work. The harvesting contractor is responsible for cutting and bringing the cane to the loading area. Here, it is loaded onto trucks owned by a transport company, which is then responsible for bringing the cane to the crushing mill.



The project office at Maidstone sugar mill

Cooperatives get paid at the end of the month following the month in which the cane was harvested, meaning that profit from cane harvested in July gets put on cooperative accounts at the end of August. The harvest season is spread over eight months, from mid-March to mid-November. Cooperative accounts are managed by the Project Office at Tongaat Hulett, which was put in place especially for the project. Harvesting contractors and transport companies submit a claim for payment each month, which needs to be signed by at least half the members of the cooperative board. Their payment is directly deducted from payments to the cooperative accounts by the Project

Office. A deduction is also made to contribute to a savings fund managed by SASA. This savings fund is based on the same structure as the Umthombo retention fund and consists of three parts:

1. Land rental is 10 % of gross proceeds. The amount required for ratoon maintenance gets determined by Tongaat and is set per ton of cane.
2. Ratoon maintenance includes the cost of fertilizer, herbicide, and labor required by the contractor to reinvigorate the cane after it has been cut so it can produce again the next season. Payments for ratoon maintenance will be taken out of the savings account, rather than out of gross proceeds.
3. The last category—'other'—is set by the cooperative. Here, money can be saved for re-planting the cane at the end of its productive life-cycle or whatever other needs the cooperative might have.

The money that remains after deducting the cost of harvesting and transport, saving for ratoon maintenance and next year's rental, and the current year's land rental, is transferred to the cooperative's account. This amount can be converted into extra saving, invested or distributed to the cooperative members as dividend.

Governance structure

Coordination throughout the chain is achieved through regular interaction at several levels. The project steering committee consists of Tongaat Hulett, SASA, SA Canegrowers, and the Kwa-Zulu Natal Department of Economic Development and Tourism (DEDT). This body meets quarterly.

Tongaat Hulett and the DEDT also have a monthly meeting to discuss project progress. The finances are examined and there is a check to see how many hectares have been planted in how many cooperatives. More specific organizational problems are discussed within cooperatives. Problems with management election, or any other issues dissatisfied members might have, can be debated at cooperative level meetings, and a plan of action is formulated to tackle them.

Day-to-day monitoring is done by extension staff. They consult with the cooperative committee and contractors on planting, fertilizing, and weeding schedules. These meetings take place weekly. Perhaps most importantly, harvesting schedules are discussed. Harvesting is particularly crucial as it needs to take place evenly throughout the season, to keep the mill running constantly. Cane contains mostly sucrose and thus has higher value at the end of the season, which is why it is important to distribute harvesting evenly over cooperatives to ensure a fair average price. Planning is complicated by cane fires. The area in which cane grows is

Of these structures, the extension staff were already in place. The other structures were created to support the project. Whereas before the project extension staff were responsible for supervising 10 000 individual small-scale growers, they are now able to work far more efficiently through the cooperatives.

populated. There are no villages; everybody lives on their own piece of land. People start fires to burn rather than cut the vegetation around their houses. These fires often spread into the sugarcane. As soon as a field of sugarcane has been burnt, it needs to be harvested. The shifts of the harvesting schedule are discussed at these meetings.

The extension staff supervise and direct contractors hired by THS to re-plant the sugarcane. They also assist in supervising the contractors employed by the cooperative. This support is crucial to the success of the project, as many contractors have little or no experience in ratoon maintenance or cane harvesting. Extension staff actively visit fields where contractors are working to ensure they are doing a good job and to provide advice wherever needed.

The project office was created specifically for the project and is staffed by three people: Cliff Ingle, the manager and project coordinator, and two people primarily responsible for finances and other administration. They are responsible for doing the finances of the cooperatives.



Wellington Ntshangase, manager
Small Scale Grower Unit at Tongaat Hulett Sugar

Challenges

Too high requirements in the tendering process

Part of the agreement with government was to have contracting work done by local contractors to generate employment in the region where the scheme was active. Because in most of the region sugarcane production from small-scale growers had been declining, there were few local contractors available. In order to select a contractor, the government required an open tender process. The requirements, which contractors needed to meet to enter in the process, proved to be prohibitive. Another problem was the high investment required by contractors to apply. Most contractors had no background in agriculture and those that did had insufficient equipment to be eligible.

Lack of staff

The contractors were introduced to the community where they were going to be working. This served both to ensure the community allowed and accepted their presence as well as to provide contractors with an opportunity to find workers. However, most contractors found it difficult to find staff. In the end, staff were found through visiting the extension officers, who recommended people.

Type of contractual arrangement

Contractors are offered one-year contracts. The open bids received through the tender process determine which bidder receives the contract. Price is not the only criterion, but definitely the most important. The contract duration is only one year for reasons of flexibility. Contracts are hard to dissolve, often requiring legal involvement, and the company does not want to run the risk of being forced to work with a non-performing contractor. Due to the risk of non-renewal, contractors have a strong incentive to meet performance targets. On the other hand, because contracts are only for a year, the company has little or no incentive to make substantial investments in contractor management training or training of field staff.

Irregular labor force

Staff control and management is a constant challenge for contractors. Most people in the communal areas receive a monthly stipend from the government which is just about sufficient to survive on. As workers are afraid to lose this stipend, few of them are willing to sign a labor contract. Rather, they work whenever they need the extra money and receive the money cash-in-hand every fortnight. This existence of irregular staff complicates production planning.

Insecurity

Furthermore, the regular delivery of large amounts of cash into the communal areas, which are ridden with violent crime, is a serious challenge for the contractors. They regularly change payment locations and times to prevent holdups. A conscious effort is underway to give workers free bank accounts. Some contractors are considering making bank accounts mandatory.

Insecurity in the area also creates costs for the contractors. The chains which are used to bind the sugarcane together before transport are regularly stolen and sold for scrap metal. These chains are so expensive, because of the specialized locking mechanism, that the loss of a single batch of chains could eat away most of a contractor's profit. Hence, many contractors are forced to hire security guards to protect the chains. Diesel is also in constant threat of being stolen and although this does not pose a huge cost, long delays may result because there are no fuel stations in the area.



Planting delays and low productivity

Problems with finding contractors and disappointing productivity of active contractors affected the entire project. Having fewer contractors than anticipated and many contractors unable to meet performance targets caused delays in the planting schedule.

These planting delays in turn cause tension within the cooperatives. Cooperatives expand gradually, adding more members and hence more land over time. The problem is how to define members' eligibility to share in land rental or dividend income. Do they become eligible when they sign up for membership, when their land is being planted, when their land is harvested, or at some time in between? Most cooperatives decided that because they did not want disagreements over whose land was to be planted first, everyone would share from the moment they sign up. That way, the risk of unequal planting gets spread evenly between the cooperative members.

...lack of comprehension in combination with returns that do not meet expectations generate distrust and endanger the project.

Lower land rental than expected

However, due to the delays, land is being planted far slower than initially envisioned. In some of the cooperatives, only a quarter of signed-up land is planted, and even less is producing. Hence, the actual amount of money received by the farmers for land rental is far below their initial expectations. They expected that removal of inefficiencies would increase productivity and reduce costs, leaving more profit to be shared amongst the members. Especially the farmers whose land is already producing feel that they are not getting the share they are entitled to. Some say they might prefer switching back to the old system.

Expectations of Tongaat regarding active farmers

There is a difference in reaction between active and inactive farmers. The farmers that were active and productive before the project, but simply did not have the foresight to save for re-planting and therefore saw their production dwindle, are most likely to leave the scheme. Inactive farmers are happy that they can get at least something from their land, although of course they would like to receive more money if this would be an option. The scheme was specifically designed to allow for passive farmers to participate. This allowed the company to access more cane fields within a region, and benefited the cooperative by allowing for economies of scale. The problem is that the scheme depends on the active farmers taking a lead role in managing the cooperative. If these farmers end up leaving, they endanger the long-term survival of the project.

Growing distrust

Part of this dissatisfaction stems from a lack of understanding of the scheme. Land rental is paid per hectare, while proceeds and costs are calculated per ton. Because finances are handled by the project office, and not directly by the cooperative, farmers tend not to understand the details of this process. Although currently there is complete trust between THS and the farmers, probably due in large part to the close support provided by extension staff, this lack of comprehension in combination with returns that do not meet expectations generate distrust and endanger the project.

Need for initial grant

The success of the project depends crucially on the grant nature of the initial planting. This grant allows buy-in from the farmers. The savings scheme successfully avoids the lack of maintenance and falling production which plagued the traditional system. By also including the land rental retention in the savings scheme, potential financial mismanagement problems which might plague the sustainability of the cooperative are also avoided. However, not all decision power can be taken away from the farmers. It is, after all, their land, their cooperative, and their money. Until now, perhaps partially because the earnings per shareholder were so low, all profit that was transferred into the cooperative account has been paid out as dividends. There is no money saved yet for re-planting.

Solutions to challenges

Project extension

Although currently the scheme is running well, there is a clear understanding at Tongaat Hulett and the Department of Economic Development and Tourism of threats to the long-term sustainability of the scheme. It is in the best interest of both partners to keep the scheme up and running and the farmers engaged, which is why they agreed to extend the project to five years. Although this does not overcome the planting delays, it at least ensures that all hectares planned for planting will contain sugarcane at the end of the project. No additional funds were required to extend the project, but the existing project funds will be spread over a longer period.

The increased longevity of the planting caused by the delays has a positive consequence as well: it reduces the pressure on saving funds. Instead of having to re-plant the entire acreage of the cooperative at once, planting can now be staggered over several years. Over time, each cooperative should work towards replanting 10% of their total acreage each year, funding the re-planting out of profits, rather than savings.

Insurance scheme

When fires burn down cane fields in the months when the sugar mill is not crushing, the value of the lost sugarcane cannot be salvaged. Within the sugar industry, there is a specific insurance to cover this risk. Extension officers are actively encouraging cooperatives to take this insurance.

Outcomes

At the time of writing there were 31 cooperatives in the project with a total of 2 555 members farming 3 534 hectares. In addition, the project aims to create a total of 726 permanent and over 6 000 seasonal jobs. When fully up and running, the land within the project has the potential to produce 167 000 tons of sugarcane per year. At the current rate of marginal milling profit of R 190 per ton of cane, this equals R 31.73 million of potential profits. It is supported by 71 extension officers from THS' Small Scale Grower (SSG) unit, a newly created project office. The total planting costs amount to R 64 million and are financed for R 52 million by the government and R 12.37 million by THS. The annual costs for the SSG unit amounts to R 20 million and R 2 million for the project office.

Productivity of the small farmers in the project is quickly approaching the productivity achieved by independent medium-scale farmers. Although still slightly behind, participants in the project are confident that small-scale farmer productivity will soon be comparable.



Loading recently harvested cane for transport to the sugar mill



Spillovers

The farmers are intended to be the main beneficiaries of the project. Tongaat Hulett sees the project as a way for the farmers to make money out of their often unused lands. However, when asked about what they see as the benefits of the project, farmers frequently mentioned employment generation within the community. Some farmers even went as far as saying that they were happy with the project as long as they were not losing money on their land. They were happy to see that their fields were productively used and that people were benefitting. It has to be said that the majority of landowners are living off their state pension and therefore, do not urgently need the money from the scheme to survive.

The employment generated by the project stems mainly from the contractors. It is a big step to go from a situation with independent smallholder farmers to having local businesses with the capital and capacity to undertake contract work for the cooperatives. Often these contractors had little or no experience in sugarcane contracting before entering in this process. Their willingness to take big risks involved in starting up a business of this scale shows the perceived size of the opportunity they saw. Together, the contractors are generating employment for hundreds of workers in the project area. All contractors that are currently doing well are actively looking for possibilities for expanding operations, both within and outside the project.

Within Tongaat Hulett the project has broad management support. After recognizing the initial success of the project, a corporate social responsibility (CSR) attaché was placed within the cane sourcing unit and is responsible for THS' newly started community development program, which involves supporting local schools and health centers, and other needs identified in community meetings. In addition, the CSR attaché runs the 'one home, one garden' project, which assists households in the community to develop a diversified garden with foods for home consumption. The company invests in these projects because they want to be seen as a partner, not as an extractive profit-minded business. So far, this strategy has definitely paid off.

When asking the farmers about what they see as the benefits of the project, they frequently mentioned employment generation within the community.

Unaddressed issues

Some of the issues that are currently unaddressed are the extent of the responsibility of Tongaat Hulett regarding safety, health and environmental regulation. Whereas staff working directly for THS have to adhere to very strict regulations, these conditions are less stringent for contractor staff working on cooperative fields. Currently, staff from THS visit the contractors in the field to show them where they are not meeting requirements and how they can change to do so. However, whether the contractors follow this advice is completely up to them. This problem is especially important when it comes to the application of chemicals, which are often quite potent and can have negative health consequences. However, the protective suits required by regulation are burdensome, especially in the heat of the KwaZulu-Natal summer. At the moment, this issue does not pose a threat to the success of the project, but could be a source of future contention.

3 Possibility to increase inclusiveness

Increasing the number of farmers

The scheme is designed to be as inclusive as possible. Tongaat Hulett has a clear incentive to include as many farmers and farmlands in the project as possible, up to the point where their sugar mills are at full capacity. Their expectation is that even when all smallholder farmers in the catchment area are fully producing, the mill will still not be able to reach its maximum capacity. One of the main reasons for this is high population growth and subsequent subdivision of landholdings between family members. Each family member builds his own house on the property. Because of snakes and the risk of fires, nobody likes to have sugarcane right next to their house, dramatically reducing the land area suitable for cane production. To make as much effective use of the remaining productive land as possible, there is no lower limit to the size of the contribution of land to a cooperative. Some members hold less than half a hectare of land, and anyone who has land in the catchment area and wants to plant cane on it, is welcome.

Involvement of women

Due to government involvement, more emphasis is given to the inclusion of women in sugarcane production. It is included in the tender process as one of the 'soft' requirements. Contractors that work with women are preferred over contractors that do not, if they are identical on other conditions. Positive discrimination of women for contracting work is easier than it might sound. Traditionally, Zulu men do not work the land: it is women's work. In addition, many of the men work and live in the city, but leave behind their children with their wives, meaning women bear the brunt of the responsibility for feeding the children. As a consequence, many of the contract workers are women. Some contractors even work exclusively with female staff.



Pest and weed control contractor employing only local women.
'Women are better employees because they feel responsible for their children.'



Soil preparation and planting contractor.
'Used to work in the city hospital but came back to contribute to local development.'

Providing support to local contractors

Some of the contractors are not really local, although they do hire local staff. In the tender process, contracts are given for one year only, which is insufficient time to justify the financial expense of extensive support. Creating local contractors is not in the direct interest of THS, and there are no funds within the project to do so. So if it is going to happen, there would need to be increased support. However this carries a risk. Currently, the one-year contract keeps the contractors incentivized. It puts tremendous pressure on them to make it work, and they have every reason to try their best. If there was financial support available, many people might join that do not really want to be a contractor just to benefit from the funds. This is a fear expressed by all stakeholders, including farmers and existing contractors, the latter fearing unfair competition. In other words, although inclusiveness could be increased, it will not come easily.



4 Is the business model scalable?

The model is scalable. In its current form it depends crucially on the initial grant from government and THS. However, THS believe the project can profitably be run through a loan system, but since a loan system is less profitable for the farmers, they expect buy-in to be lower at farmer level.

The current form of the model, the cooperative, was developed partly to comply with government regulation regarding inclusiveness—a condition to receive the grant. Tongaat also has a direct lease contract close to Richard's Bay. Here, land is leased directly from the farmers and production is organized by THS. For now, this model operates at a lower cost than the cooperative model. However, in the long run Tongaat hopes the cooperatives will become independent, removing a large part of production from the THS books. This would be the ideal outcome, but before investing their own funds Tongaat wants to see how the current project develops.



Plowing equipment stored in the yard of a cooperative member

1 What have been the incentives for inclusiveness?

As emerged from the Seas of Change background research, there are specific mechanisms through which business can provide inclusiveness. In order to understand what works and what does not in inclusive business models, it is crucial to know what the incentives are and how they can be aligned. Incentives lead to different mechanisms for inclusiveness and, in turn, these mechanisms create different incentives. In the case studies in this book, the following incentives were identified for large-scale businesses, local and regional small- and medium-sized enterprises (SMEs) and small-scale producers.

1 Large-scale businesses (multinationals)

There are strong incentives for companies to move closer to farmers to secure consistent supply. The key incentives that lead many companies to set up inclusive businesses are brand, reputation and supply.

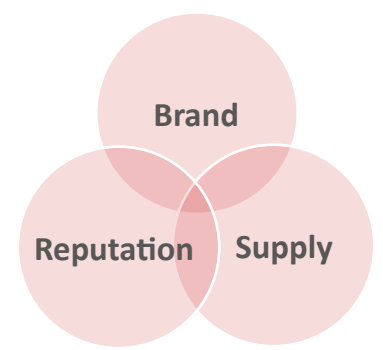


Figure 1
 Key incentives for multinational businesses to engage in inclusive business models
 Source: *From islands of success to seas of change: a report on scaling inclusive agri-food markets*. Centre for Development Innovation, Wageningen UR (University & Research Centre). Wageningen, 2012.

Build and manage brands	Ensure supply	Build reputation
<ul style="list-style-type: none"> › Market differentiation › Revitalize stagnant sales › Product development › Align brand with key clients 	<ul style="list-style-type: none"> › Build a more productive, higher quality, and loyal supply base › Comply with legal mandates › Develop new sources of supply to meet future demand and secure future supply › Lower costs 	<ul style="list-style-type: none"> › Responsible image › Risk mitigation from activist campaigns › Improved image in the national market for better government relations

Table 1
 Different incentives for large multinationals to engage in inclusive business models
 Source: *Increasing social impact through smallholder sourcing (PPP)* Sustainable Food Lab, 12 February 2014

Lessons learnt from the Analysis of Inclusive Business Models



The critical change for a company is to adapt its practices for sourcing and purchasing and to work with key partners in the supply chain to restructure trading relationships or develop new chains. However, to enable change of this kind to happen, companies also need to adapt their

- › **corporate culture:** from a competitive mind-set to a partnership-oriented outlook;
- › **operations:** create incentives for buyers to invest in creating long-term stability and development benefits in supply chains;
- › **corporate or brand communications:** integrate verified commercial and development benefits delivered through these changes.

Examples of key incentives for large-scale businesses from the case studies

Out of the 10 companies/organizations interviewed, four of them can be considered as large-scale businesses based on the size of their operations. These are Tongaat Hulett, Dairy Business Hubs (DBHs), DADTCO and Brarudi. The following are examples of key incentives identified from the case studies.

Secure supply: Tongaat Hulett, DADTCO and DBHs have clear incentives to include as many farmers as possible in their supply base in order to source enough produce to ensure maximum capacity utilization of the processing plants and units they operate. The same supply driver applies to DBHs: *'There is the need to create a large farmer and supply base, in order to bulk a substantial amount of milk, to attract cheaper services and to improve the negotiation position towards buyers'*.

Brand and supply: both social and economic goals drove the move of Brarudi SA when in 2008 they launched a new beer product, Nyongera, made from locally sourced sorghum. This product marked the company's strategic switch from reliance on imported raw materials to sourcing from the local economy in the hope of gaining significant economic benefits through cost-saving for the company. At the same time, the initiative aims to improve the livelihoods of 8 000 sorghum producers by sourcing 5 000 tons of sorghum.

2 Local and regional SMEs

The following case studies concerned SMEs: Mozambique Fresh Eggs, Novos Horizontes (New Horizons), Gadisa Gobena Commercial Farms Plc, africaJUICE, Depasa Agro Industry and Bosman Family Vineyards.

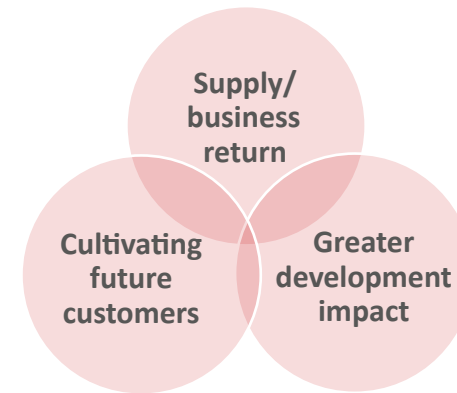


Figure 2

Key incentives for local SMEs to engage in inclusive business models

According to the cases introduced in this book, SMEs have the following key incentives to engage in inclusive business models:

- › Maintaining a strong drive to contribute to greater development impact by engaging with the local community.
- › Cultivating future customers by doing business with people through offering inputs and, at the same time, market outlets for their produce (selling animal feed, buying chickens back).
- › Ensuring stable quality supply for operations of SMEs.

Examples of key incentives for local SMEs from the case studies

Greater development impact: the vision of both Novos Horizontes and Mozambique Fresh Eggs is to invest in activities that foster entrepreneurship and innovation among growers. In their view, investment should occur in a way that benefits all actors in the chain and have a long-lasting effect on their economies. Both companies could have set up their own farm or sourced only from farmers with larger operations, but based on company values and beliefs, they consciously source from farmers with small, medium or large-scale operations.

Business and social factors drive the engagement between Gadisa Gobena Commercial Farms Plc and small-scale farmers. Gadisa Gobena Commercial Farms Plc sees the seed sector as an opportunity that fits its business model of working with small-scale farmers. There is a chronic shortage of seed in the area where Gadisa Gobena Commercial Farms Plc is based and the company stepped in to fill the supply gap.

Supply/business return: while large companies are struggling with proving the business case for inclusive business models, smaller companies such as Novos Horizontes have a lot less trouble doing so. As the manager of Novos Horizontes put it, *'For us, the business case is a matter of life or death. If there is no business case, we cannot survive.'*

Cultivating future customers: one very interesting aspect about the way the SMEs work with smallholders is how the companies nurture their future customers. This is an area which was not evident in the cases looked at by the researchers, as they did not look at bottom-of-the-pyramid (BoP) initiatives i.e. smallholders as buyers. But an example could be a feed company selling poultry feed to poultry farmers and, at the same time, buying up the chickens from the farmers and putting them on the market, thereby motivating the customer base to buy more feed and raise more chickens.

3 Small-scale producers

For smallholders, the key incentives to engage in inclusive business are:

- › **Increased resilience:** securing stable markets and increased income for smallholders can lead to enhanced food security.
- › **Revenue growth of smallholders:** this can stem from a variety of sources:
 - *Increased access to markets* e.g. at premiums for higher-quality and certified products.
 - *Guaranteed prices* through contracts with companies are sometimes even higher than market prices e.g. Depasa Agro Industry, a fair trade registered company, pays higher than the market price for produce under its existing arrangement with smallholders.
 - Even if prices are not increased substantially, the *increased productivity* through better agricultural practices can still lead to higher yield per hectare and to higher overall returns from farm activities.
- › **Access to risk management options and finances:** by engaging in the supply of produce to companies, farmers are more exposed to different options for risk management and access to credit:
 - *Price risk management:* stable agreements on prices for produce, e.g. in the case of DADTCO which pays a reasonable and steady price for cassava, even though growers' aspiration is always to receive the highest return for their produce. DADTCO pays 1.5 MZN/kg of cassava collected at the growing area and 2 MZN/kg of cassava delivered by growers themselves to the AMPU (processing) site. Usually, the company issues the payment to the growers on the site.
 - *Production risk management:* examples include the use of improved varieties, better agro technology such as spacing of plants which results in greater yields, and good management practices such as replenishing soil nutrients (DADTCO).
 - *Access to finance:* in case of Dairy Business hubs, the costs for hub establishment were financed through 10 % farmer equity, 30 % interest-free loan provided by the project and 60 % commercial loan.



Figure 3
Key incentives for small-scale producers to engage in inclusive business models



Other incentives include:

- › **Access to inputs:** examples are fertilizer, pesticides, water, irrigation infrastructure, information, etc.
- › **Geographical location:** proximity to buyers and marketing channels in general. In the case of Depasa Agro Plc, smallholders are eager to sell their sesame to the company because the alternative of delivering their sesame to the nearest Ethiopian Commodity Exchange (ECX) warehouse is challenging. Most ECX warehouses are located in towns and therefore coordinating logistics and transportation of produce to warehouses and trade is difficult for the farmers.
- › **Membership of an association:** this provides a range of services and enhanced negotiating power.

Smallholders are included or excluded in the evolving supply chain depending on their ability to undertake the necessary technological, managerial and organisational changes:

- › The required change should not be such a big hurdle for farmers that they would shy away from meeting the challenge. Technological simplicity is key. In the case of africaJUICE, pollinating passion fruits puts a lot of pressure on farmers who do not always see the benefits of their efforts.
- › Interventions of government, businesses and development partners can strengthen the capacity of farmers to make the changes that are necessary for inclusion in the evolving chains, whilst at the same time ensuring that these changes do not pose insurmountable hurdles for them.

Examples of key incentives for local SMEs from the case studies

Secure stable market and price: in the case of Depasa Agro Plc, the primary cooperatives collect farmers' produce on behalf of the company at the market price plus an extra 85 birr. The local market price for sesame is determined by the international market price which can be accessed via the Ethiopian Commodity Exchange (ECX).

AfricaJUICE guarantees market for its farmers based on floor pricing. Farmers get this minimum price even when international prices are lower. However, when international prices increase, adjustments are made.

Often skilful small-scale farmers struggle to find suitable markets for their crops. In contrast, private companies possess the capacity to access modern and developed markets. Hence agri-businesses and farmers can capitalize on each other's strengths by establishing fruitful partnerships, as in the case of Mozambique Fresh Eggs (MFE). Farmers are also attracted by market stability, as one farmer stated about the importance of dairy business hubs (DBHs): *'As Muki [...] established the milk factory and has permanent offices in the village, I can be sure they will stay'*.

Knowledge: this is where farmers can make a meaningful impact on the business and, by extension, on their lives. Before Mozambique Fresh Eggs (MFE) was created, Novos Horizontes (NH) produced eggs for consumption on a small scale. Mortalities oscillated between 10–15 birds per week. Today, mortalities have dropped significantly thanks to the growers' good management.

Access to inputs: for the farmers this is an opportunity to get access to improved seed at affordable prices equivalent to that of the local unions or public seed enterprises. This is the case for Gadisa Gobena Commercial Farms Plc in Ethiopia. For africaJUICE, farmers are attracted by access to water, inputs and business development services.

Access to capital: in the MFE case study, capital was identified as a constraining factor for farmers wanting to start their own business. A company, however, can allocate or invest resources when needed.



2 What makes the business model inclusive?

What are the mechanisms that stand out for promoting or sustaining inclusiveness?

Based on the analysis of the business model principles and the business models that were studied, a series of spider graphs were developed (see below). Each graph offers a glimpse of the smallholders' inclusion at the company-smallholder interface.

The indicators were scored based on the experience gained during the field visits. Ideally, scores should reflect the opinions of the different actors involved in the chain, resulting in as many spider webs as actors, to be able to identify the pressure points (what dimensions create disagreements among the stakeholders during evaluation) and to offer opportunities for intervention. However, this type of research would have required more time in the field, which was not possible. Therefore, the graphs below represent the views of the researchers on each business model as a whole.

For each case, one or two principles stand out in compliance. The last column in Table 2 illustrates examples of mechanisms that made those principles fare better than those of the others. In other words, described mechanisms give hints on how the business model promotes or sustains the inclusion of smallholders in each company's sourcing strategy. These mechanisms are further depicted below.



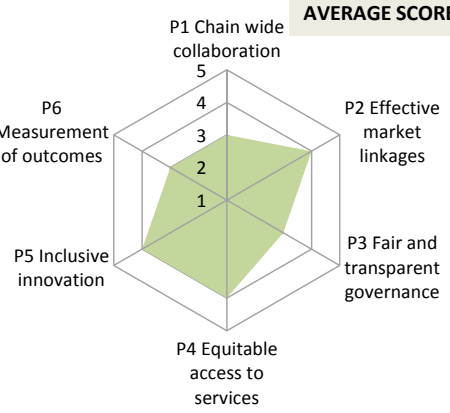
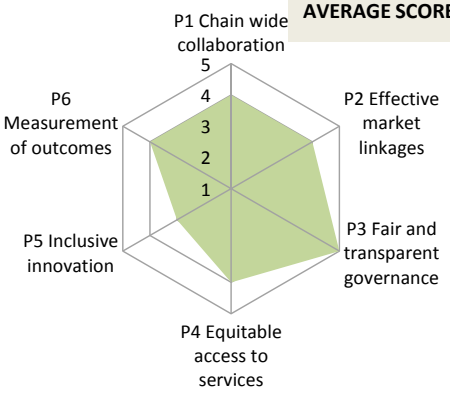
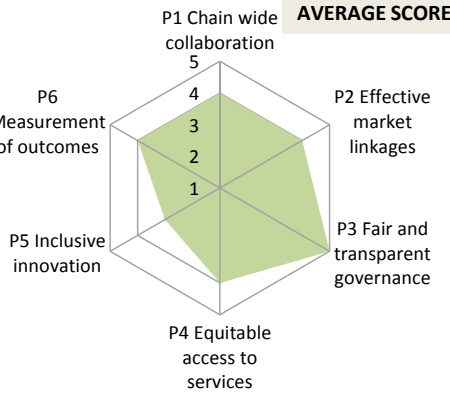
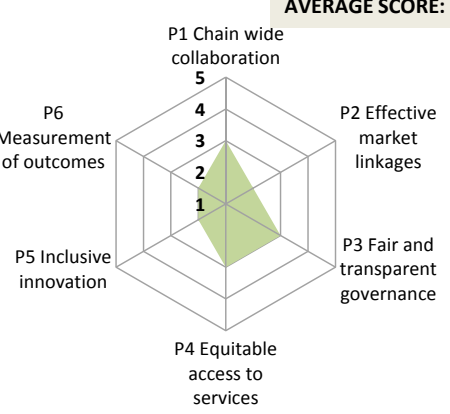
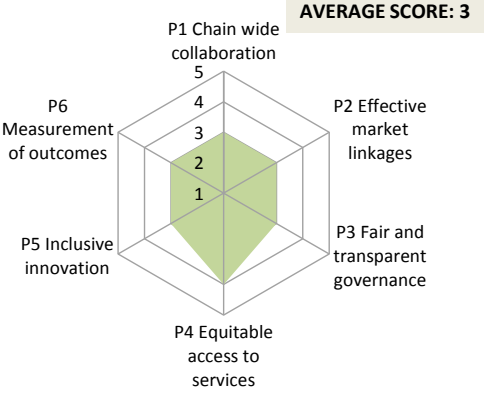
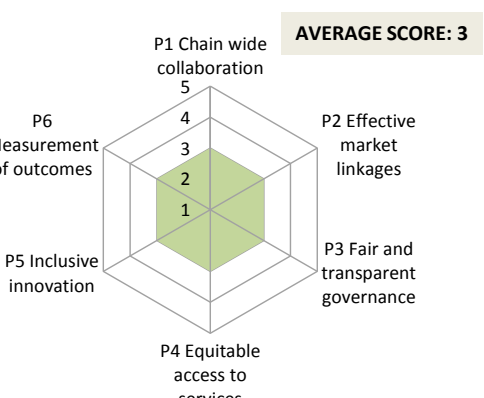
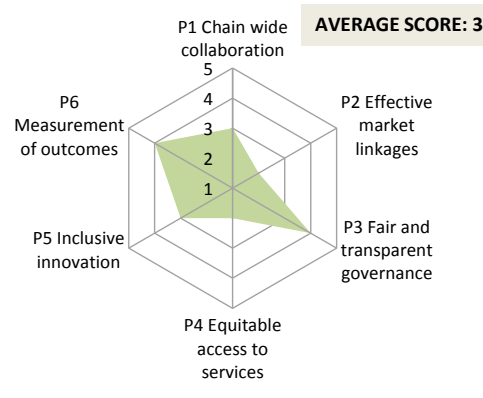
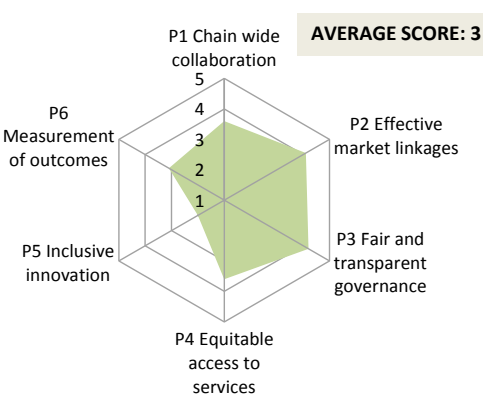
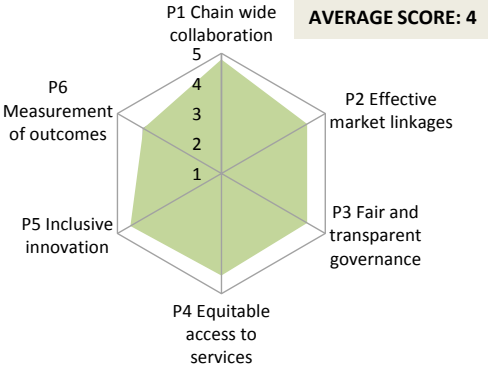
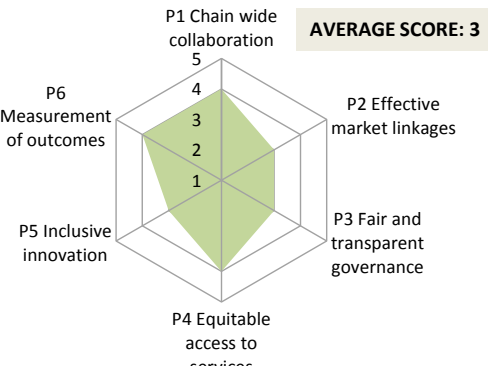
Company	Business Model	Inclusiveness Scored 1–5 (1 meaning no compliance; 5 meaning full compliance)	Mechanisms (numbers refer to explanation below the table)	Company	Business Model	Inclusiveness Scored 1–5 (1 meaning no compliance; 5 meaning full compliance)	Mechanisms (numbers refer to explanation below the table)
Dutch Agricultural Development & Trading Company (DADTCO)	Multipartite model	 <p>AVERAGE SCORE: 4</p>	<p>Mobile processing unit of fresh cassava (P5)</p> <p>Sharing improved local varieties and best practices with farmers (P4)</p>	Mozambique Fresh Eggs (MFE)	Centralized model	 <p>AVERAGE SCORE: 4</p>	Farmer-firm co-investment (P1)
Novos Horizontes (NH)	Centralized model	 <p>AVERAGE SCORE: 4</p>	<p>NH only works with husband-wife households (P3)</p> <p>Financial model based on the 'Efficiency performance factor' (P6, P3)</p>	Gadisa Gobena Commercial Farms PLC	Informal model	 <p>AVERAGE SCORE: 2.5</p>	After-sales services (P4)

Table 2
Mechanisms for increasing inclusiveness

Company	Business Model	Inclusiveness Scored 1–5 (1 meaning no compliance; 5 meaning full compliance)	Mechanisms (numbers refer to explanation below the table)
africaJUICE	Centralized model	 <p>AVERAGE SCORE: 3</p>	<p>Guaranteed market (P2)</p> <p>Service provision on a credit basis (P4)</p> <p>Measuring yield as the main performance indicator (P6)</p>
Depasa Agro Industry	Centralized model	 <p>AVERAGE SCORE: 3</p>	<p>Strategic price setting (P2)</p> <p>Access to market information from different sources (P3)</p> <p>Introduction of first legally binding contracts in Ethiopia (P5)</p>

Company	Business Model	Inclusiveness Scored 1–5 (1 meaning no compliance; 5 meaning full compliance)	Mechanisms (numbers refer to explanation below the table)
Brarudi (Heineken)	Centralized model	 <p>AVERAGE SCORE: 3</p>	<p>From pilot to scale-up phase: bridging the identified gaps (P6)</p>
Tongaat Hulett (TH)	Nucleus estate model	 <p>AVERAGE SCORE: 3</p>	<p>Harvesting contractor for critical supply chain link (P1)</p> <p>Aggregation of smallholders (P5)</p> <p>Daily supervision and monitoring (P6)</p>



Company	Business Model	Inclusiveness Scored 1–5 (1 meaning no compliance; 5 meaning full compliance)	Mechanisms (numbers refer to explanation below the table)
Bosman Family Vineyards	Equity-sharing	 <p>AVERAGE SCORE: 4</p>	<p>External finance (P1, P2)</p> <p>Staff training before expanding the commercial relationships with smallholders (P4)</p> <p>Equity share scheme (P5)</p>
Dairy Business Hubs (DBH)	Centralized model	 <p>AVERAGE SCORE: 3</p>	<p>Farmer-processor collaboration (P1)</p> <p>Farmers' view represented on the Steering Board (P3)</p> <p>Check-off system (P4)</p> <p>An external research institute to measure project outcomes (P6)</p>

The key inclusiveness-enhancing mechanisms are explained in more detail below, with examples of mechanisms that promote and sustain the engagement with smallholder farmers. Mechanisms are classified according to which business model principle they reinforce.

Business model principles

Principle 1—Chain-wide collaboration

Farmer-processor collaboration: Dairy Business Hubs (DBHs)

The aim of the model is to enable all actors involved (input/service providers, processors and farmers) to become a sustainable business after an initial investment in capacity-building, infrastructure and equipment. As a result, the transaction costs throughout the chain are expected to drop and milk production and quality to increase by virtue of service and input availability.

Harvesting contractor for critical supply chain link: Tongaat Hulett (TH)

The harvesting contractor is responsible for cutting and bringing the sugarcane to the loading area. Here it is loaded onto trucks owned by a transport company, which is then responsible for bringing the cane to the crushing mill.

External finance: Bosman Family Vineyards (BF), Tongaat Hulett (TH)

In addition to the initial investment by government, the Bosman family accessed extra funding through Casidra, a semi-governmental development organisation residing under the provincial department of agriculture. This funding was used to expand the business by purchasing land and other assets.

In the case of Tongaat Hulett, the success of the project depends crucially on the nature of the grant provided for the initial planting. The grant from the KwaZulu-Natal Department of Economic Development and Tourism allowed buy-in from the farmers.

Farmer-firm co-investment: Mozambique Fresh Eggs (MFE)

Commercial egg production requires bio-secure, equipped chicken runs. MFE provides most of the material and equipment needed, although growers also contribute some of their own materials, such as bamboo, rows of cut grass and blocks. Financially speaking, setting up a chicken run is an investment worth USD 5 000 (excluding layers), and the expenses are covered by the company. MFE is nevertheless entitled to remove all materials in case of continued poor performance or theft.

Principle 2 — New market linkages

Guaranteed market: africaJUICE (aJ)

Farmers receive a floor price set above the market price. If international prices increase, africaJUICE immediately adjusts the price in accordance with the new higher price. This has two important benefits. On the one hand it creates a stable market for farmers who traditionally suffer from the impact of market imperfection for fruits and vegetables such as onion, pepper and cabbage. On the other hand, farmers can see how the floor price minimizes the risks associated with the activity.

Depasa Agro Industry's strategic price-setting

The company guarantees the market and provides interest-free loans (USD 500 000 in 2013) to the out-grower cooperative reaching more than 1 600 households. The primary cooperatives collect farmers' produce on behalf of the company at the market price plus 85 birr.

Principle 3 — Fair and transparent governance

Farmers' views represented on the Steering Board

Important decisions in each dairy business hub are taken by their steering boards. Subsequently the management is responsible for executing these decisions. The boards always consist of representatives of different areas or cooperatives. Board members are elected by the farmers and usually serve for a period of three years, meaning that one-third of the board is changed every year. Ideally, the farmers are represented by the board member from their area or cooperative. However, average farmers are usually not elected to be board members.

Access to market information from different sources

Farmers of Depasa Agro Industry have access to information from different sources such as the Ethiopian Commodities Exchange (ECX), mobile networks, NGOs and other development partners working in the region.

New Horizons (NH) only works with husband-wife households

Many of the first farmers who joined the company back in 2006 often spent their profits unwisely. What followed was an abandonment of activity after pay-day. To put an end to this problem, NH decided to engage more actively with the farmers' wives who were believed to possess outstanding management skills. Results proved that the empowerment of the women has brought about noticeable improvements to the household's quality of life. For example, the family would now invest part of the profits in paying off any debts, buying water buckets or installing a new roof.

Financial model based on the 'Efficiency Performance Factor'

Payment to farmers is based on the so-called 'Efficiency Performance Factor'. NH's financial model combines the weight of the birds, the days taken to achieve that weight, mortality and the feed conversion ratio, to estimate the earnings owed to the growers. As it is conceived, growers can significantly increase their earnings by improving their management skills. NH does not negotiate credit or debt with growers.



Principle 4 — Equitable access to services

africaJUICE's service provision on a credit basis

Under the existing out-grower arrangement, africaJUICE provides new technologies such as access to water, fertilizer, chemicals, trailers and other materials required to grow passion fruit on a credit basis. The out-grower project team provides technical support, agronomic advice, cooperative management and mobilization to the farmers.

After-sales services

After-sales services such as coaching and extension support are provided to farmers who purchase seed from Gadisa Gobena Commercial Farms Plc. The after-sales service (consultation on planting, weeding and harvesting, and provision of harvesting equipment) is strongly regarded as an effective means of technology and knowledge transfer. The fact that the farm is located close to the farmers is also seen as a positive factor which creates emotional attachment and a sense of belonging.

Dairy Business Hub check-off system

The check-off system allows farmers to use services or buy inputs throughout the month without the need to pay cash. When a farmer wants to use a service, the service provider checks the farmer's creditworthiness. This is based on the amount of milk that the farmer has supplied and the services he has taken. At the end of each month the cost of the services will be deducted from the payment. Cooperatives are usually registered as a single supplier and therefore the check-off system also has to pass through the cooperatives. Although the use of the check-off system is restricted, usually non-members or inactive farmers are not excluded from the services provided by the hubs.

Training staff before expanding the commercial relationships with smallholders

Bosman Family Vineyards' extensive training program of all company staff before embarking on the development of the business plan was crucial to the success of business expansion. Topics for the trainings were suggested by the consultant in agreement with the workers and primarily concerned finance and management. The company paid for both the consultant and the trainings. By ensuring all employees understood the implications of the change, before negotiating the terms and conditions of the business plan, a sense of common purpose was created which increased the willingness of the partners to accept their responsibilities and honour their commitments.

Sharing improved local varieties and best practices with farmers

It is in the interest of both DADTCO and small-scale growers to work closely together towards a vibrant and reliable cassava sector. Concerned players agree that this transformation needs to be supported by improved local varieties and better management practices. In this way, DADTCO would get a steadier and high starch-content supply of improved cassava. Additionally, growers would pave the way for a successful transition to commercial cassava farming. The International Fertilizer Development Centre (IFDC) plays a central role in cassava development. The NGO undertakes the training of farmers and facilitation of improved seeds. The former revolves around provision of training on topics such as best crop practices (i.e. proper weeding and spacing), intercropping or land management. Training takes place in the sourcing areas and brings together growers from different regions and community leaders.

Spill-over, community projects: Tongaat Hulett started a community development programme, which involves supporting local schools and health centres, and other needs identified during community meetings. In addition, they launched the 'one home, one garden' project, which assists households in the community to develop a diversified garden with foods for home consumption. The company invests in these projects because they want to be seen as a partner, not as an extractive profit-minded business. So far, this strategy has paid off.

Principle 5 — Inclusive innovation

Mobile processing unit for fresh cassava

DADTCO's innovative and collaborative approach is creating an emerging market for a previously mostly subsistence crop (cassava) in Nampula, Mozambique. At the core of the business lies the Mobile Processing Unit, an exciting, versatile and innovative machine designed to process fresh cassava into cassava cake onsite.

Introduction of the first legally binding contracts in Ethiopia

Depasa is a pioneer in adopting contract farming in Ethiopia for out-grower schemes. Since then, many other companies have followed similar footsteps. But prior to lobbying for a legal framework, the company engaged at the grassroots level to sign informal contracts with three farmers' cooperatives, out of which one defaulted on payments.

Aggregation of smallholders (Tongaat Hulett)

Increasing production and quality at Tongaat Hulett required more intense coordination, which was costly; economies of scale were needed. In order to reach this scale, land units would need to be grouped together into larger farming units, which could then be managed more effectively by using machinery and benefiting from economies of scale in input purchases. In addition, extension services would be more effective by making group training possible. During a discussion of the supply problems with the management team, consisting of the leader of the small-scale grower unit and the area managers who led the extension staff, cooperatives were suggested as a possible solution. This way, the ownership and decision power would remain within the community and its members, and there would be a production unit large enough to benefit from economies of scale. Internal support for the project was strong, going up all the way to top management.

Equity share scheme

The Bosman family wanted to take the empowerment of their workers to the next level. At the time they heard about the existence of government-funded Equity Share Schemes, they already had a long history of empowering their workers. By actively involving the workers in the running of the farm by making them co-owners, the company hoped to increase farmers' intrinsic motivation.

Most workers considered the chance to become co-owner of the business they and their families were so involved in, often for generations, as a one-off opportunity. Their active involvement in the process and the willingness of management ensured that none of the existing reward structures, including bonus payments, were changed. In addition they would receive dividends whenever a profit was made, however small these payments might be. This resulted in increased income and pay-out of the principal when the shareholder passed away—in effect free life insurance. All employees who had worked at the farm for at least three years were eligible to participate in the share scheme, as were all recently retired employees. Every eligible employee participated.



Principle 6 — Measurement of outcomes

Measuring yield as the main performance indicator (africaJUICE)

Economic return per hectare is the key index for measuring outcomes from this venture. Generally, the outcome is well known and predictable. The fact that a minimum price is set at the start means that farmers know roughly what to expect by estimating their yield. Normally harvesting and delivery takes place on a daily basis for 10 months and farmers are paid every two weeks. There was also a baseline survey at the beginning of the project to profile the livelihoods and income of the farmers involved in the project.

An external research institute to measure project outcomes

The International Livestock Research Institute (ILRI) is currently monitoring the progress of the East African Dairy Development (EADD) project. According to personal communication with an employee of ILRI, the task of monitoring was characterized by a shift from monitoring and evaluation (M&E) to monitoring, learning and evaluation (MLE).

Daily supervision and monitoring

Day-to-day monitoring is carried out by Tongaat Hulett extension staff. They consult with the cooperative committee and contractors on sugarcane planting, fertilizing, and weeding schedules. These meetings take place weekly. Perhaps most importantly, harvesting schedules are discussed. Harvesting is particularly crucial as it needs to take place evenly throughout the season, to keep the mill running constantly. The extension staff supervise and direct contractors hired by Tongaat Hulett to re-plant the sugarcane and assist in supervising the contractors employed by the cooperative. This support is crucial to the success of the project, as many contractors have little or no experience in ratoon maintenance or cane harvesting. Extension staff actively visit fields where contractors are working to ensure they are doing a good job and to provide advice wherever needed.

From pilot to scaling-up phase: bridging the identified gaps

Most of the activities undertaken by Brarudi at the scaling-up phase aimed at increasing the number of farmers within the pilot regions and in other potential provinces—Makamba and Rutana. However, prior to the start of this phase, project partners evaluated in great detail all challenges encountered during the pilot phase. In this way, concrete actions to bridge these gaps could be undertaken effectively (i.e. price revision or new variety selection).

3 What are the possible areas of improvement to increase inclusiveness?

Inclusive businesses engage with low-income households for their mutual benefit. The corporate interests vary i.e. reputation, securing supply return, or brand positioning.

When viewed from the angle of smallholders, benefits come from higher prices, improved access to markets, financial services or labour markets.

However, often certain areas within the smallholder-company interface can be reinforced for the betterment of the poor. On the basis of the New Business Model Principles, the following areas were identified for intervention.

New market linkages

- › **Holistic approach to increasing the income of smallholders:** overall, diversifying farmers' portfolio of products not only strengthens relations, it also results in a greater developmental impact on the local economy. To give an example, the provision of dried cassava peel by DADTCO can motivate cassava farmers to diversify their economic activity and ease their dependence on agricultural production (cassava in animal feed). The same applies to Gadisa Gobena Commercial Farms Plc, where a possible area for further inclusiveness is to introduce new seed assortment, particularly fruit and vegetable seed. In the case of africaJUICE, intercropping of passion fruit with crops like onion, pepper, cabbage and haricot bean gives substantial and quick returns for the farmers, to compensate for the lost income from growing passion fruit.
- › **Use of animal by-products:** the use of manure at the end of the production cycle might foster inclusiveness by virtue of providing farmers with an extra source of income. Manure can be recycled in the coming production cycle, used as fertilizer for crops or sold to neighbouring farmers.
- › **New product development:** current suppliers of sorghum to Brarudi SA in Burundi have stated their willingness to also grow rice on a commercial scale should trading conditions with the company remain stable or improve. The company also expressed their interest in exploring this possibility.

Fair and transparent governance

- › **Fostering gender involvement:** the value chains studied showed that women were more productive on crops that require intensive farm management. Consequently, this presents a big opportunity for fostering women's participation and improving yields in the out-grower project.
- › **Increased transparency:** this can be achieved through better collaboration with other actors in the chain and involving more farmers in steering board committees.



Equitable access to services

- › **Set up a one-stop shop for farmers** where they could get seed, fertilizer, herbicides, pesticides, veterinary services, artificial insemination services or training on agronomic practices. A service package of this type would enable smallholders to cater more effectively to the needs of the businesses.
- › **Improved access to financial services:** project partners in the Brarudi case are in talks with a local microfinance institution to facilitate loans to the sorghum farmers. This is an important step in attracting more farmers, as well as addressing the cash shortage faced by the existing out-growers.

Inclusive innovation

- › **Strengthen management skills:** most of the interviewed farmers underscored the need to prepare for and manage their own risks. So to improve efficiency and foremost to control costs and mitigate risks, companies could provide farmers and farm business managers with practical business planning skills.

Measurement of outcomes

There is a lot to be improved in this area. In the case of inclusive business models where only businesses are involved, measurement of outcomes is limited to measurement of profits. In addition, there can be weaknesses in the process, such as lack of transparency.

In the case of dairy hubs in the East African Dairy Development (EADD) Project, it is clear that progress of the program is being monitored, a task mainly performed by ILRI. According to one of the farmers at the Metkei dairy hub, balance sheets are presented to farmers. However, another shareholder of Metkei indicated that he would like the company to be more transparent about its performance as he believes the figures are manipulated so that farmers cannot understand them.

Where other actors are also involved, such as development or government agencies, it is likely that other parameters, such as increased incomes for farmers, will be measured in addition to profits. However, indicators that can be benchmarked against those of other similar inclusive business initiatives were found to be missing.



1 Why scaling is important?

Unless scaled up, good initiatives are likely to remain 'islands of success', instead of becoming accepted common practice and functioning as 'seas of change'. Scaling up, however, requires specific and explicit effort. The challenge for 'scaling' is that, what works successfully at small scale will not necessarily work at a larger scale. What works in one situation, will not automatically work in another. The analysis of the case studies shed some light on this complexity by identifying some of the factors that lead to successful scaling.

2 Types of scaling

Scaling out refers to quantity while *scaling up* refers to quality. Depending on what is being scaled, scaling out means replication, copy-paste, expansion, extension, dissemination, transfer (of technology), mainstreaming, or roll-out. Scaling up means transition, institutionalisation, transformation, integration, incorporation, evolution, development. In business, scaling up can happen via internal growth, or through partnering with other private or public sector actors.

Scalability in scaling up is different from scalability in the process of scaling out.

Scalability in scaling out essentially involves replication; there must be a prototype. In scaling up, there is no such thing, because scaling up entails a change in qualities/properties which involve more complexity. Most challenges in scalability will therefore relate to scaling up.

When scaling up, one of the major differences emerging from the case studies between SMEs and large companies, is that while large companies can set up and experiment with research and development (R&D) pilot projects on developing inclusive business models, identifying the right business models for SMEs means 'life or death', as the manager of Mozambique Fresh Eggs put it. SMEs generally have neither the time nor the resources to set up pilot projects. They have to get it right the first time.

Scaling out and up



3 Critical factors for scaling

The Business Innovation Facility (2013) identified seven reasons why inclusive business models might fail to scale out or up:

- 1 The business model is not sufficiently commercial.
- 2 Other external factors limit the commercial proposition and ability to scale commercially.
- 3 Market demand turns out to be very limited.
- 4 The business cannot access growth capital.
- 5 There are structural or capacity constraints to growing the business.
- 6 There are no, or very limited, economies of scale for the business model.
- 7 There is a lack of ambition or incentive to go to scale.

In the studied cases, the following key factors were identified as critical to scaling:

1. Commercial viability
2. Ambition level and experience
3. Attractive value proposition for farmers both existing and new
4. External environment
5. Access to finance and financial viability
6. Structural challenges to scaling up
7. Organizational and capacity constraints to up-scaling
8. Ground-level presence by company
9. Partnerships

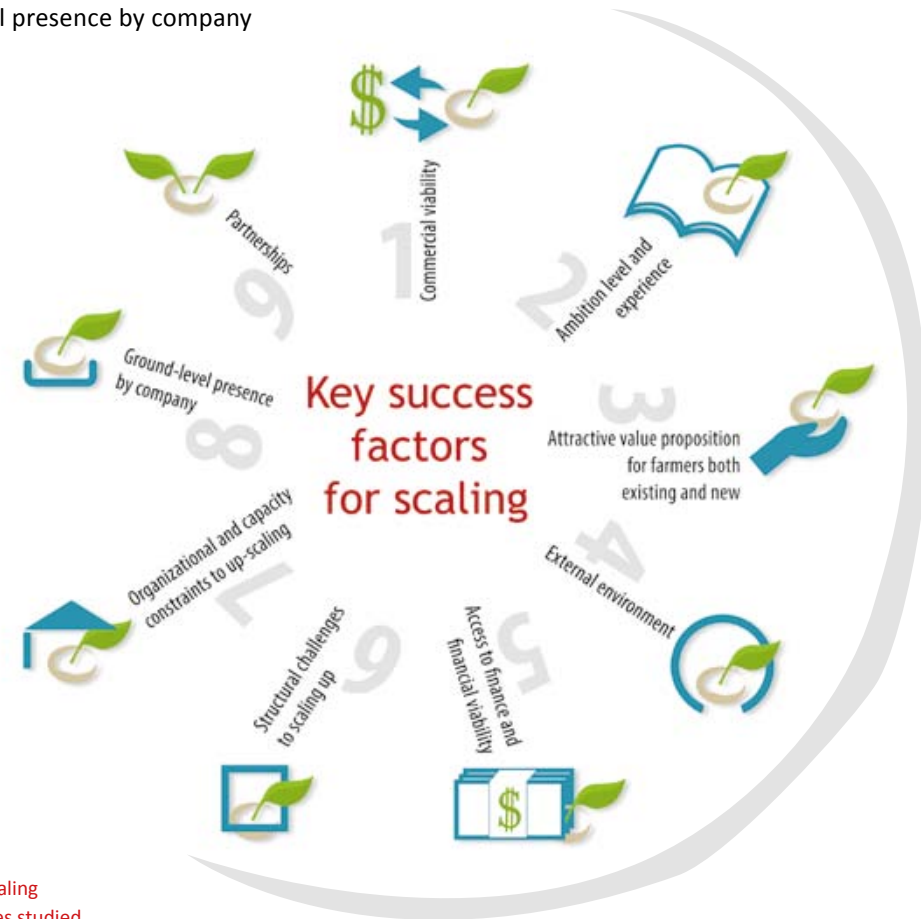
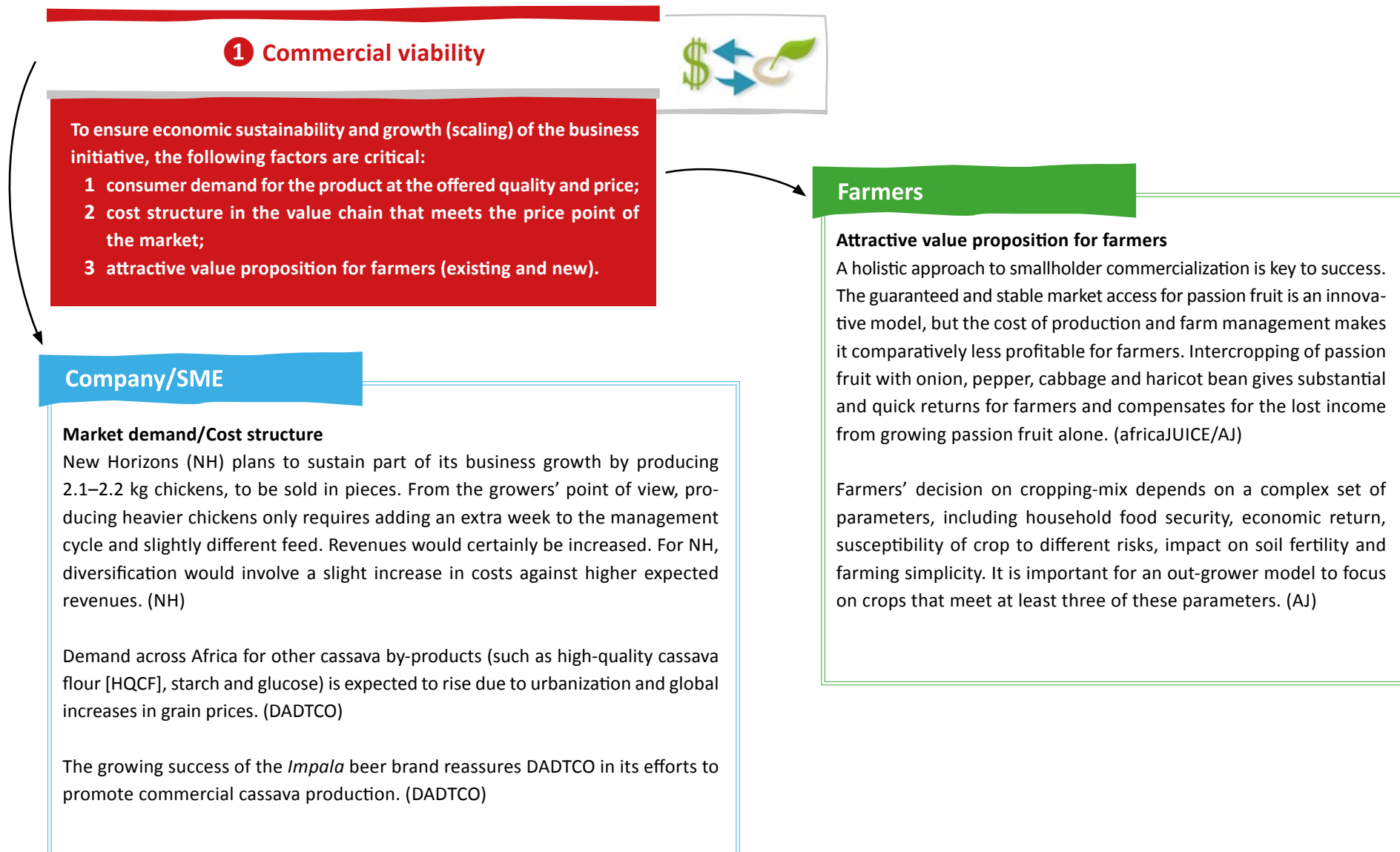


Figure 1
Critical factors for scaling
based on the 10 cases studied

The different factors are further elaborated below in relation to the different case studies and from the perspectives of the farmers and companies where applicable.



2 Ambition level and experience



Ambition should not be limited to economic returns, but include development impact and experience with agriculture and inclusive business models. Working with smallholders in ways that encourage setting up close trading relationships and investing together in business models takes time and patience. Therefore the company needs to have the ambition and appetite to include additional smallholders as the business grows. This requires ambition in terms of business and social impact, as well as the ability to offer different development trajectories to different segments of smallholders depending on the needs of the farmers.

Company/SME

The founder and owner of Depasa Agro Industry Plc is an agronomist by profession and has served at different governmental and non-governmental offices before he set up his own business in Ethiopia. He also has the required networks in the private and public sectors to manage his business. (DAI)

Andrew Cunningham is determined to make a real and significant impact on the local community. He believes today's African society must be developed for a more promising future and certainly not at the expense of the poorest. (MFE)

MFE could have decided to simply increase the number of birds that each grower must produce. Instead, the company is committed to reaching out to more families that could benefit from the activity. (MFE)

The Bosman family wanted to take the empowerment of their workers to the next level. As a result of their initiative, social returns were substantial, as reflected in increased incomes, increased participation of employees in management functions and drastic reductions in staff turnover. (BV)

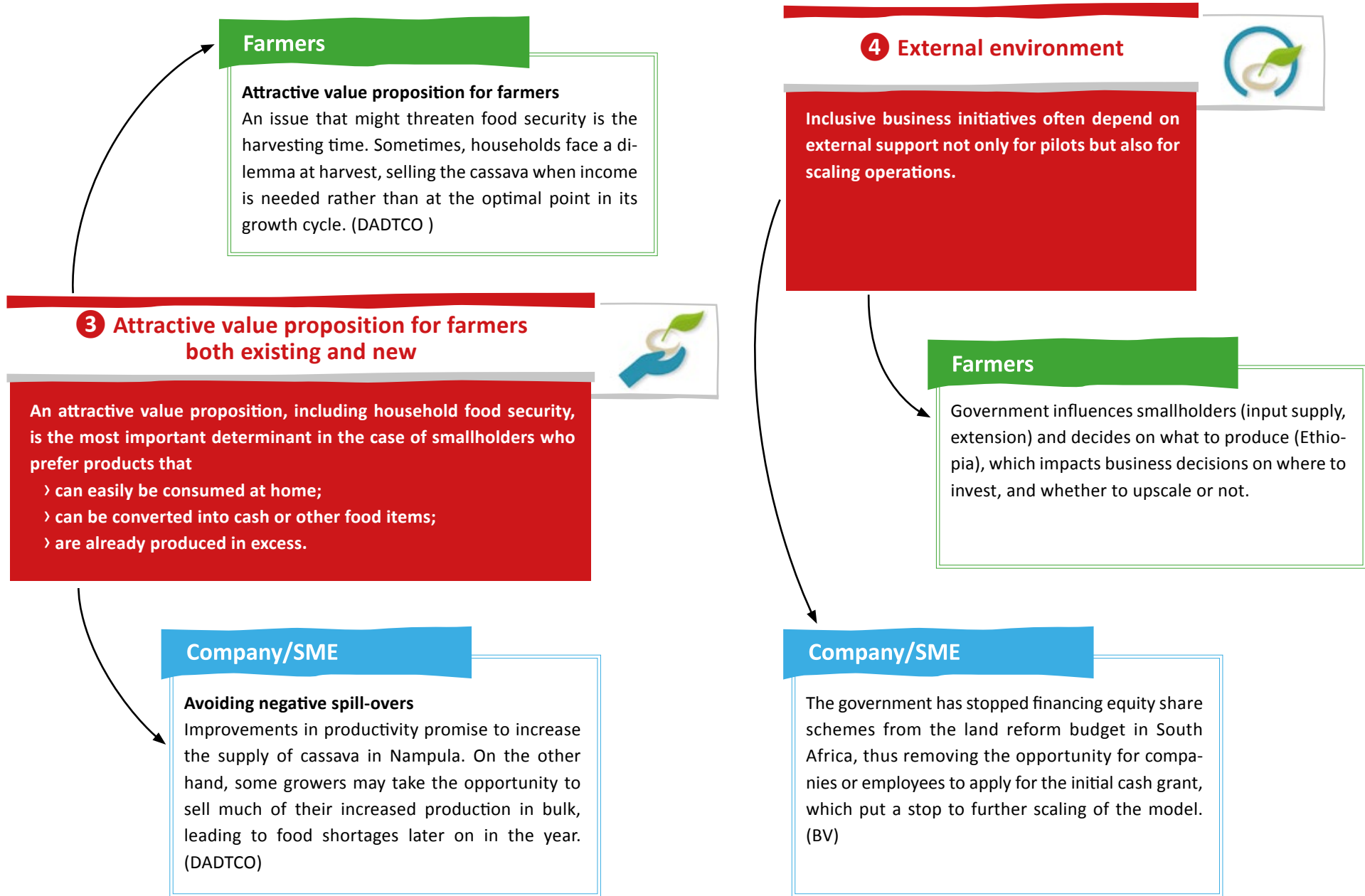
Farmers

The potential to commercialize the farm operations, at least partly, is key.

The new requirements set by NH led to the creation of a new generation of farmers with a strong sense of responsibility and good business skills. Farmers who perform well earn higher returns and face almost no risk of being excluded in the near future. By contrast, starters or struggling farmers need to turn their efforts into profits in the space of two to three cycles if they want to stay in the company.

NH grows at a rate of 40% every year. To sustain this growth some growers have effectively increased the number of birds under management. However, the majority of farmers need to build capacity at a slower rate before they can take on more production. As a result, NH efficiently manages a wide range of growers with different demands and needs. (NH)

Providing a steady source of income to growers is just the first step. There must be a follow-up program with families that focuses on the household and helps them develop plans for their future by using the wealth gained from poultry production. (NH)



5 Access to finance and financial viability



With scaling up, access to finance becomes increasingly important for inclusive business models operating in low-income markets. There have been a variety of innovative financial mechanisms developed in recent years: grants, insurance, guarantees, various risk-sharing instruments and, as one of the cases illustrates, equity share schemes.

The financial model needs to be assessed periodically. Can the financial model sustain the inclusion of more farmers? Will limiting factors influence the model? If yes, how? All these questions (and more) need to be considered.

Key decision criteria for farmers regarding financial viability of their operations:

- › comparative return of the product to other produce of the farm;
- › payoff period;
- › cash inflow during the phase of critical need;
- › produce can be converted to cash to purchase food crops.

Farmers

Access to finance

The government of South Africa financially supported workers of Bosman Vineyards allowing the purchase of 50 % shares in two of the largest farms and a 5 % stake in the running company. (BV)

MFE provides most of the materials and equipment needed for farmers to build chicken runs, although growers also contribute some of their own materials. Financially speaking, setting up a chicken run is an investment of USD 5,000 (layers aside), and the expenses are covered by the company. MFE is nevertheless entitled to remove all materials in case of continued poor performance or theft. Therefore, without the financial back-up, growers would face insurmountable challenges. (MFE)

The costs of establishing the dairy business hub were financed through 10 % farmer equity, 30 % interest-free loans provided by the project and 60 % commercial loans. (DBH)

Company/SME

Access to finance

Tongaat Hulett adopted an inclusive business model with a government grant, but strongly believes that the project can be run profitably through a loan system. (TH)

Viable financial model

Defaulting: all hubs are struggling to keep farmers loyal to them and prevent side selling to other buyers. (DBH)

6 Structural challenges to scaling up

With increasing scale, structural factors can pose challenges for business: legal, operational, economies of scale.



Farmers

Economies of scale

Optimal farm size is very important for the out-grower model. The average family holding for passion fruit is below 1 ha, which is not efficient. This raises the question: what are the factors that determine efficient farm size? (AJ)

Company/SME

Legal

The hubs that were established or supported by the EADD consortium are registered as companies. In Kenya several options for registration exist, but the Companies Act was preferred over the Cooperative Act because it limits government interference. Under the Cooperative Act, dairy business hubs (DBHs) are restrained to a certain catchment area and are not allowed to make a profit. (DBH)

Operational

As the business grows financing, logistics and data management issues set the limits to further development. (MFE)

Economies of scale

Consolidating several hubs into a cluster should be considered as a way of improving the financial performance of a hub. (DBH)

7 Organizational and capacity constraints to up-scaling

As the scale of operations grows, so does its complexity. It is questionable whether key personnel will be able to deal with the increased workload, whether qualified personnel can be hired, or whether staff can be trained to meet the challenges of scaling operations.



Farmers

Technological simplicity

A major challenge in scaling up technologies to farmers is getting the full understanding of the technology and its related benefits. Generally, farmers do not want to spend too much time and energy on crops with a high cost of production (input, agronomics, and post-harvest) and limited immediate return. In the case of africaJUICE, the level of technology proved to be quite a high barrier for farmers. (AJ)

Company/SME

Management capacity

Because the board is established through democratic elections, it will not necessarily consist of people who know how to run a business, but of people who are popular or respected within the community. EADD tried to overcome these challenges by facilitating capacity-building for boards and establishing structures that make sure new board members receive training as well. (DBH)

Technical capacity

In the case of MFE, skilled personnel—who are not easy to get from the local labour market—are required to run the hatchery and rearing of chickens. (MFE)



8 Ground-level presence by the company



By establishing ground-level presence, companies can gain a thorough understanding of farmers, their mind-set and their culture, which can lead to more respect from farmers and more fruitful business relationships. Ground-level presence can lead to emotional attachment, which is useful when quick solutions are needed to emerging issues. However, with up-scaling the challenge inevitably remains. How do you establish and nurture this kind of relationship when the number of suppliers grows substantially?



Out-grower Farmer (left), EUCORD Extension Agent (middle), Government Extension Agent (right)

Farmers

Defaulting

Having legally binding contracts is important to minimize risks related to advance financing, but even more important is the soft relationship with farmers, cooperatives and authorities at the grassroots. Farmers attach a higher value to relationships than to contractual obligations, partly because they do not understand the implications of contract default, and they could be misguided by other interest groups. (Ethiopia, Mozambique)

Setting up operations

Throughout its eight years of existence, the parent company New Horizons has gained a profound understanding of community standards and cultural values. This knowledge played an instrumental role when setting up the fresh eggs operation. Aspects such as selection of growers, training and supervision, were diligently addressed beforehand. (MFE, NH)

Specific intervention

Artificial insemination (AI) is not accepted in all cultures, therefore it makes no sense to start offering smallholders an AI service where it is culturally not acceptable. (DBH)

9 Partnerships



To achieve success, many different players with complementary competencies may need to share resources and experience to create common goods such as knowledge, new policy frameworks, intermediary organizations and other market infrastructure. However, the possibility of free riding might discourage actors from contributing.

Companies need structures appropriate to resolve the resource and capability constraints and the associated incentive problems they face. In the case studies analysed, three basic structures were identified.

- › *Platforms* (formal or informal) that allow many different players to coordinate with each other e.g., alignment with the government seed strategy and governmental organizations in the case of focus crops. (Ethiopia)
- › *Project-based alliances* between a company and one or more organizations, and synergy with development organizations and projects. (Mozambique, DADTCO with IFDC)
- › *Private initiative*: partnering with other businesses. (Mozambique Fresh Eggs)



Company/SME

IFDC and DADTCO work in unison to bring about positive changes in Nampula's rural households. DADTCO manages the cassava value chain and IFDC is responsible for the knowledge transfer of best agricultural practices and dissemination of improved genetic material. (DADTCO)

In a joint venture, New Horizons (25 %) partnered with brothers, Bruce and Kim Dooyema, part owners of Center Fresh Egg Farm (50 %), a privately held chicken egg company in Iowa, USA, and with Eggs for Africa (25 %).

- Center Fresh Egg Farm provided the capital needed to start the business;
- New Horizons produces the layer chicks and feed; and
- Eggs for Africa commercializes the eggs produced. (NH)

In Ethiopia, public institutions control supply and distribution of seed, fertilizer, pesticides, herbicides and other inputs, as well as provision of extension and research services. In addition to enforcing contracts, authorities can also influence farmers' cropping decisions via extension agents, which impacts the planning of the companies. Engaging with public-sector actors is key to success. (AF)



4 Recommendations for next steps regarding inclusive business models

Include more companies in the assessment

The researchers had the opportunity to visit 10 companies altogether (large and SME), some of which were quite sceptical at the beginning to be part of the process of analysing their inclusive business models. As the process picked up, they became more and more interested, and a few of their representatives even joined the second international workshop of the Seas of Change learning initiative in February 2014 in Amsterdam. However, it is essential that more companies are studied to get a more in-depth view on:

- › What works when it comes to inclusive business models and why?
- › What is the impact at the level of business and at the level of the wider community?

Include companies that do not receive any form of support

Most of the companies in the current assessment received support from different donors through some kind of mechanism. SMEs and large companies emerging in Africa that do not have access to external funding mechanisms must also be looked at, as they might be better at utilizing resources to build inclusive business models. Malcolm Harper, John Belt and Rajeev Roy are exploring this topic in their forthcoming book: 'Commercial and Inclusive Value Chains—Doing Good and Doing Well'.

'This book is about "inclusive" value chains, which include and substantially benefit large numbers of poor people. These people are usually smallholder farmers, but they may also be artisans, or small-scale retailers, or customers. The "development community" and the governments of poorer countries themselves have in recent years become involved in promoting and assisting such value chains, as it becomes recognised that economic development and the alleviation of poverty are unlikely to be achieved by the public sector alone; the private sector is seen as the main source of growth, and development assistance is increasingly a matter of partnership between public and private entities. For-profit businesses are also engaged in building inclusive value chains; large international businesses often label their work as part of their "corporate social responsibility" or "CSR" activities, as if social responsibility was not something that businesses should aim at in all their operations. The value chains which are described in the book however have not been developed by companies in order to achieve social goals, or to promote a favourable "image", but because they are good business.' (John Belt, KIT)

Include different supply chains and different sizes of companies in the assessment

The small number of companies participating in the assessment did not allow the researchers to compare companies working either on the same commodity in different countries or in different regions. The number was also too small to draw many meaningful conclusions on differences in how SMEs and large companies set up, manage and scale up inclusive business models. Key questions are: What are the lessons learnt in setting up, managing and scaling up inclusive business models that can be transferred from small to large companies and vice versa, and across different chains or in similar chains across different countries and regions?

Identify inclusive business models with proven business cases

Especially for larger companies, the questions still remain: Is there a proven business case? What is working and at what scale? There is still much scepticism in terms of costs and benefits of inclusive business models.

Maturity of the company

In case of SMEs, how does the maturity of the company influence the success of the inclusive business model that the company set up? Do start-ups have more problems setting up inclusive business models? Why? Why not? What are the key issues for start-ups and for mature companies when setting up inclusive business models?

Use research strategically

Engage with companies already in the design phase of the assessment, to increase buy-in from the company, and also to contribute to its learning experience through the assessment process.

Engage with donors on how they spend money; the hypothesis is that some of the money that is invested does not necessarily produce system change, neither scalable nor sustainable.

Extend field research to allow for more contact time with key people on the ground

In the current assessment process, the researchers spent 2–3 days on site interviewing key stakeholders to avoid disruption of business activities. It is clear that the above-mentioned recommendations for further research cannot be implemented in a 3-day visit to companies. Therefore, it is crucial that more resources are allocated to the research trajectory on inclusive business models for change to take place from *Islands of Success* to *Seas of Change*.

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