

A Needs Assessment of Rural Agribusinesses: The Commercial Viability of SMEs

SME Descriptive Study and Aggregator Assessments



**For Musika
and
WFP Zambia**



**BUSINESS
DEVELOPMENT
SERVICES AFRICA**

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Statement of Confidentiality

The contents of this report are confidential and are intended solely for the cooperating partners: Musika Development Initiatives, World Food Programme, Business Development Services Africa Zambia, and interviewed small and medium enterprises (SMEs). This information is privileged. This report is being submitted in trust to the intended recipient. If you have received this report in error, any use, reproduction or dissemination of this report is strictly prohibited.

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It is hoped that the observations compiled in this report will help shed more light on the situations faced by Zambian agricultural SMEs and what leads them to be success with the hopes of improving support to these groups in the future.

Executive Summary

Musika Development Initiatives and World Food Programme in Zambia have collaborated in the past to promote independent initiatives to improve rural livelihoods by developing interventions aimed at enhancing rural farmers' access to agricultural markets. Agribusinesses and intermediaries have played a key role in these interventions, and through strategic support, have developed commercial linkages in rural areas, through which agricultural market services are provided to smallholder farmers. However, conducting business within the rural market environment has not been without challenges for these companies, and the need to understand the prevailing risks and challenges to their commercial viability is essential for the development of sustainable market initiatives.

In addition, World Food Programme is looking to better understand aggregator's individual stories including their history, operations, client relationships, and the context they work within, to provide insight into the factors that led to successful aggregators.

The SME Descriptive Study comprised of a desk study and in depth interviews with the business owners and/or primary stakeholders of agricultural small and medium enterprises (SMEs) to collect qualitative and quantitative data on the businesses. The interviews were conducted with 30 different agricultural SMEs across four different provinces. Interviews were held over the course of five days and took an average of three hours in length to enumerate the 40-page interview.

From these interviews a number of factors that contribute to success for an SME stood out, including:

1. Viable Business Models
 - a. Having a business model with other revenue streams or out grower schemes
 - b. Provision of extension services and/or training to farmers
2. Commercial Linkages
 - a. The benefit of an SME working with more than one buyer
 - b. Receiving financing from off takers to supply inputs on credit to the farmer can help an SME to be successful
3. Management Performance
 - a. Use of specific criteria to hire management staff versus hiring based on family and friend ties
 - b. Having a management board in place
4. Scalability and Sustainability
 - a. Keeping more than just three basic records is usually a sign of a successful SME
 - b. Having a business plan is a sign of a successful SME with a business mind set

- c. Successful SMEs are more likely to have business owners (or managers) with experience of more than five years in the business sector in general
- d. A slightly larger component of less successful SMEs access more than one source of finance compared to successful SMEs
- e. SMEs that are considered more successful across all groups tend to be more likely to own a business truck.

Lastly, there was a discussion of challenges that SMEs face. These primarily involved challenges with working with the small holder farmer, coordinating sales outlets, challenges with record keeping, challenges with access to finance, challenges with retaining an SME's customer base due to competition and challenges with staff capacity. The opportunities for business development service provision were substantial. The top three most commonly noted capacity gaps and therefore demands for technical support, in order of priority were: record keeping, business model and strategy development and product knowledge. More than 90 percent of SMEs were willing to pay for these services, including half that were willing to pay 750 Zambian Kwacha (ZMW) for an all-day training (and the other half willing to pay 500 ZMW or less). SMEs were also willing to pay for continuous consulting advice for approximately 5,000 ZMW or lower on a monthly basis.

In the Aggregator Assessment Study eight aggregators from three Zambian provinces were interviewed, along with their clients, non-clients, competitors and other key stakeholders in order to ascertain the success of the aggregator in aggregation and their other businesses in general. Human Centered Design tools like Business Model Canvas and SWOT Analysis to name a few were also conducted with as many of the aggregators as possible.

From these tools the following success factors were identified: the aggregator's management or executive team having vested interest in the company, having sufficient liquidity to aggregate crops, owning transport to aggregate the crops, having a reliable market for commodities, building trust through the use of scales, providing prompt if not immediate payment, providing good customer service, bringing aggregation and input services closer to smallholder farmer's homes, having a business mindset, smart use or no use of credit, and using grants to help push forward business and still planning to use internal resources for growth.

However, from that list the ones stood out as key were: **1) Liquidity**, either through multiple revenue streams or access to credit; **2) Timeliness in Paying Farmers**, meaning either immediately upon selling of crops, or within a short time period after; and **3) Defined Membership and Ownership of the SME**, which contributed to vested interest of the individual in the aggregation business. **4) Building trust through the use of good scales.**

Further, through interviewing the clients of the aggregators, it became apparent how aggregation has far reaching impacts on local livelihoods, by bringing the market closer

to rural communities, helping farmers to save money when selling their crops, to help farmers have extra money for school fees or other business activities, etc.

In considering the situation of all 38 SME's combined from the two studies, the recommendations are as follows:

1. **Promote business models that create linkages with farmers and possess safety nets**, such as additional revenue streams that can help weather external shocks, while also proving they know how to successfully work with the smallholder farmer to create shared value.
2. **Use success categorization matrix to identify viable SMEs for partnerships:** Select businesses that show success in business model, commercial linkages, management performance, a business mindset, finance and customer relations thus proving commercial viability and sustainability
3. **Act on Opportunities for Business Development Service Provision:** As outlined by SME challenges, support SMEs to develop their capacity in record keeping, business model development and strategy and product knowledge.

By following these recommendations, it is believed the SMEs with the most potential to be successful will be identified and further, they can be adequately supported to accomplish a lot within their communities.

Abbreviations and Acronyms

Full Term

Adventist Development and Relief Agency
 Agriculture Support Programme
 Business development services
 Business Development Services Africa Zambia
 Citizens Economic Empowerment Commission
 Cost of Goods
 Conservation Farming Unit
 Cooperative
 District Agriculture Coordinating Office
 Export Trading Group
 Farmer Input Support Programme
 Focus Group Discussion
 Food Reserve Agency
 International Development Enterprises
 International Fund for Agricultural Development
 International Labour Organization
 Kasamanda Agribusiness Development Initiative
 Musika Development Initiatives
 Patents and Companies Registration Agency
 Purchase for Progress
 Seed Control and Certification Institute
 Smallholder Agribusiness Promotion Programme
 Small and Medium Enterprise
 World Food Programme
 Zambian Kwacha
 Zambia Environmental Management Agency
 Zambian National Farmers Union

Abbreviation/Acronym

ADRA
 ASP
 BDS
 BDSA
 CEEC
 COGs
 CFU
 COOP
 DACO
 ETG
 FISP
 FGD
 FRA
 IDE
 IFAD
 ILO
 KADI
 Musika
 PACRA
 P4P
 SCCI
 SAPP
 SME
 WFP
 ZMW
 ZEMA
 ZNFU

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Introduction

This report is a combination of two studies completed at the same time with two different methodologies to better understand rural small and medium enterprises (SMEs) working in Zambia. The two studies used different research teams, methodologies, and study groups in order to get a vast and comprehensive understanding of rural Zambian agricultural SMEs.

The first study: The SME Descriptive Study, comes from a past collaborative relationship between Musika and World Food Programme (WFP) in Zambia on developing market initiatives with a view to improve rural livelihoods, and have also independently implemented interventions aimed at enhancing rural farmers' access to agricultural markets. Agribusinesses and intermediaries have played a key role in these interventions, and through strategic support, have developed commercial linkages in the rural areas through which agricultural market services are provided to smallholder farmers. However, conducting business within the rural market environment has not been without challenges for these companies, and the need to understand the prevailing risks and challenges to their commercial viability is essential for the development of sustainable market initiatives. It is on this background that Musika and WFP, through a collaborative partnership, seek to undertake an assessment of rural agribusinesses¹ that engage with the smallholder sector in, at least, the procurement and aggregation of agricultural commodities.

Previous studies and anecdotal data suggests that some of the challenges generally faced by the agribusinesses, especially those at the lower end of the scale, include inadequate business processes, poor management structures, lack of internal data systems to monitor activity and collect market information, and limited access to finance and a wider market, among many others. However, there has been insufficient research focus on specific capacity gaps and success factors particularly for the agribusinesses operating within rural markets, which would help to identify opportunities for providing sustainable support and scaling successful business models. The concept of 'shared value' is explored in this paper, with regards to the extent of shared value found in the relationships between larger firms, SMEs and smallholder farmers and the challenges associated with these relationships. Shared value can be defined as "a business strategy that acknowledges the value of long-term thinking and aligning the interests of multiple parties for mutual benefit. A business must do two things simultaneously to be successful in the long-term: create economic value for both the company and the society²."

Musika began implementing its activities in 2012, and has since expanded its operations across the agricultural industry and to all of Zambia's regions. Musika mainly works

¹ Rural agribusiness – business entities that have invested in rural agricultural markets, and are engaging the smallholder farmers as suppliers, buyers or consumers.

² Porter, Michael and Kramer, Mark. *Creating Shared Value*. Harvard Business Review. January-February 2011 Issue.

with corporate organizations that are willing to invest in the rural sector and have as part of their strategy a focus to engage the rural poor as their clients, suppliers and consumers. Musika provides tailored technical advice and catalytic business support to its corporate clients to reduce the initial risk of doing business in the rural sector, and to strengthen mutually beneficial commercial relationships between the corporate and smallholder markets. Musika focuses on supporting commercial linkages or transactions that are coupled with information provision or knowledge transfer, giving smallholder farmers' confidence to invest in and improve their farming businesses.

WFP aims to develop synergies across its activities and between national initiatives in agriculture, market access, education, nutrition, resilience building and social protection. One of the initiatives that seeks to drive this agenda is the Patient Procurement Platform, a new initiative by WFP that connects a consortium of end to end value chain actors, ultimately facilitating smallholder farmer participation across the entire value chain to raise their marketable surplus and hence livelihoods.

The second study: The Aggregator Assessment, focused on studying eight aggregators across Zambia. Five are supported by the WFP which included Hankkuku Agro Dealers (Hankkuku), Born to Care, Chimpili Cooperative (COOP), Kasamanda Agribusiness Development Initiative (KADI), and Moomba Investments. Chalamisambo COOP and Tata Mpapa COOP are supported by the Smallholder Agribusiness Promotion Programme (SAPP) through International Fund for Agricultural Development (IFAD) and John T. Lungu is an NWK supported aggregator.

WFP has been working with the Zambian agriculture sector through its pilot project called Purchase for Progress (P4P). P4P is a global pilot project that aims to support smallholder farmers by improving their business opportunities through access to more lucrative markets. The P4P program connects smallholder farmers to markets, giving them an opportunity to grow their businesses and improve their lives and those of their entire communities. Under P4P, stable demand from WFP and partners provides smallholder farmers with an incentive to invest. P4P also brings together a wide range of partners to provide smallholders with support across the entire value chain, from production to post-harvest, business skills, and access to finance.

SAPP is a public-private partnership initiated by IFAD, aimed at reducing rural poverty among small-scale farming households. The program represents a move away from the traditional production-oriented approach to agricultural development in Zambia. Its overall goal is to increase the income levels of about 24,000 poor rural households by boosting the quality and quantity of production of specific commodities. Of these small-scale farmers, 80 percent are poor, 66 percent are extremely poor, and more than half are women. They are already engaged in some market-oriented production but they need help to improve their market operations, to diversify production and to add value to their produce. The program engages private sector partners at several levels, including the design and implementation of interventions at critical points in

agricultural value chains that will add value to products and connect farmers with input suppliers and markets. The program allows farmers to access technology so that they can increase their yields and improve the quality of their produce; enhance their capacities for activities such as sorting, grading, drying and storing make better commercial decisions based on appropriate market information; get higher and more stable prices with farming contracts.

1.0 Background

1.1 Objectives

The SME Descriptive Study had the overall objective of assessing the operational performance of various forms of rural agribusinesses. The specific objectives of the study were to assess the following:

Financial Viability of SMEs • To assess the level of financial viability of SMEs in terms of revenue, costs and growth rate (where possible).	Extent of Shared Value • To identify viable SME business models and the commercial linkages that exist between the SME, smallholder and larger firm. Then assess the extent and success of shared value practices across these models, including the range and quality of value-add market services in the SME that benefits both the smallholder and the business.	Management Performance • To assess the extent to which management is able to provide quality leadership in terms of managing its staff.
Scalability and Sustainability • To assess the ability of the SME to scale in terms of financial sustainability, business mind set, having appropriate processes in place, access to knowledge and access to capital.	Risks and Challenges • To determine the challenges that SMEs face to scale and grow their business models and operation.	Business Development Service Provision Opportunities • To determine how rural agribusinesses can be more effectively served by various stakeholders (private sector actors, NGOs, BDS).

1.2 Methodology

The SME Descriptive study comprises of desk study and qualitative interviews with the business owners (or primary people involved) of agricultural SMEs. The interviews were distributed to 30 different agricultural SMEs across four different provinces of various business models and product offerings with a focus on agro-dealers and aggregators. Interviews were conducted over the course of five days and took an average of three hours in length to enumerate the 40-page interview.

1.2.1 Study Area

Data was collected from four provinces and ten districts. The list of areas that were visited can be found in Table 1 below.

Table 1: Firm's Location (Province and District)

Variable	Number	Percentage
Central	9	30%
Northern	6	20%
Southern	6	20%
Western	9	30%
Total	30	100%
Central Province		
Kapiri Mposhi	3	10%
Mkushi	3	10%
Chibombo	3	10%
Northern		
Kasama	4	13%
Mungwi	2	7%
Southern		
Choma	3	10%
Kalomo	1	3%
Chikankata	2	7%
Western³		
Mumbwa	9	30%
Total	30	100%

1.2.2 Research Tools and Data Collection

The research tool used was a hard copy paper questionnaire that covered demographic data of the SME owner, general firm characteristics and covered a number of areas of operational performance in order to get a comprehensive view of the business. The operational areas included Growth Performance, Financial Performance, Business Activities and Marketing, Business Strategy, Sources of Finance, Management and Corporate Governance, Data and Knowledge Management, Shared Value, Viable Service Provision and Product Knowledge. It collected data from the past three years for sections relating to Growth Performance, Financial Performance, Management and Corporate Governance. All other sections were addressed using data from the most recent year (November 2015 to October 2016). Within most sections, the respondent was asked what challenges the SME faces within that area of operation. At the end of the survey the enumerator asked questions surrounding the demand for business development services and conducted a test of staff members' product knowledge.

³ Although Central Province is the political province for Mumbwa, Western Province is Musika's operational area for Mumbwa.

1.2.3 SME Selection

30 SMEs were selected using purposive sampling based on the characteristics of the SMEs. The SMEs were picked if they satisfied any of the following criteria: 1) If they were based in rural areas, 2) If they were already established and had been engaged in agro dealing and aggregating beforehand (rather than just planning or starting aggregating) and 3) were considered to offer agricultural services as their core offering and therefore engage in relationships with farmers. The research design endeavoured to include a wide range of agricultural SMEs across geographies, business models and a range of products and service offerings to create a varied sample. While some solely sold agricultural inputs and commodities, several other agricultural SMEs with additional revenue streams besides agro-dealing and aggregating were also chosen. Additional revenue streams could be either agricultural or non-agricultural and included such activities as groceries, transportation, photographing services, hardware, bicycles hire, solar systems, construction, chicken rearing, pig rearing, animal feed and crop farming. The selection was based on data collected on agricultural SMEs who went through trainings with Musika since 2012. While the population of rural agricultural SMEs in Zambia is already a small group compared to SMEs of all sectors in urban and peri-urban areas, this selection was considered very close to a representative sample of rural, agricultural SMEs in Zambia.

Our Definition of an SME

The Zambian Ministry of Trade, Commerce and Industry has defined “small” enterprises as having 11-50 workers and “medium” enterprises usually employing around 51-100 people. As assessments have noted before, there is a significantly larger amount of small enterprise versus medium, so this study has aimed to interview a majority of small enterprises. In fact, in this study 50 percent of the agricultural SMEs selected typically hired up to three full time employees not including paid part time or seasonal employees. Therefore, the majority of SMEs will fall in the smaller enterprise category whereas the remainder of SMEs interviewed fall in between a range of 4-25 full time employees.

1.3 Analysis

The survey analysis was mainly done through qualitative method using NVivo, a computer based data analysis tool, and through a basic quantitative analysis in Excel to generate additional insights as well as draw associations between variables. For qualitative analysis, the researchers followed grounded theory, an iterative process that is rooted in the observations that are being collected. Since qualitative data analysis is inherently subjective, efforts were taken to ensure that the qualitative data collected during the SME survey was analyzed using pre-determined, academically supported methods. The qualitative data collected was coded inductively using thematic nodes. In order to accurately capture the data collected from the 30 SME interviews, all data was digitally transcribed and imported into NVivo. In order to accurately capture the quantitative data, it was digitally transcribed into Microsoft Excel. The data collected was coded with numbers to represent the distinct answers provided by respondents to close-ended questions.

2.0 Financial Viability of SMEs

2.1 Definition of Success

Drawing similarities between groups that are successful and certain behaviors that they conduct, it is hoped that a better picture can be drawn with regards to the criteria for a successful SME to scale and grow. This section briefly describes the analytical approach that was taken in order to identify trends among the successful SMEs in the study sample. While there are numerous measurable factors that can help define a successful company (inventory management, quality leaders, market knowledge, etc.) it was determined that many of these factors can also arguably be factors that *lead* to success. To that effect success was determined by financial viability in terms of revenue, gross margin and whether an SME's growth rate was sustainable or not. A more in-depth description of how success factors were determined can be found in Appendix A. Because one of these three indicators alone does not adequately capture all successful SMEs, each of these indicators was individually used in the analysis as separate indicators of success. The brackets that determine success are highlighted in **bold** in Table 2 below, which illustrates how all the agricultural SMEs were distributed across success indicators:

Table 2: Success Indicators

Annual Revenue (ZMW), all SMEs		
Variable	Number	Percentage
25,000-100,000	9	30%
100,000-500,000	12	40%
500,000-1,000,000	5	17%
1,000,000-5,000,000	4	13%
Total	30	100
Gross Margin, all SMEs		
5-20%	10	33%
21-40%	11	37%
41-60%	7	23%
61-90%	2	7%
Total	30	100%
Sustainable Growth, all SMEs		
Sustainable Growth rate (0-200% growth and Stable growth)	14	56%
Unsustainable growth rate (Negative overall growth, 200-900% growth, or Unstable rate)	11	44%
Total	25*	100%
Growth Rate, all SMEs		
Negative growth rate	3	11%
0-200%	17	61%
200-900%	8	28%
Total	28*	100%
Stability in Growth, all SMEs		
Stable growth (Positive across all years)	21	81%
Unstable growth (Negative growth in first year, then positive in following year)	2	8%

Negative overall growth rate	3	11%
Total	26*	100%

*Sample size is smaller than 30 due to a lack of sufficient data for some SMEs

3.0 Extent of Shared Value

3.1 Viable Business Models of SMEs

Table 3 below shows four distinct business models and the percentage of successful

Successful companies tend to have business models with other revenue streams or out grower schemes⁴.

SMEs with those business models, as measured by three separate indicators of success. The group of SMEs interviewed with a high annual revenue and a high gross margin showed that a majority of those companies have an additional revenue stream such as selling hardware supplies, groceries or engaging in additional agricultural activities such as crop farming or chicken rearing (a full list is found in footnote further below).

Table 3: Business Models within each Success Group (SME Descriptive Study)

	High Revenue	High Gross Margin	Sustainable Growth
Agro-dealer only	11%	0%	0%
Agro-dealer / aggregator	11%	50%	36%
Out-grower scheme Agro-dealer / Aggregator	0%	10%	21%
Agro-dealer or Agro-dealer / Aggregator with Other Revenue Stream ⁴	78%	40%	43%
Total	100%	100%	100%

It is also interesting to note that companies with the out grower scheme model show a good margin, despite lacking in high revenue. This is significant to point out given the small sample of companies with an out grower scheme (only three were in the sample), compared to the larger sample of agro-dealer and aggregators and agro-dealer and aggregators with additional revenue streams. It is interesting to note that the out grower scheme also show they are successful in terms of a sustainable growth rate.

If we look at the case study of John T. Lungu from Aggregator Assessments in Part 2 of this report, we find a similar trend.

⁴ Other revenue includes both agricultural and non-agricultural products and services such as groceries, transportation, photographing services, hardware, bicycles, solar systems, construction, chicken rearing, pig rearing, animal feed and crop farming

Case Study: John T. Lungu's Successful Business Model



Figure 1: John T. Lungu (Pictured with his MTN Business)
John T. Lungu from the Aggregator Assessments from Part 2 of this report is an aggregator, agro-dealer, with an out-grower scheme, and with additional revenue streams.

John T. Lungu's business was the most successful out of all of the aggregators in the Aggregator Assessment as he was determined to have a High Gross Margin, High Annual Revenue and to be successful according to the Categorization Matrix.

By combining all four of the business models into his business John T. Lungu is able to work with even the poorest of farmers, uses one business to advertise the next, and maintains sufficient liquidity to function year-round.

There are a number of possible success factors and failures that were characteristic of the SMEs who were interviewed with these models. Note that they are simply observations (rather than statistical proof) that were revealed as insights during the course of both the SME Descriptive Study and Aggregator Assessments study, found in Figures 2 and 3 below.

<i>Successes</i>	
	• More cash flow/liquidity throughout the year • Easier for an SME to pay farmers for their commodities • Easier to pay its employees and cover its other expenses • 60 percent served low-income farmers • 60 percent had forward contracts with the buyers and of that same group all had forward contracts with farmers • 40 percent of the firms did receive financing from larger firms to supply inputs to farmers
<i>Failures</i>	
	• Additional revenue streams at times are not managed with appropriate level of effort and quality • Additional revenue streams may be too small to generate sufficient income

Figure 2: Additional Revenue Stream

<i>Successes</i>	
	• Serve low-income customers • Forward contracts with buyers and farmers • Received financing from firms to provide inputs on credit to the farmer • Business has more control over what crops farmers in their area grow • Can advertise their aggregation work when selling seeds and other inputs
<i>Failures</i>	
	• Potential lack of additional revenue streams • High cost managing contracting and extension services • Understanding the smallholder farmers' income status and unique needs • Difficulty getting close to the farmer as a result of long distance and lack of adequate transport

Figure 3: Out Grower Scheme

Successful SMEs with a high gross margin and a sustainable growth rate tend to provide extension services and/or training to farmers.

The most common methods used by the SMEs to attract farmers to their business were through extension/training services (70 percent of total SMEs). Those that use extension services conduct sensitization meetings, farmer trainings on field demo plots and product knowledge training. 73 percent of all SMEs also use promotional materials or offer deals to customers that often are communicated through extension services and training, such as giving out discounts to customers who buy in large quantities or giving out t-shirts, caps and other items. As we can see in Table 4 below, a considerably high percentage of successful SMEs offer extension and training services.

Table 4: Provision of Extension Services or Training within each Success Group (SME Descriptive Study)

	High Revenue	High Gross Margin	Sustainable Growth
Offer extension/training	56%	80%	64%
Don't offer extension/training	70%	50%	63%
Total	100%	100%	100%

As Table 5 shows, the aggregators from Part 2: Aggregator Assessments that have the highest gross margins also provided training to farmers. This is quite interesting considering it is assumed there would be some additional costs for training. However, all of the aggregators worked with supporting institutions to provide the training, and therefore the cost burden was not directly bore by them.

Table 5: Aggregators who Provided Training to Farmers (from Section 2: Aggregator Assessment)

Aggregator	Type of training	Supporting Institutions
Chalamisambo COOP	Nil	N/A
Tata Mpapa COOP	Agricultural training	Provided by ZARI Minsamfu Research Center
Born to Care	Nil	N/A
Chimpili COOP	Planting, harvesting, post-harvest storage, and handling	Training organized and supported by WFP
KADI	Post-harvest handling and storage	Training organized and supported by WFP
John T. Lungu	Farming and post-harvest handling	Supported by Camp Officer
Moomba Investments	Nil	N/A
Hankuku Agro Dealers	Farming training and extension	Supported by International Development Enterprises (IDE) & Camp Officer

3.2 Commercial Linkages

The above is likely because an SME is less dependent on one firm and has more

SME aggregators that are successful are more likely to work with more than one buyer compared to aggregators that are considered unsuccessful.

diversified access to the market. Table 6 below shows that of SME aggregators, while 74 percent of the group with a high gross margin work with more than one firm, only 50 percent of the group with a low gross margin work with more than one firm. Similarly, 73 percent with a sustainable growth rate do and only 60 percent with unsustainable growth rate work with more than one firm. Of those who worked with more than one firm, only 47 percent (or 8/17) had forward contracts with the buyer. And of those 8, only 3, or 38 percent had forward contracts with the farmer.

With the Aggregator Assessment, 66.7 percent of the aggregators with a high Annual Revenue worked with more than one buyer/off-taker. And 33 percent of those with a high Gross Margin had multiple buyer/off-taker contracts.

Considering there were several more SME aggregators who worked with more than one firm may have distorted the findings a bit, a closer look was taken at the status of all aggregators who only worked with one firm. Two were working with NWK, one was working with Export Trading Group (ETG) and the rest were working with millers. Of the aggregators that work with only one firm, most of them (75 percent, or 6/8) fell within a lower revenue of 25,000-500,000. Half of them had unsustainable growth rates. Only 3, or 38 percent of them, had low gross margins though. Half of them had forward contracts with the buyer. Of those half, all of them also had forward contracts with the farmer. In summary, while it became clear that SME aggregators who work with more than one firm are more successful, there was no major correlation in the data between having a forward contract with a buyer or a farmer.

However, findings did reveal a slight association between receiving financing from off takers to supply inputs on credit to the farmer.

Of all SMEs, Table 6 below shows that 36 percent of the group with a sustainable growth rate received financing and only 9 percent of the group with unsustainable growth rate received financing from off takers to supply inputs on credit. In addition, 33 percent of the group with a high revenue received financing from off takers to supply inputs on credit to the farmer while only 15 percent of the low revenue group did. Lastly

however, both successful and unsuccessful groups in terms of gross margin were the same: 20 percent of the group of high gross margin received financing and 20 percent of the group with a low gross margin also received financing.

Table 6: Commercial Linkages within each Success Group

	High Revenue	High Gross Margin	Sustainable Growth
SME aggregators that have forward contracts with buyers	33%	58%	45%
SME aggregators that have a forward contract with both the buyer and farmer	17%	42%	36%
SMEs (all) that receive financing from off-takers to provide inputs to smallholders	33%	20%	36%
SME aggregators that work with more than one firm	67%	74%	73%

4.0 Management Performance

Specific criteria used to hire management staff involve relevant work experience and/or

Successful SMEs use specific criteria to hire management staff while SMEs that are considered unsuccessful don't have specific criteria or hire based on family and friend ties.

relevant educational qualifications in agriculture. Of all SMEs, Table 7 below shows that 100 percent of the group that has a high revenue used specific criteria to hire its staff, while only 33 percent of the SMEs in the low-income group used specific criteria for hiring. While 75 percent in the group with a high gross margin used specific criteria, only 60 percent of the SMEs that have a low gross margin used specific criteria. And while 57 percent of the group with a sustainable growth rate used specific criteria only 36 percent of the SMEs with unsustainable growth rate did.

SMEs were asked to draw their organizational structures and list the responsibilities of

Of the SMEs that were considered unsuccessful, none of them had a management board in place while some of the successful ones did.

each role. While Table 7 below shows that 44 percent of the group of SMEs with high revenue have a management board, none of the SMEs with a low revenue had a management board. Additionally, while 65 percent of the groups with a high gross margin had a management board, only 30 percent of the SMEs with a low gross margin did.

What successful SMEs are experiencing around staff capacity was also looked at. The results can show us whether this is a common, overarching issue for all SMEs or

whether this is something that successful SMEs are doing relatively well and which might be contributing to their success.

Table 7 shows that more than half of all successful SMEs say they experience

All SMEs whether successful or unsuccessful are generally experiencing challenges in staff capacity.

challenges with staff capacity. Additionally, of the groups of SMEs that are unsuccessful, significant findings come out. 67 percent of those with low revenue, 70 percent of those with a low gross margin and 82 percent of those with an unsustainable growth rate expressed challenges of staff capacity. While successful SMEs fare slightly better than unsuccessful SMEs in terms of having staff with capacity, it is clear that all SMEs could benefit from support to improve staff skills and competency. The table also shows that product knowledge is likely one of the issues for SMEs that relate to staff capacity. Although a majority of the groups with high revenue generally felt their staff were sufficiently trained, less than half of the high gross margin and sustainable growth groups felt the same. Although the findings with relation to staff capacity did not reveal very significant findings with relation to the success factors of agricultural SMEs, it did shed light on the overarching challenge of staff capacity for both successful and unsuccessful SMEs. This warrants further investigation and attention by stakeholders in the business development support that can be provided to all SMEs, explored below and in following sections.

Table 7: Quality of Leadership Systems and Structures within each Success Group

	High Revenue	High Gross Margin	Sustainable Growth
SME owner who use specific criteria to hire management team	100%	75%	57%
SME with management board in place	44%	65%	57%
SMEs that express challenges with staff capacity	56%	63%	57%
SMEs that say their staff has been trained and they believe their staff has sufficient agricultural knowledge	67%	43%	42%

5.0 Scalability and Sustainability

5.1 Business Mind Set

An interesting trend that was noted was either the tendency for an SME to keep two to

SMEs that are considered successful in terms of revenue and gross margin are more likely to keep more than just three basic records, compared to the unsuccessful SMEs.

three basic records (typically a sales book, stock book and receipt book) or for it to keep additional helpful records beyond the very basics. SMEs that kept more than three records tended to also keep creditors and debtors information, non-inventory expenditures, records with information and payments to suppliers, customer information records, staff information, accounting records, cash handling books and delivery/dispatch records.

Table 8 below shows that the majority of the SMEs (67 percent) that kept only two to three records make a relatively low gross margin (from between 5 and 20 percent) compared to the rest. Most of them (75 percent) are also earning an annual revenue that falls within the low revenue bracket of 25,000 to 500,000 Zambian Kwacha (ZMW) per year. Alternatively, of the group of SMEs that are earning a high gross margin, 80 percent of them keep at least 4 records while only 10 percent of the group of SMEs with a low gross margin group keep at least 4 records. Additionally, out of those with a high revenue, 67 percent keep at least 4 records where only 57 percent of the group with a low revenue are. The aggregator assessment also found that while all aggregators kept some form of basic record, the more successful aggregators kept more detailed records (e.g. kept better track of costs) and had better record management systems which allowed for easier access to these records, and in some cases had annual financial statements prepared. There was no compelling association with groups with sustainable growth rates.

Table 8 below shows that while 78 percent of the group of SMEs with high revenue

Companies that were more successful in terms of high revenue and sustainable growth were more likely to have written a business plan compared to unsuccessful companies.

had written a business plan before, only 52 percent of the group of low revenue SMEs did. Additionally, 64 percent of the SMEs with a sustainable growth rate had written a business plan where only 55 percent with unsustainable growth rates had. It is also

worth noting that a few of the businesses who said they had a business plan mentioned it was outdated, but most did not mention this.

It's important to note that there are only about six companies that have a business owner

Successful SMEs are more likely to have business owners (or managers) with experience of more than five years in the business sector in general.

with less than five years of experience. However, of those six companies the findings make it clear that more of them are falling within the unsuccessful groups. In Table 8 we see that 95 percent of the high gross margin group have business owners with 5 plus years of experience, only 50 percent of the low gross margin group does. Additionally, while 89 percent of the high revenue group have business owners with 5 plus years of experience, only 76 percent of the low revenue group does. SMEs with unsustainable growth actually have 91 percent of their managers with 5 plus experience. While this does not follow the trend towards success, it might be worth suggesting that revenue and gross margin indicators are more closely tied to experience whereas sustainable growth is at times not within the control of the manager at first, and is a longer-term process to achieve this.

In the Aggregator Assessment, there were only four out of eight aggregators who provided how many years of business experience, and all of them had more than five years. There were 66 percent of aggregators that had more than five years of related experience who had a high gross margin, and 100 percent of the aggregators with high revenue also have more than five years of experience.

Large numbers of both successful and unsuccessful SMEs are accessing business training from other organizations. Some SMEs say that the advice offered was generic and not always tailored to their respective business models.

A deeper analysis was then conducted to look at how many successful SMEs are receiving business (technical) advice from different organizations. The results can show us whether successful SMEs have been accessing business advice and if they are feeling sufficiently trained. The high success groups had also generally worked with more than one organization. The organizations that had supported the SMEs were Musika, Omnia, ETG, Osho, Zambia Environmental Management Agency (ZEMA), Seedco, Pioneer, Pannar, Conservation Farming Unit (CFU), Crop Serve, Nutri Aid trust, District Agriculture Coordinating Office (DACO), the government, SNV and Profit+.

The data shows in Table 8 below a clear trend with regards to receiving access to an organization for business advice. 78 percent of companies with a successful revenue, 70 percent of companies with a successful gross margin and 79 percent of companies with a sustainable growth rate had worked with an organization to receive business advice. However, unsuccessful SMEs are also accessing business advice as well. 75 percent of companies with low revenue, 80 percent of companies with a low gross margin and 90 percent of companies with an unsustainable growth path had worked with an organization to receive business advice. It was not directly stated by these specific companies what some of the problems might be but it could be an issue of understanding the information received or issues of not implementing data management systems.

Feedback from SMEs on weaknesses in past trainings also felt the advice offered was generic and not always tailored to their respective business models. About 30 percent of the respondents saw specific weaknesses to identify in the business advice they have received from partner organizations. The major complaint spoke to the implementation of the services these partners provided, in that the trainings were brief and lacked follow up visits or support. A few SMEs also felt the advice offered was generic and not always tailored towards their respective business models. Finally, one or two SMEs noted the favoritism present amongst the partner organizations in their selection of SMEs to work with or give advice to.

Table 8: Business Mind Set within each Success Group

	High Revenue	High Gross Margin	Sustainable Growth
SMEs that keep more than basic records (at least 4+ records)	67%	80%	57%
SMEs that have a business plan	78%	60%	64%
Worked in the business sector in general for more than 5 years	89%	95%	71%
SMEs that have worked with organizations and received business technical advice	33%	40%	43%
SMEs that have received business technical advice from any organization	78%	70%	79%

5.2 Financial Inclusion

Table 9 below shows that successful SMEs are generally accessing at least one source

A slightly larger component of less successful SMEs access more than one source of finance compared to successful SMEs.

of finance, but there is not much distinction between the number of sources they access. There is also not much difference between successful and unsuccessful SMEs. However, it did appear that on average unsuccessful SMEs were accessing more than one source of finance (versus only one): 57 percent of SMEs with low revenue, 40 percent with low gross margin and 60 percent with an unsustainable growth rate were

accessing more than one source of finance versus only one source. This could simply indicate a lack of finance in general for these SMEs to scale their enterprise compared to the other SMEs that happened to have the money. This could also possibly indicate a slight trend towards the over reliance and/or over use on multiple sources of finance and the larger amount of financial management and record-keeping needing to be done for it. As one might find in the Aggregator Assessments section of this report, significant distinctions in mentality towards managing one's finances comes out with regards to those with a savings mentality versus those that tend to wait for and rely on grant funding. For example, KADI, interviewed in the Aggregator Assessments, was formed by WFP and Adventist Development and Relief Agency (ADRA) and have relied almost solely on donor funding to this day. Although they have tried to start new businesses, they generally are not profitable and the group has found that overall business was operating at a loss last year.

A common challenge noted by several SMEs was the lack of access to transport, as a

SMEs that are considered more successful across all groups tend to be more likely to own a business truck compared to the unsuccessful groups.

number of the SMEs do not have business-specific vehicles and must rely on public transportation or personal vehicles (owned by themselves or family and friends) to reach farmers, visit outlets, distribute inputs, and perform other key business services. While 50-67 percent of the successful groups across all indicators for success owned a business truck, as shown in Table 9 below, only 25-30 percent of the unsuccessful groups were owning a business truck. This is a significant finding given that several SMEs noted the importance of having mobility in order to better engage with farmers (who are often located in far flung places) and build relationships with them as customers, to provide extension services, prevent losing customers who may prefer to buy from enterprises who can deliver purchased inputs, to enable efficient distribution of stock to their various sales outlets and to properly oversee unknowledgeable or unskilled personnel at various outlets. A similar trend was observed in the Aggregator Assessment, with aggregators who owned their own transport aggregated the largest quantities. Owning transport gave aggregators a competitive advantage as it allowed them to access farmers in distant areas, in some cases other districts and also gave them access to distant markets, like millers in Lusaka.

Table 9: Financial Inclusion within each Success Group

	High Revenue	High Gross Margin	Sustainable Growth Rate
SMEs that have accessed one source of finance	56%	40%	43%
SMEs that have accessed two or more sources of finance	33%	55%	57%
SMEs that own a business truck	67%	55%	50%

6.0 Risks and Challenges

6.1 Challenges working with the smallholder farmer

Although over two-thirds of SMEs identified challenges in working with low-income people in the community, over one-third noted their loyalty as customers. The major challenges as identified by the SMEs are: requests for discounts (46.7 percent), lack of knowledge amongst low income farmers (33.3 percent), low liquidity amongst farmers resulting in purchases made on credit (26.7 percent), low sales (26.7 percent), and the desire to purchase products in smaller quantities than what is often available (23.3 percent). By working with this segment of the market, SMEs are faced with pressures to sell inputs on credit and provide discounts, resulting in lower sales margins. In addition, a lack of understanding of inputs and their benefits results in a lack of farmer buy-in for an SME's products. Though respondents generally felt that customers in the low-income community were receptive to learning about new inputs and agricultural products, but also recognized the additional stresses to engaging them as customers.

A handful of respondent SMEs⁵ saw a need for market research to better understand the low-income customer's needs, and to gauge local demand for products and services. Other respondents indicated a desire for an organization to assist them in engaging low-income smallholder farmers, and would like to understand the business models that would best assist them in this.

6.2 Challenges in Operations and Coordinating Outlets

Approximately two-thirds of SMEs identified transportation costs as challenge to both conducting operations and coordinating outlets. A number of SMEs do not have business-specific vehicles, and must rely on public transportation or personal vehicles to reach farmers, visit outlets, distribute inputs, and perform other key business services.

SMEs identified a lack of staff and management capacity as a challenge to effectively run each outlet; SME owners feel they need to be present to oversee unknowledgeable or unskilled personnel at various outlets. Many respondents also noted visits to outlets as a barrier, feeling that customer relationships could not be built without an owner's regular presence, but struggling with the cost of frequent travel. Overwhelmingly, SMEs felt distribution to be a challenge in coordinating outlets, particularly with regards to transport; the cost of transporting goods, renting vehicles, and monitoring outlets can hinder deliveries, redistribution of stock, and overall outlet coordination.

6.3 Challenges with Record Management

Record management, an important skill necessary for growing enterprises to flourish, appears under prioritized by SME respondents in this study. Of those who responded

⁵ SMEs were asked what would encourage additional investment in working with the low-income community. It's important to note that about half to two-thirds indicated misunderstanding of the question or provided a null response.

with record management specific challenges, the most cited barrier to overcome was forgetfulness. SMEs reported staff neglect and busyness as contributing to the absence of well-maintained records. Also, a barrier is the lack of formalized knowledge on record keeping, prompting SMEs to request skills trainings for further support. Another barrier seen by SMEs was the antiquated methods that they must use in record keeping; paper receipts and record books are often lost, misplaced or damaged, and the process of searching for physical records is time consuming due to the lack of a formalized organizational system. These enterprises recognized the utility in keeping records on a digital medium, and many identified the absence of a computer as a challenge.

6.4 Challenges Scaling & Sourcing Funds

An overwhelming number of respondents cited lack of capital as their biggest barrier to scaling their businesses. Along the same vein, sourcing funds or obtaining loans is challenging due to lack of collateral and information on the process. Similarly, high interest rates, accompanied by short periods of repayment, as well as the lengthy process for processing loans was seen as a challenge by most SMEs in sourcing funds.

The models are dependent on financing in order to purchase commodities, inputs and expand their business such as with investments in business transport or other equipment that could enhance efficiency. Many felt that existing transportation costs and deficiency in operational and management support would make it difficult to grow the business. When an SME doesn't have this type of capital, the negative impact can be substantial. This impact is illustrated by the Aggregator Assessment as most aggregators who lacked sufficient capital to pay immediately for commodities lost out to competitors, even when they offered better pricing. Of interesting note, a handful of SMEs noted competition amongst other suppliers or buyers in the region as a disincentive to expansion.

To cope with these challenges, SMEs employ a range of strategies, such as borrowing money from friends and family, diverting funds from other business ventures (therefore justifying the rationale for creating additional revenue streams in a business model), or seeking out organizations offering flexible loan repayment options. During seasonal business lulls, some SMEs diversify by encouraging farmers to plant winter maize or garden, and expand into other ventures to catalyse revenue generation. A handful of SMEs also report purchasing inputs on credit from firms to maintain liquidity.

6.5 Challenges Retaining Customer Base

Respondents identified the pressure to provide discounts to its farmers, thereby keeping up with competition, as the greatest challenge in retaining customers. Strategic pricing seems to be at the core of this barrier, as there are constant fluctuations within the agriculture field with some agro-dealers being better poised to competitively price their goods than others. Distance from the customer, mostly rural farmers, complicates retention and providing extension services especially due to the high cost of transportation. In addition, distance from the customer makes it difficult to provide

transportation services, which rurally placed farmers may prefer when purchasing goods or inputs.

6.6 Challenges with Staff Capacity and Recruitment

Of the SMEs who identified challenges with their staff, the general concerns were related to under performance and lackadaisical behaviour, such as consistent tardiness. With regards to capacity, SMEs identified the dearth in working knowledge within the agricultural field to be the biggest challenge. Most try to combat this with informal trainings, teaching staff basic knowledge of the respective business' products and services. SMEs also noted specific recruitment challenges in finding qualified staff with relevant experience in agriculture. These enterprises struggle to afford the salaries often requested by skilled hires, and at times must compromise for inexperienced staff with lower required salaries.

7.0 Business Development Service Provision Opportunities

7.1 The Current State of Service Provision

Table 10 below shows the SMEs that say they work with organizations to access business (technical) advice. 73 percent indicated they accessed business (technical) advice from various organizations, while 27 percent stated they did not access any form of business (technical) advice from any organization.

Table 10: Access Business (Technical) Advice

	Number	Percent
Yes	22	73%
No	8	27%
Total	30	100%

Figure 4 below shows the number of SMEs that indicated they accessed technical and/or business advice from various organizations, it should be noted however that most of the SMEs stated they received advice from more than one organization. Some of the organizations listed as other include; ZEMA, Zamseed, Cropserve, Farmserve, Hybrid, Zambian National Farmers Union (ZNFU), Business Development Services Africa (BDSA), International Labour Organization (ILO), Monsanto, DACO, Government Ministries, Osho, Olmac, World Vision, Agri-focus, M and L Consulting.

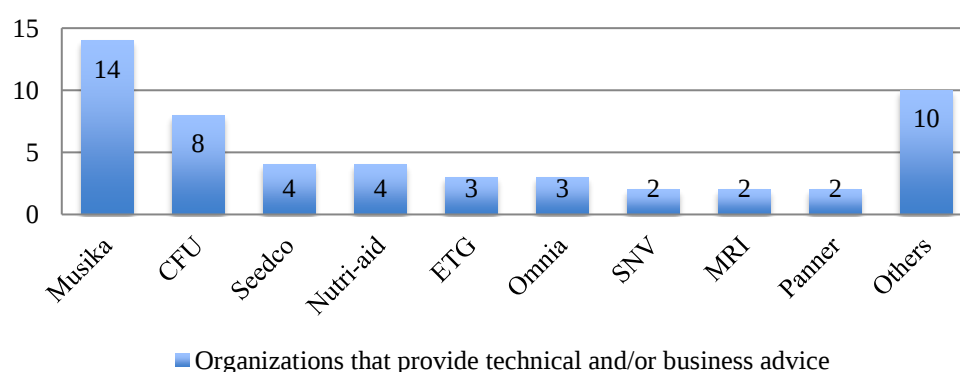


Figure 4: Number of SMEs that Accessed Technical and/or Business Advice from the Following Organizations

7.2 Demand for Capacity Building

SME participants identified a range of skills and capacities that they would like to develop in order to help their businesses. Most respondents requested record keeping workshops, business model and strategy development, and new and existing product and services trainings as those most helpful to improving operations. However, Figure 5 below depicts the full range of skill or capacity gaps that the SMEs identified within their businesses.

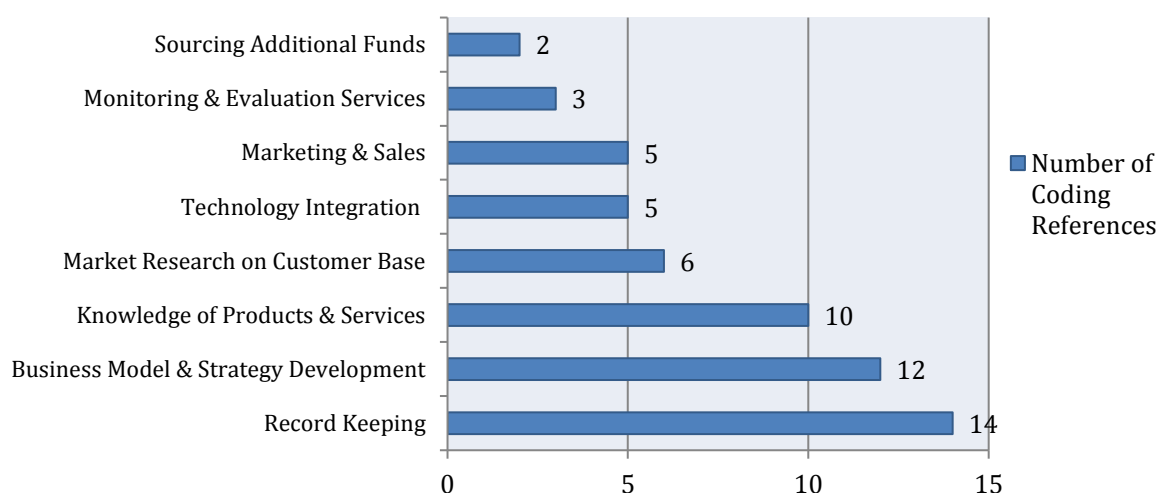


Figure 5: SME's Desired Skills and Capacities

When asked, 93 percent of the SMEs would be willing to pay to acquire an extra skill or capacity that may help them in the running of their business.

Day long training or consultancy

The table below shows the distribution of amounts the SMEs would be willing to pay to acquire skills and capacities necessary for a day in the running of their businesses instead of proposed 750 ZMW. 53 percent stated they would be willing to pay 750 ZMW price for a day.

Table 11: Amounts Preferred by the SMEs (ZMW)

	Number	Percentage
50– 250	8	27
260 – 500	6	20
750	16	53
Total	30	100

Monthly Consultancies

87 percent of the SMEs would not be willing to pay 10,000 ZMW for a month to acquire an extra skill or capacity that may help them in the running of their business. The table below shows the distribution of amounts the SMEs would be willing to pay to acquire

skills and capacities for a month necessary in the running of their businesses instead of 10,000 ZMW. 47 percent stated they would be willing to pay for 50 – 2500 ZMW price range for a month.

Table 12: Amounts Preferred by the SMEs (10,000 ZMW) for a Month

	Number	Percentage
50 – 2500	14	47
2600 – 5000	9	30
5000+	2	6
Not stated	5	17
Total	30	100

Long term Consultancies

87 percent of the SMEs would not be willing to pay 10,000 ZMW to acquire an extra skill or capacity for an extended period arrangement that may help them in the running of their business. The table below shows the distribution of amounts the SMEs would be willing to pay to acquire skills and capacities for a month and/or an extended period consulting arrangement necessary in the running of their businesses instead of 10,000 ZMW. 44 percent stated they would be willing to pay for 2600 – 5000 ZMW price range for a month and/or an extended period.

Table 13: Amounts Preferred by the SMEs (10,000 ZMW) for a Month and an Extended Consulting Arrangement

	Number	Percentage
50 – 2500	10	33
2600 – 5000	13	44
5000+	1	3
Not stated	6	20
Total	30	100

8.0 Study Limitations

8.1 Survey Length

Given that the survey was long and took three hours to administer to one SME, some respondents complained about the length of the questionnaire and that it was taking up their time. Often when the questionnaire was half way done, the respondents were not as enthusiastic about answering the questions as they were at the start of the interview. This was because they were tired of answering questions and as such they seemed to start giving responses without much thought so that they could quickly finish with the questions.

8.2 Survey Complexity

The survey was also very technical in nature and at times asked very specific questions about an owner's business. As such, some respondents indicated misunderstanding when answering the questions. During analysis, it was also discovered that SMEs contradicted themselves in some areas which indicated a misunderstanding and required follow up.

8.3 Sample Size

The study took measures to choose a random, representative sample of rural SME agribusinesses by selecting ones across variations such as geography, business model and product and service offerings. However, the number of SMEs interviewed (30 total) was still a relatively small number with regards to the perceived total number of rural agricultural SMEs in Zambia⁶.

8.4 Financial Records

Some of the SMEs did not keep consistent financial records every year. Therefore, it was difficult for those that were not keeping records to provide us with data around revenue, costs and cash flow from 2014 onwards.

8.5 Logistical Challenges

It was time consuming to reach some SMEs in rural areas due to poor road network and bad weather. The SMEs were also located far apart, which increased fuel costs. This caused delays in the team's arrival and thus the start of the SME interviews, which potentially took up more of the interviewee's time and resulting in impatience and brevity in answering the long questionnaire.

8.6 SME Owner Misperception of Enumerator

Enumerators did not have identification cards that associated them with Musika. This made it difficult to convince some respondents that the team was representing Musika, although it was not clear who the SME anticipated the enumerators were representing otherwise. This mistrust of the credibility of the interviewer could have also affected the nature of the answers given by the SMEs.

8.7 The Meaning of "Qualified"

When assessing the criteria that SMEs use to hire their management staff, although it was not specified, qualified was assumed to mean agricultural qualifications and knowledge.

8.8 SMEs Taking Responses from Probes on Questions they were Unsure of what to Answer

It was reported by enumerators and quality controllers that SMEs did not always understand the question or know what to answer when asked. When they paused for long periods of time the enumerator tended to probe them with possibilities. Often the SME then chose the suggestion which is a common limitation across all sections.

8.9 The Survey Was Not Pre-tested in the Field Due to Time Limitations

Due to the delay in signing the Terms of Reference, the data collection period was shortened to only one week, leaving no time for testing of the survey.

⁶ The number of rural SME agribusinesses still remains unknown due to a lack of data

PART 2: AGGREGATOR ASSESSMENTS

1.0 Background

1.1 Objectives

The Aggregator Assessment Study had the overall objective of understanding different aggregators. The specific objectives of the study were the following:

Understanding the Aggregator's Stories	Factors to Determine Success	Understanding Client Interactions with Aggregators
To better understand the individual story of eight different aggregators including their history and context.	Using the aggregator's stories to provide insight into the factors that have worked and have not worked that have led to successes and/or failures of each aggregators.	What is the experience of the clients in their interactions with the aggregators that they work with?

1.2 Methodology and Approach

1.2.1 Location

The Aggregator Assessment research covered three Zambian Provinces: Northern, Eastern, and Southern. In Northern Province one aggregator was based in Mbala District, one in Musundu Village of chief Chama's area in Kawambwa District of Luapula Province, one in Gekapu Village under Chief Chinakila in Mpulungu District, and the fourth was located 64km from Mbala town in Senga District. In Eastern Province one aggregator was located in the Town of Katete and the other in Mambwe District. In Southern Province one aggregator was based in the Kaumba area in Monze and the other was based in Monze Town within Pemba District. See Appendix G for maps of each of these areas.

1.2.2 Materials

The research team designed and used paper questionnaires for primary data collection. It was viewed as more convenient as compared to audio and video recording due to qualitative nature of the data and whilst collecting in the field. Depending on the circumstance for each aggregator the following groups of people were interviewed: the aggregator's management/owners, a competitor, government staff, headman/woman or Chief or Chief's representative, clients, non-clients, spouses of the aggregator, farmer's organizations (COOPs or women's clubs), successful clients, and staff of partner organizations to the aggregator.

For the aggregators, again depending on their situation, extra research tools were conducted with them including the Business Model Canvas, Profit Analysis, Intangible Scales, Guided Photo Tour, Business Process Mapping, SWOT Analysis, and a drawing activity of their Management Structure.

1.2.3 Research Team

The research team comprised of three staff from BDSA. Two junior consultants Kondwani Mumba and Misolo Sakala who helped with planning logistics, tool design, data collection, and report writing. As well as one supervisor Megan Firth who worked on and coordinated the above.

1.2.4 Participant Recruitment

The criteria for recruiting aggregators to participate in the research was based on three different selection groups. First there was SAPP who were asked to choose two among their 184 different SAPP supported Value Chain Players. They were requested to pick two that they wanted to learn more about that were located in Northern Province. Next, NWK Agri-Services was asked to select one of their distributors who did aggregation in Eastern Province that they were interested to learn more about. The remaining four aggregators were selected by WFP based on their locations in each of the three provinces and WFP's interest to learn more about the success factors of their aggregation models.

1.2.5 Group Designs

The research included a few focus group discussions (FGDs) with different groups linked to the aggregators. Since the study was conducted during rainy season, at the same time farmers were planting their crops for the season, the research team worked with whomever was available. In some cases, this meant that there were only a couple of people present for a number of FDGs and that participants were never divided based on their gender despite the knowledge that females tend to speak more freely in women-only groups. In order to mitigate the challenge the research team tried to give women to speak wherever possible.

2.0 Understanding the Aggregator's Stories

2.1 Background and Context of each Aggregator

Below is a brief overview of the context and background for each aggregator.

2.1.1 Hankkuku Agro Dealers

Hankkuku Agro Dealers is a small and growing aggregator and agribusiness based in Kaumba area in Monze owned and run by Auditor and Olidah Mweemba. The Mweemba's have gone from being subsistence farmers to being linked in 2006 by the Agriculture Camp Officer to the Agriculture Support Programme (ASP), later to MRI, IDE, and in 2016 WFP. They started aggregating maize in 2007 and in 2016 expanded to soya beans and cow peas for WFP. The company registered with Patents and

Companies Registration Agency (PACRA) in 2016 and has a vision for expanding their business to more customers and improving their aggregation tools.

2.1.2 Born to Care

Born to Care is large a family business owned by Mr. Bridon Sinyangwe in Mbala District. It started as a retail and transport company, it later expanded into construction and they are also agents for Goldman Insurance. Aggregation is a new venture for Born to Care, but due to their connections in the community they were able to aggregate significant amounts in their first season. They aim to be more intentional about their aggregation work so that it can become a profitable business stream for them.

2.1.3 Chimpili Rural Agribusiness Center

Chimpili COOP is located in Musundu village of chief Chama's area in Kawambwa District of Luapula province. It is about 30km from Luwingu Town. The agribusiness center is run by Chimpili COOP. The COOP was formed in 1996 to help farmer's access Farmer Input Support Programme (FISP) inputs with 40 members initially. Membership reached 250 in 2012 and is currently at 300. Chimpili COOP was linked to WFP through the Ministry of Agriculture upon being notified that WFP was looking for active COOPs to act as aggregators in 2012. Each year they aggregated more crops, and in 2014 WFP realized the potential of the COOP and farmers in Musundu area but noticed a gap in the storage facilities. Four hectares of land was then sourced through the Chief and Headman and WFP built a storage facility on site, with the COOP making a 25 per cent in-kind contribution (sand, stones, and labor) towards the construction.

2.1.4 John T. Lungu

John T. Lungu is an NWK distributor based in Katete who has been involved in aggregation since 2008. He previously worked with many organizations and agro companies including Rono, Dunavant, NWK and SNV. In 2011 both the transportation and agro dealing aspects of company were registered with PACRA, Katete District Council, ZEMA, and Seed Control and Certification Institute (SCCI). The business runs multiple agro-dealer shops and offers field services for the surrounding communities with their two tractors.

2.1.5 Kasamanda Agribusiness Development Initiative (KADI)

KADI was formed in 2013 by WFP. After a needs assessment survey of the area through ADRA, WFP constructed a business center which included storage facilities, offices, structures for hammer mills, and ablution blocks with the communities who are making a 25 percent in-kind contribution to the construction of the facility. WFP also offered a revolving seed fund grant of soya beans, sunflower, cowpeas, and groundnuts to KADI. The Chief, through his Induna (representative) chose about 30 people representing eight wards to receive training and examinations in post-harvest handling and storage facilitated by ADRA, after which they were given examinations and appointed to warehouse committee positions based on the results of the exam. KADI was officially opened in 2013 by the Minister of Agriculture and Cooperatives. The initiative was registered with PACRA, ZEMA, SCCI, ZRA and Mambwe District Council in 2015. KADI is currently not aggregating crops at all, instead they rent out

the majority of their storage space to Zdenakie who aggregate crops from the communities in their area, on their behalf.

2.1.6 Moomba Investments

Moomba Investments was founded by Armin Scherrer 24 years ago, in Pemba district. The company started off with an oil presser which it used to produce oil from the sunflower bought from local farmers. However, during the drought in 1991/92, aid in the form of cooking oil caused the oil market to crash. Moomba Investments had drums of cooking oil but no market. This forced the company to diversify, and they began aggregating maize and later diversified into other grains. Almost at same time they started aggregation, they began an agro dealing contract with Zamseed. Competition was limited as there were a few agro dealers at that time. Now the company is the largest aggregator in the region, even aggregating more crops than large commercial companies.

2.1.7 Chalamisambo Cooperative

Chalamisambo COOP is located in Gekapu Village under Chief Chinakila in Mpulungu District, about 42km from Mpulungu Town, and 26km from the Mbala-Mpulungu road. The COOP was formed in 2006 to facilitate FISP input for its now 76 members. The COOP started aggregating maize in 2014, selling to Food Reserve Agency (FRA), each year they have slowly increased the number of bags they aggregate. In 2009, SAPP agreed to build storage facilities for the COOP under a shared cost agreement where SAPP covered 50 percent of the total project cost (609,104 ZMW) and the COOP covered the other 50 percent through a 25 percent cash contribution (103,500.06 ZMW) and 25 percent in-kind contribution of primarily building materials. The COOP has since contributed 84,800 ZMW of the total cash contribution. While the COOP is motivated to make their model work, the lack of funds to buy crops from farmers has posed challenges for them.

2.1.8 Tata Mpapa Cooperative

Tata Mpapa COOP was founded in 2006 with 72 members (currently standing at 42 members) and is located 64km from Mbala Town, in Senga District. The COOP was initially formed with a vision of increasing smallholder farmers access to FISP. In July 2007, the COOP used money from membership fees and share capital to aggregate maize from its members which it later sold to FRA. The COOP started giving loans to its members not exceeding an individual's contributions in shares at 10 percent interest. However, the profit from the loans was too low so they resumed buying maize. The COOP then decided to buy the entire amount of FISP input allocated to its members and give the input out as loans to members. In 2012, the COOP members received training and financial support from SAPP for construction of storage facilities in 2013. A 500MT storage shed, an office, board room, an agro-shop, and an ablution block have since been built and aggregating equipment, a motorbike, a borehole, and a light truck have been purchased.

2.2 Key Facts Summary by Aggregator

Below (Table 14) is a breakdown of the most important facts linked to the aggregation business of each aggregator.

Table 14: Key Facts Summary by Aggregator

AGGREGATOR	OWNERSHIP STRUCTURE	REGISTRATIONS	HAS AND USES BANK ACCOUNT	KEY SUPPORTING INSTITUTION	AGGREG. EQUIPMENT/ INFRASTRUCTURE	AGGREG. CAPACITY	AGGREG. EXPERIENCE	2016 AGGREGATION	# OF PAID STAFF	# FARMERS AGG. WITH
Hankuku Agro Dealers	Limited Company	PACRA, SCCI, Monze District Council,	Yes	WFP	Hanging scale, pallets, sieve , probe	maize 2000 (50kg) bags soya 300-500 bags cow peas 2000 bags sunflower 150 bags	10 years	Soya bean 239.06 - 50kg ETG cow peas 1189 - 50kg WFP sunflower 20 - 50kg & maize 100 - 50kg NWK	3	250
Born to Care	Sole Proprietor	PACRA, ZRA, Mbala District Council	Yes	WFP	3 10 – 15 ton trucks, storage sites, scales, bag stitchers, tarpaulin tents	6000 - 50 kg bags	1 year	600 MT maize and beans	9	50
Chimpili COOP	COOP	Kawambwa District Council	Yes	WFP	1 sieve, 200 pallets, 4 scales (3 hanging and 1 platform), 7 shellers	12,000MT	5 years	7712 - 50kg bags of beans 500bags X 50kg of maize	2	290
John T. Lungu	Limited Company	PACRA, ZRA, ZEMA, SCCI, Katete District Council	Yes	NWK	2 tractors, 2 trailers, storage sites, scales, tarpaulin tents, 2 maize shellers, moisture metre, 2 stores, 4 outlets	10,000 bags - 50kg	8 years	4.1 MT soya 17.2 MT maize 10.3 MT sunflower 1.1 MT cowpeas	14	1000
KADI	Limited Company	ZEMA, PACRA, Council, ZRA, SCCI, Mambwe District Council	Yes	WFP	Shed, scales, pallets, sieves	Unknown	0	0	3	0

Moomba Investments	Limited Company	PACRA, ZRA, ZEMA, SCCI, Monze District Council	Yes	WFP	Digital scales, platform scales, moisture meter, 4 rural sheds, 6 trucks, 2 sheds in Monze, sieves, pallets, sewing machine	He beat his 500MT capacity target last year, otherwise unknown	24 years	600 MT cow peas 2000 MT maize	29	3000
Chalamisambo COOP	COOP	N/A	Yes	SAPP	Shed, guest rooms, borehole, tank stand, soak-way toilet, fence, gate shop	3 MT	2 years	2.9 MT maize	0	100
Tata Mpapa COOP	COOP	N/A	Yes	SAPP	Shed, ablution block with sewage tank, soak away toilet, tank stand, un-started guest houses, chairs, table and big board chairs, agro-shop	41 MT	9 years	11.7 MT maize	0	200

3.0 Factors to Determine Success

3.1 The Key Factors as Determined by Aggregator's Assessment

3.1.1 Vested Interest

A key factor for an aggregator to be successful, despite location, size, structure, etc. was that the aggregation business's management/owner/leader had the ability for personal benefit from the business. All of the aggregators who had invested financially into the business and who had something to gain as an individual from investing their time and energy were more successful, than those who were doing it for the greater good of surrounding communities. Even those that currently were receiving very little financially in the early stages of their business, but were working towards a profitable business, were more dedicated to the success of the business than those who had nothing to gain financially as individuals.

In the cases of COOPs that acted as aggregators, they were generally successful where the membership was defined and where members paid shares and membership fees were more committed to delivering their crops to the COOP, and were more willing to participate in COOP activities, as they wanted to see something in which they were part owners succeed, and had hope of personal gain through dividend payments, and access to credit services and other facilities like storage from the COOP. Where no membership fees were paid, farmers were less committed to the COOP.

An example of two similar aggregators with different opportunities for individual gain, is Chimpili COOP and KADI. Chimpili is running as a COOP, and their members pay shares into the COOP in which they expect to get financial return from when the COOP is stronger. The executive membership of the COOP is very vested in the COOP and are working to see it and its multiple business streams succeed. In comparison, KADI is not a COOP, the committees are formed of ward representatives. These people do not pay any shares into the business and appear to be doing the work for the benefit of the communities found within each of the target wards and they have very little opportunity for individual benefit.

The other SAPP COOP's are in the start-up phase and show similar commitment for success as Chimpili COOP as they are also contributing membership fees and shares. The other aggregators are all running as businesses and the management/owners all told of us their plans for the future to grow their business and discussed nurturing the business and their clients to ensure the business's success.

3.1.2 Liquidity

The liquidity of an aggregation business is a crucial factor for success. Aggregators like Born to Care, John T. Lungu, Hankkuku, and Moomba Investments all try to pay the farmers that they aggregate for at the time they receive the crops from the farmers or as soon after as possible. Most clients and non-clients discussed timely payments as being a critical factor for who they decided to sell their crops to, because of the need for their money immediately. In many instances farmers need money to pay for school fees in

May and they sell their crops in order to get the needed funds for paying for those school fees. Therefore, if an aggregator could not pay them quickly enough, those people would find another buyer who could pay them immediately. In order for an aggregator to be able to pay farmers immediately they need to have the cash to do so. Some aggregators were able to use the profits from another one of their business streams to pay the farmers and others got cash from the company they aggregate for in order to pay the farmers, and then they would pay the company back; liquidity was one of the most important factors raised by clients of why they worked with particular aggregators and why non-clients sold to competitors.

These challenges with liquidity were also observed in the Descriptive SME Study (Section 1), which found that two thirds of the SME's surveyed cited capital limitations as a major barrier linked to buying inputs and commodities.

As shown in Figure 6 and 7 below, (using data from Part 1: Descriptive SME Study), aggregators with additional revenue streams were able to increase their cash inflows during seasonal lulls in business more quickly than SMEs with no additional revenue streams. Aggregators with additional revenue streams are better positioned to have liquidity throughout the year as compared to aggregators who do not have additional income generating activities. Though these aggregators with diversified revenue streams are not completely immune to seasonal drops in business activity, however they are likely more resilient in weathering them.

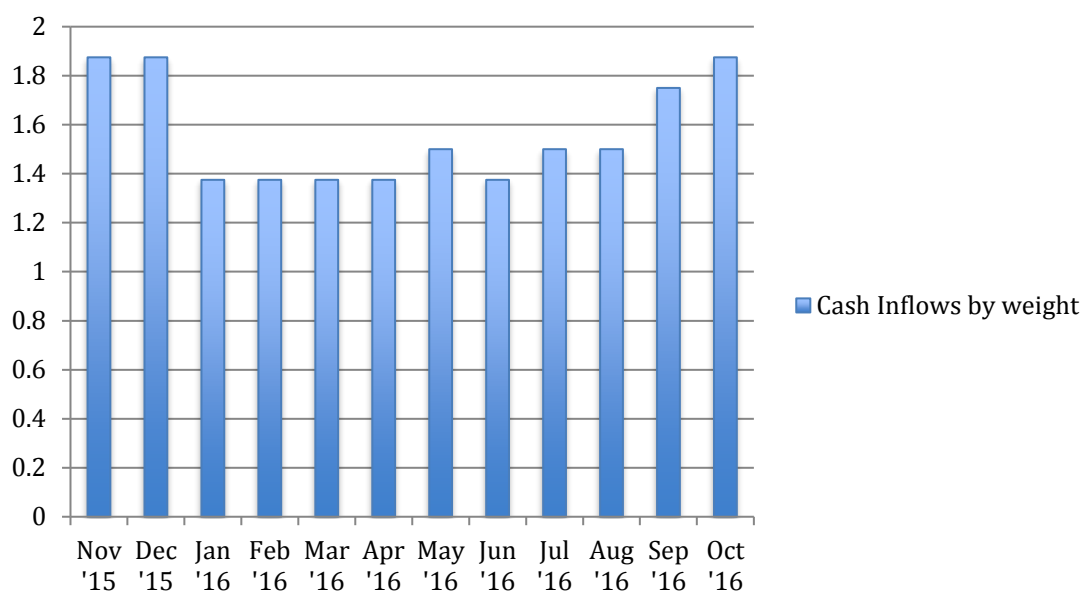


Figure 6: Cash Inflows for Aggregators with No Additional Revenue Streams

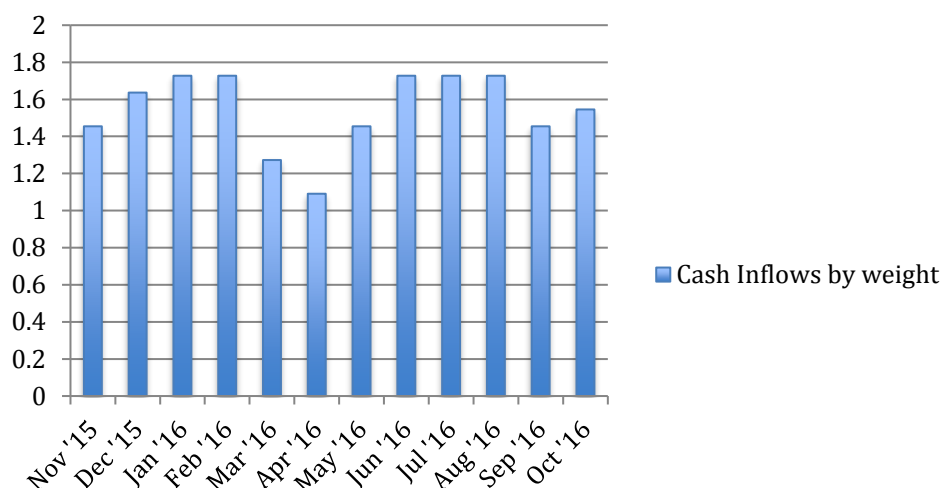


Figure 7: Cash Inflows for Aggregators with Additional Revenue Streams

It is important to note that the four aggregators who do pay their farmers immediately or very promptly after they purchase crops from them, all were limited in how much they could buy, by how much money they had available to buy the crops. Once money ran out, they would stop buying, or they would look for more cash to buy more crops.

In comparison, the two SAPP supported COOPs both received their buildings, furniture, and aggregation equipment as a gift from SAPP. They did not have to pay interest on the gift, but they were required to contribute financially to the project and to provide labor. The problem was this agreement used up the liquidity needed for them to successfully aggregate crops. And since the project is setting up their main business stream to be aggregation, it is now difficult for them to aggregate and make money.

3.1.3 Transport

Owning transport is a significant advantage for an aggregation company. From the perspective of the farmer, the less distance they need to travel in order to sell their crops the better, because it reduces time and financial costs for them. This can be done in one of two ways, either bringing the drop off point closer to their home or by having a pick-up service close to their home. In either case, if the aggregator owns their own transport, this is easier to do. Having one's own transport makes it possible to have multiple rural drop off sites for the farmers because the expense of collecting the crops can be made back by the company through aggregation. Similarly, an aggregator could also choose to pick crops up at a farmer's house, and costs can be absorbed by the aggregation business or charged to farmer. Both options would be costlier if outsourced to another transport company. Data collected from Section 1: Descriptive SME Study of 30 agricultural SMEs shows an association between success and owning a business truck as well. While 50-67 percent of the successful groups (in terms of revenue, gross margin and sustainable growth) owned a business truck, compared with only 25-30 percent of the unsuccessful groups were owning a business truck.

From the perspective of the aggregator, out of all the eight interviewed aggregators, only three owned their own transportation (Moomba Investments, John T. Lungu, and Born to Care) and these were the ones that stood out for having significant aggregation capacity.

An aggregator owning their own transportation sets them apart in the following ways:

- It gives an aggregator a competitive edge over smaller aggregators who don't have their own transport because it allows them to buy commodities right from the client's door step. Moomba Investments for example has introduced a mobile aggregation business using a truck to follow customers right to their door steps. John T. Lungu has also developed a similar service where he aggregates from his customer's door step.
- Smaller aggregators can maintain a competitive advantage over bigger aggregators who ask farmers to deliver to them, rather than aggregate from their door step. An example is Moomba Investments that was able to outcompete a major commercial player operating in the same area by 400 MT of cow peas by offering transportation services in rural areas.
- It helps the aggregator to maximize profits when they sell their crops to millers and other buyers outside their districts. For example, both Moomba Investments and Born to Care have maximized their profits when selling to millers and feed companies in Lusaka because they own the transportation and therefore they are able to make profit twice along the value chain.
- Being hired to transport the same crop that they aggregate can be a source of extra income. For instance, Moomba Investments was hired to transport the cow peas they and other aggregators aggregated in their area. Born to Care and John T. Lungu were also hired to transport the commodities they aggregated.
- During off seasons for aggregation, transportation can also be hired for other tasks which brings extra income into the business.

3.1.4 Market

Having a reliable market is an important factor for aggregation businesses, both from the aggregator's and the farmer's perspective. For the aggregator, knowing that they will have a market for a particular crop in their region is crucial to the success of their business. This is especially true for the aggregators that use their own money to buy crops from the farmers in their area. Imagine a scenario where the aggregator was not guaranteed a market for their crops, and they spent a significant amount of their business's (or family's) money to buy a crop on the chance that they would find a buyer. Not finding a buyer at all, or for the quantity they aggregated for, or for the variety, or the quality of crop they aggregated could mean significant financial loss or even bankruptcy in some cases. For those aggregators who also offer seed on credit to farmers, this is an even larger risk. This need for a sustainable market was also shown in the SME Descriptive Study, that found 74 percent of aggregators with a high gross margin work with more than one firm, and 73 percent with a sustainable growth rate work with more than one firm.

Likewise, farmers also want the reassurance that the crop that they grow is going to be bought, ideally by a local aggregator, and at a good price. This is especially true of crops other than maize, because they can consume less of the other crops at a household level, and they do not have the reassurance of the FRA as a buyer, if other local aggregators fall through as buyers.

The more sustainable the relationship is between an aggregator and an off-taker is on a year to year basis, the more trust a farmer can have in that aggregator and in growing the crops they aggregate.

3.1.5 Building Trust with Use of Scales

Earning the trust of the customer was a key factor in aggregation business. Many customers complained of feeling cheated by ‘briefcase’ or mobile buyers who do not use scales and as such sought aggregators with whom they felt they could get a fair deal. Because of this, the scale has become an important part of building trust, and customers described a good aggregator as one who uses a fair scale. Aggregators with different types of scales cited allowing the farmer to choose which scale they were comfortable with (e.g. digital platform scale versus beam balance scale) and ensured that the customer was present during weighing, which help to reduce disputes over the weight of bags. Comparing the weight on multiple types of scales for the first bag was another method used by aggregators. This allowed aggregators to show that the scales farmers trusted more, like the beam balance scale, which is also more time consuming than the digital scale were showing the same weight. This enabled the farmer to feel they could also trust the digital scale.

3.1.6 Prompt Payment

Another key factor for success is prompt payments from the aggregator to the farmer. Customers demanded to be paid quickly, and sometimes opted to deal with less desirable traders/ aggregators because they paid immediately. To build confidence and trust between themselves and customers, sometimes aggregators would pay some farmers with their personal money while waiting for payment from off-takers (like NWK or WFP). This helped to build the confidence of customers who could not be paid immediately, that their money will come. Aggregators who had the capacity to pay customers with their own money aggregated considerably larger quantities than those who didn’t, and in some instances farmers would withdraw their crops from an aggregator if they felt the payment took too long and opted to sell to an aggregator who paid cash, even if it meant getting a lower price.

This factor is so important to most farmers they would choose their aggregator based on how quickly they can be paid, and have been known to withdraw their crops if the money is taking too long to arrive in order to sell to a competitor of the aggregator.

3.1.7 Customer Service and Care

Good customer service was a factor for success among aggregators. Successful aggregators had good customer service practices, which included relationship building, ancillary services, and bonuses/ incentives. It is important to note that while the factors

below are important to farmers, if trust is not built and payments are not made in a timely fashion, farmers will opt to sell to competitors, even at lower prices.

Ancillary services were an important part of customer services. The customer experience was completed by giving free service advice like which type of seed or pesticide to use in their fields. Good examples of such services are John T. Lungu who visits farmers' fields when they are attacked by pests and advises on which type of pesticide is necessary. Or Hankkuku that not only advises on the type of pesticide but also mixes the pesticides for free if the farmers buy from him.

Some aggregators also used bonuses or other incentives to attract and retain customers. However, this was a minor or less important actions taken compared to the three above from both the aggregator's and the customer's perspective. Some of the bonuses and incentives included free seed for farmers purchasing large quantities or promotional material for customers.

3.1.8 Bringing Services Closer to the Farmers

One challenge faced by rural farmers (located far from urban centers) that all of the aggregators interviewed did was to increase access to agricultural services by bringing services closer to these farmers. This was done by bringing inputs closer to farmers while at the same time providing a market for farmers from within the village. This served the need of farmers as buying inputs and selling commodities within the village meant reduced cost of transport, buying food and accommodation in town, reducing time and effort spent trying to sell crops in town. Some aggregators further extended this by having depots and mobile selling/ buying points even closer to farmers in more distant areas.

While bringing the services closer to farmers in remote rural areas was helpful for all of the clients interviewed, it appeared to be the most beneficial for those who lived very far from Lusaka, like those living in Northern Province where alternative service providers and markets are scarce.

3.1.9 Business mindset

Having a business mindset was a key success factor for aggregation. Successful aggregators employed strategies like identifying local needs and reinvesting money from aggregation in businesses aimed at meeting these local needs, hence growing capital and keeping the business active year-round, as opposed to just during the marketing season. Additionally, they invested money in small ventures in order to raise funds for larger long term projects. Successful aggregators also had what one aggregator referred to as a '360 degree' business model, which as opposed to focusing on aggregation, involved being active in multiple stages of the agricultural value chain. Advantages of this approach included keeping the business active year-round, increased income, and different business segments complementing each other. Five business opportunities in the agricultural value chain were identified namely: offering tillage services, selling farming inputs, providing farming advice, aggregation, and transport between the various stages. While not all these necessarily brought significant income

to their business overall, they complemented other business segments and acted as advertisement for the other business streams. It also guaranteed that the business was not losing out on any income along the value chain. For example, for those aggregators who has contracts for buyers who provide money for transporting the crops aggregated, the aggregators who did the transport themselves did not have to pay someone else to do it, but instead profited off of the agreement even further. While also ensuring that the crops were picked up and delivered the way they intended.

Another common factor seen in all of the aggregators was that they had a bank account despite their level of success compared to each other. They all also commented on the challenge they face in convincing most of the farmers that they work with to get bank accounts. Some provided anecdotes of farmers who would sell them large amounts of crops.

As seen in both studies there was also a connection with an aggregator's/SME's ability to record keep and the number of records they keep. In the Descriptive SME Study, SMEs that are earning a high gross margin, 80 percent of them keep at least four records and out of those with a high revenue, 67 percent keep at least four records (yet there was no compelling association with groups with sustainable growth rates). Similarly, the Aggregator Assessment found that the more successful aggregators kept more detailed records (e.g. kept better track of costs) and had better record management systems which allowed for easier access to these records, and in some cases had annual financial statements prepared.

There was also a connection in both studies with the number of years of related experience of the manager. In the Aggregator Assessment, there were only four out of eight aggregators who provided how many years of business experience they had, and all of them had more than five years. There were 66 percent of aggregators that had more than five years of related experience who had a high gross margin, and 100 percent of the aggregators with high revenue also have more than five years of experience. Similarly, the SME Descriptive Study found 24 out of 30 SME's business owners had more than five years of related experience. Of the high gross margin group, 95 percent of the business owners have more than five years of experience and 89 percent of the high revenue group have business owners with five years of experience (there was no positive correlation with sustainable growth).

3.1.10 Credit services

Some aggregators provided credit services in the form of input loans to farmers. A farmer would normally receive input (seed, fertilizer, and/or pesticide/herbicide) on credit and be expected to repay the value of the input plus an agreed interest after harvest either in cash or the equivalent value of crops.

Providing input loans served both the needs of the farmer and the aggregator at the same time. As farmers usually earn money once a year (during marketing season), they often have challenges buying inputs for the next farming season. Being able to get inputs on credit allows for them to get what they need to prepare themselves for the

farming season and in some instances, it also helps them to expand their production capacity. For the aggregator, increasing farmer productivity through input loans translates into increased quantity of commodities available for aggregation. Additionally, it is a means of attracting new farmers to their aggregation business, as farmers prefer to work with aggregators from whom they can access input loans. Finally, input loans also served as a means of encouraging farmers to grow crops that the aggregator is interested in. For example, an aggregator could loan cowpea seed to farmers as a way of encouraging them to grow cowpeas, for which they have a contract with a buyer to aggregate for that season. While credit services contributed to the success of some aggregators, defaulting aggregators pose a risk to aggregator's businesses, resulting in some aggregators refusing to give input loans to their farmers.

In no cases did an aggregator offer cash loans as this is seen as a risky business endeavor as repayment of cash loans is very low. Aggregators who have tried this in the past have seen the money spent on other activities like drinking or giving to family members in need so they become unable to repay the loan. Others stated that expecting repayment of cash loans has led in the past to deterioration of relationships and therefore, now if someone in the community needs financial support, they provide it on a case-by-case basis with no written agreement for repayment and they do not anticipate being repaid.

3.1.11 Use of Credit

Another factor of successful aggregators was a deep understanding of loans and interest. Some of the aggregators have, in the past taken out loans for purchasing productive business assets, and some had never taken out loans before. Aggregators who took out bank loans explained how the loans they had taken in the past caused them financial stress due to high and volatile inflation rates.

One aggregator shared an anecdote of their company's experience in taking out a loan to buy a company truck. When they took out the loan, the interest rate was at 18 percent. As they began to pay off the loan, the interest increased to 32 percent. They had not been informed that the interest rate would increase and so the cost of purchasing the vehicle increased significantly overall.

The business had a good the level of understanding on good and bad credit. And how even what could be determined as good credit in certain circumstances (buying productive assets) is risky in the Zambian context due to the volatile interest rates and uncertain conditions.

3.1.12 Independent from Grants

Linked to the above responsible use of credit, another factor of successful aggregators was their desire to plan ahead to buy on their own, what they need to advance their company.

Comparing two aggregators who are both struggling with finances and getting their business scaled to the size they want show this clearly. KADI, is a group that has faced a lot of barriers and challenges. However, they have also received a lot of support

(formation of their group, a storage facility, other infrastructure, aggregation materials, etc.). Compared to Hankkuku that has been receiving mostly technical skills training and nothing in terms of infrastructure or materials. When asked about future plans, Hankkuku had a solid five-year plan with buying inexpensive items that will help them generate more income (a new shed and a pump for the garden), in order to help them save for a Toyo Cycle to take their aggregation business to the next level after five years of saving. KADI on the other hand had little in terms of long term plans and even the smallest business ventures proposed (like selling chicken eggs) they said would not be possible due to them not having the funds to get the chickens, unless they received outside support.

Overall, the majority of the aggregators had plans for using what they been given, or what they had, to productively use their money to improve their aggregation business. And those with that mentality were much more successful than those waiting for outside support.

Aggregators also recognized the need for farmers to have a self-sufficiency mind-set. For example, Moomba Investments supported two women's groups with free seed, but stressed the need to "help them without spoiling them."

When comparing to the Descriptive SME Study, the findings were similar where 100 percent of SME's planning on using grants to advance their business using grants were in the low-income customer segment. Although, only 25 percent of SMEs planning to seek grants are in low gross margin group.

3.1.13 Financing for Inputs and Aggregation

Financing for inputs and aggregation contributed to the success of an aggregator and complemented other success factors. Of the eight aggregators interviewed, three received inputs on credit and only one received financing for aggregation, and these aggregators were generally more successful than the ones who didn't receive any financing.

Accessing inputs on credit addressed issues of liquidity, as aggregators could access inputs even when they did not have any cash at that particular time. This also allowed them to give inputs to farmers on credit, giving farmers extra impetus to work with the aggregator. This also allowed the aggregator to encourage farmers to grow crops in which they were aggregating.

Aside from accessing inputs on credit, one aggregator, John T. Lungu, also got financing for aggregation. Under this arrangement, NWK gives John T. Lungu money to buy cotton on their behalf, after which he would receive a commission. This served two important needs, firstly, giving him the needed liquidity to aggregate and thereby allowing him to pay cash. Secondly, the commission earned helped him to aggregate other crops for which he didn't receive financing. Some aggregators who did not receive funding were limited in their aggregation capacity due to limited liquidity. For example, the two SAPP COOPs each aggregated less than 5 MT despite available

supply from farmers. If these aggregators had been given financing for aggregation their aggregation capacity would have increased significantly.

The Descriptive SME Study found similar trends, where four percent of SME's received financing to *purchase on credit* from farmers. However, of all the SMEs surveyed in the Descriptive SME Study, 33 percent of SMEs in the high revenue bracket, 20 percent of SMEs in the high gross margin bracket, and 36 percent of SMEs with sustainable growth reported receiving financing from off-takers to *supply inputs* to farmers. Considering that only 20 percent of total SMEs are even receiving financing from off-takers to supply inputs on credit to farmers, the percentage of SMEs participating in these activities and falling within the success criteria is noteworthy. This linkage suggests a relationship between providing input credit to farmers and overall SME success.

3.2 Important Factors that are Unnecessary for Success

3.2.1 Storage

Storage is an interesting factor, because it was one of the few factors that does not affect customers, but in many cases, was clearly visible to customers. For the customer, their money earned is based on the quality and weight of their crop at the time of sale to the aggregator, what happens to the crop after they have sold it does not make a difference to them.

For the aggregator, it is important to have sufficient storage that was in good condition. Yet, storage space and quality was not an indicator of the most successful business. This could be explained by when an aggregator's storage facilities were insufficient, aggregators took measures like putting tents, tarps, or pallets on the floor to control moisture. Most aggregators also had alternative outside storage, in case their current indoor storage facility was filled to capacity. Most aggregators also employed a strategy of moving stock as quickly as possible, hence reducing the amount of time they held it in storage. This helped ensure that storage space was always available throughout the marketing season, reduced the chances of pest outbreak while in storage and other challenges related to moisture and sun damage.

What appeared to be more important was ensuring that the quality of crops being purchased from farmers was of good enough quality to sell to the aggregator's intended buyer, as the quality demanded by different buyers differs.

Of course, those aggregators with poor or inadequate storage facilities could improve profit and their reputation in the community by having improved storage facilities. This was determined by the fact that the two aggregators with the worst storage facilities are both investing money into improving their current storage facilities.

Theft was a concern raised by many of the aggregators, they all tried to prevent theft as it would directly reduce their aggregation business's profitability.

3.2.2 Connection to ZESCO

Out of all of the aggregators interviewed, only two of the aggregators had a connection to ZESCO, but in both cases, not all of their sites were connected to ZESCO, or they were not connected at all times. The other six aggregators used either solar, generators, or nothing at all.

The biggest difference between the aggregators was only those with a connection to power had laptops/computers and they had a source of power to keep it charged. But not all of those with access to power had a laptop/computer. Those with either a computer or laptop used them in order to record their business information.

3.2.3 Location

The location of an aggregator does not appear to be an important factor to the success of their success. This can be explained by just in the eight aggregators interviewed there were so many different business models possible that there is not one sure method for success.

Individually the factors regarding location are important, for example, the distance from the aggregator to Lusaka affects the variety of off-takers to buy an aggregators crops. However, while having fewer off-takers is a disadvantage, it also seems to reduce the amount of competition. Take Born to Care for example. They are located very far from Lusaka but are enjoying a near monopoly in the area which is to their benefit.

Aggregators who are nearer to a city or big town also have the advantage of being easy to access by truck and to be well known within the communities surrounding the area. However, without having a system of collecting crops nearer to farmer's home, this advantage may be lost.

Similarly, the distance to a tarred road can be helpful for an aggregator to be accessed by off-takers and for them to move crops to the off-taker. However, if an aggregator is not close enough to the farmer's home the advantage is lost.

Table 15 below shows how wide the range is between each of the aggregators and how they have positioned themselves. None of them mentioned their location as a disadvantage to accessing the communities they aggregate from as they have each built a business model that suites their situation.

Table 15: Key Distances by Aggregator

	Distance to Lusaka	Distance to Nearest Town	Distance to Tarred Road	Average Distance to Farmer's Homes
Chalamisambo COOP	1070 km	42 km	26 km	Located within the community
Tata Mpapa COOP	960 km	65 km	Along main road	Located within the community
Born to Care	1025 km	Within town	Along main road	In town – limited rural collection
Chimpili COOP	~1000 km	30 km	30 km	Located within the community
KADI	610 km	32 km	32 km	Located within the community
John T. Lungu	500 km	13 km	13 km	Located within the community
Moomba Investments	190 km	Within town	Along main road	In town – with rural collection
Hankkuku	200 km	12 km	12 km	Located within the community

3.2.4 Management Structure

Another factor that is important to note, but that did not determine success is the management structure. As mentioned in Section 5.1, whether or not there is invested interest is more important than how an aggregation company or group is structured.

The aggregators were a mix of COOPs, family owned, single owner with non-family staff, and the agricultural group. All of the different management structures seemed to work with the exception of the agricultural group. This is believed to be due more to the lack of invested interest than the structure of their management. If that group was able to restructure so they could invest into the group and tighten the aim of the group, it is believed that that management structure would also work.

3.3 Success Rating by Aggregator

Found in Appendix E is an overview of all eight aggregators, ranked by their level of success. This rating was done using the Categorization Matrix: Factors for Success tool found in Part 3: Summary, subsection 1.2. The tool was created using success factors determined in both studies, including, in part, Part 2: Aggregator Assessments, subsection 3.1. Since the tool contains points from both studies, there are some components of the tool that remain unknown about the aggregators, which have been marked accordingly. This does not affect the scoring mechanism, as it has been designed to use percentages to more easily allow for comparisons between the SMEs. There was also one aggregator that is not aggregating (KADI), so the tool was run as a non-aggregator tool for KADI only. Arguably KADI should be aggregating and are not, so if they were to have been assessed as an aggregator their score would have been significantly lower than it is.

According to the tool the aggregators from most to least successful are as follows: John T. Lungu, Moomba Investments, Born to Care, Chimpili COOP, Hankkuku, Tata Mpapa COOP, KADI, and Chalamisambo COOP.

Using the Descriptive SME study criteria for success (refer to Part 1 - Section 2.1 Definition of Success), the Aggregators can be assessed on their Annual Revenue, and their Gross Margin⁷ (see Table 16 below). Note that not all of the eight aggregators were able to provide sufficient information to have either or both of these assessments done. By these two assessments John T. Lungu is deemed successful by both criteria, and Chimpili COOP Hankkuku have only successful Gross Margins. Moomba Investments was determined successful for only Annual Revenue. This can be compared to the Success Rating by Factor chart listed above which determined Hankkuku, Born to Care, John T. Lungu and Moomba Investments are successful. It is important to note that the business models of each of the aggregators greatly impacted their Gross Margin. When comparing Moomba Investments (unsuccessful) with Chimpili COOP, Hankkuku, and John T. Lungu (successful) they aggregate quite differently. Moomba Investments is running as a business and therefore incurs a lot of costs, plus they pay farmers outright for their crops which they then sell to off-takers. Compared to Chimpili that is running as a COOP and therefore has very few costs. Chimpili COOP, Hankkuku, and John T. Lungu all also work in some capacity with credit (for aggregation and/or inputs). This directly reduces their gross margins.

Table 16: Success Indicators for Aggregators

Annual Revenue (ZMW), all SMEs		
Variable	Number	Percentage
25,000-100,000	2 (Hankkuku, KADI)	33.3%
100,000-500,000	1 (Chimpili COOP)	16.7%
500,000-1,000,000	0	0%
1,000,000-5,000,000+	3 (John T. Lungu, Moomba Investments, Born to Care)	50%
Total	6	100%
Gross Margin, all SMEs		
5-20%	2 (KADI, Moomba Investments)	40%
21-40%	0	0%
41-60%	2 (Chimpili COOP, Hankkuku)	40%
61-100%	1 (John T. Lungu)	20%
Total	5	100%

With the three different tools used to assess the success of the aggregators, each tool has its own criteria for determining what success means or how it is measured. Below a table has been included to summarize the success of each aggregator from the

⁷ See Section 11.5 Gross Margin Calculation for an explanation on how the figures were calculated

Aggregator Assessment Study. Note: for the Categorization Matrix: Criteria for Success, the aggregators with a score of 70 percent and higher were deemed successful. This is a random decision for determining their success, however after aggregators that were above 70 percent were included there was a significant drop in percentage, the next highest being 53 percent.

Overall, the three assessments show there is correlation between the aggregators that were assessed as successful (see Table 17 below). Since all aggregators that have been assessed as successful, have been so in two or three out of the three categories, giving overall a very clear picture of success. John T. Lungu was the only aggregator to be successful in all three categories. Born to Care, Chimpili COOP, Moomba Investments, and Hankkuku were all successful in two out of three of the assessments. Chalamisambo COOP, Tata Mpapa COOP, and KADI were not assessed as successful by any of the tools.

Table 17: Overall Success of Aggregators Based on Three Tools

Aggregator	Categorization Matrix: Criteria for Success	Annual Revenue	Gross Margin
Chalamisambo COOP			
Tata Mpapa COOP			
Born to Care	Successful	Successful	
Chimpili COOP	Successful		Successful
KADI			
John T. Lungu	Successful	Successful	Successful
Moomba Investments	Successful	Successful	
Hankkuku	Successful		Successful

3.4 Competitors

In order to better understand the factors leading to successful aggregators, the competitors of the aggregators were interviewed along with their clients (non-clients of the aggregators showcased in the report). In some cases, the competitors directly influenced the quantities of commodities aggregated by the featured aggregators. Some traders acted as competitors for certain crops like maize while at the same time sub-aggregating beans from distant farmers and selling to the aggregator.

Key characteristics that attracted farmers to the competitors was the timing of their marketing season. In many cases, farmers indicated that competitors to the aggregators started buying earlier (end of March), which aligned better with the opening of schools, when farmers need money to pay for school fees. This resulted in farmers opting to trade with competitors, even if it meant being offered a lower price if paying for school fees was done with the money from crop sales.

Competitors who attracted farmers also generally had more liquidity and were able to pay cash for crops. Some farmers were unwilling to wait for payments and demanded to be paid immediately. Further, delayed payments from off-takers (such as WFP) resulted in farmers withdrawing their bags and selling to other aggregators who were able to pay cash. As a result, aggregators who had more financial liquidity attracted more farmers and could aggregated more. This was again a factor farmers were willing to comprise lower prices for if they could be paid immediately.

Aside from the above-mentioned factors, competitors who owned their own transport were able to follow farmers to distant areas and buy from their homes, reducing transport costs for farmers. Further, farmers would buy inputs from other input suppliers (for those aggregators that do sell inputs) if they did not offer services like FISP e-vouchers, if this was a criterion for choosing an input supplier. This would be despite having to pay higher prices for inputs, and for not buying inputs from the same person that aggregates and/or transports their crops.

4.0 Understanding Client Interactions with Aggregators

The activities of aggregators have had far reaching benefits in their respective communities. Most aggregators have aside from their core business, engaged in other businesses, which have in a way complimented their aggregation. In addition to bringing markets closer to farmers, aggregators have had a positive impact on farmers through their other businesses. The next section highlights the cases of a few farmers who have found personal success and improvement of their livelihood through interaction with the aggregators focused on.

Success Story 1: Cathrine Mwiinga and Richard Chisale (Hankkuku)

Cathrine Mwiinga and her husband Richard Chisale have been farming in Kaumba area of Monze District for a number of years. Besides growing crops, they also grow tomato, rape and other vegetables in their garden which they sell in Monze town. The Chisale family used to rely on FISP inputs for their fields, and had to go Monze town to buy seed and pesticides for their garden. Because of the cost of inputs and distance to Monze town, they could only maintain a small garden due to limited cash.

In 2013, they got garden inputs on credit from Hankkuku, and were given three months to pay. They have since been getting inputs on credit from Hankkuku, and most recently got inputs worth 500 ZMW and repaid a total of 630 ZMW to cover the loan and the interest after two months. Because of the credit facility, they have been able to increase the size of their garden which has enabled them to buy a two-stroke petrol water pump for watering their garden. Aside from garden inputs, they are now able to get maize, cowpeas, soya and fertilizer on credit. Since they started getting inputs on credit, they have expanded the size of their garden and have bought a water pump for the garden. They have been able to pay school fees, and started building a new house in 2015, which is still under construction.

The Chisale family has benefited from the input loans from Hankkuku, as aside from increased income from the expanded garden, they can access inputs closer and do not have to spend money going to Monze town to buy inputs.

Success Story 2: Charles Nchimunya (Moomba Investments)

Charles Nchimunya first heard of Moomba Investments in 2004, at which time he was only subsistence farmer. In 2008, he started selling to Moomba Investments. Since Moomba Investments provided an easy market, Mr. Nchimunya expanded his farming efforts by increasing hectareage from four to six hectares, of which two hectares are cowpeas. He has also introduced crops he was not growing before, and in the 2016/2017 season planted a hectare each of sunflower and groundnuts.

In 2014, Mr Nchimunya bought a maize sheller, and charges farmers 100kgs of maize for every 25 - 50kg bags (1.25MT) they shell using his sheller. He then sells the maize he is paid to Moomba Investments and uses the money to cover household and farm expenses and to buy medicine for his livestock. In 2015 he was able to build a house with iron sheet roofing and the following year, he bought an ox cart, 2 oxen and a 200-watt solar panel. He uses his solar panel to offer charging services for community members at a small fee.

Currently, Mr. Nchimunya owns two cultivators, three ox carts, four ploughs, two harrows, and one ripper. He also has 38 cattle, which he uses to store his wealth, and only sells when he needs cash. Mr. Nchimunya comments that if he was not selling to Moomba Investments, he would not be successful, as aside from providing market, Moomba Investments has also made transportation easier as they come to buy from within his village.

Success Story 3: Liberty Chitanda (Moomba Investments)

Liberty Chitanda has worked with Moomba Investments for two years. Prior to selling to Moomba Investments, he used to sell his produce to briefcase buyers, and had to go to Pemba Town to buy inputs. When he saw that Moomba Investments was using scales as opposed to the buckets used by briefcase buyers, he started selling to Moomba Investments and found that they paid more than briefcase buyers for similar amounts. Moomba Investments send their agents to buy from within the village, and these agents also bring inputs for sale, hence he does not need to go to Pemba to buy inputs.

In 2015, he sold 150 bags of maize to Moomba Investments, and the amount increased to 250 bags plus 13 – 50kg bags of cowpeas in 2016. Using money earned from selling to Moomba Investments, Mr. Chitanda was able to repay his K4000 loan to Vision Fund and pay school fees for his four children. He also bought seed from Moomba Investments for the 2016/17 farming season, which were delivered to his house. Liberty Chitanda said Moomba Investments is a company that wants to develop farmers, they bring market and inputs closer to farmers, adding that their staff are also very friendly with farmers.

Success Story 4: Teyani and Judith Zulu (KADI)

Teyani Zulu received an equipment loan in the form of an oil presser through Kasamanda Agribusiness Development Initiative (KADI). This loan also included cement and roofing sheets to be used for building the housing for the oil presser bringing the total loan amount to 25,000 ZMW to be repaid in 1,000 ZMW quarterly payments.

Mr. Zulu and his wife Judith started offering oil pressing services to community members, while at the same time pressing their own sunflower seeds and selling the oil. They used money realized from the oil pressing business to build a poultry coup which holds 150 chickens. They use some of the sunflower cake from the oil press as feed for the chickens while the rest is sold. The chickens are sold locally while traders from Katete also come to buy in bulk from time to time. The poultry help to cover loan repayments when the oil press is not working or business is slow.

The Zulu's used to grow two hectares of sunflower, but increased to four hectares in 2015/16 farming season and five hectares in 2016/2017 season. They are currently building a shop where they'll be selling oil and other groceries, and want to acquire a second oil presser once the current loan is repaid. Income from the two businesses has helped with household expenses and school fees. They manage to finish paying college fees for one of their children who was studying at Katete College of Agriculture and are able to pay fees for their son, who will be completing secondary school in 2017.

Success Story 5: Maybin Chanda (Chimpili COOP)

Maybin Chanda is the Vice Chairperson and one of the founding members of Chimpili COOP. Mr. Chanda received a sheller loan from the COOP in June 2016, and has been offering maize shelling services to community members. He hires a tricycle (Toyo Cycle) to transport the sheller from his home to farmer's homes when they require his services.

Mr. Chanda saw an opportunity in aggregation by becoming a sub-aggregator. He gives cash loans to farmers ranging from 15 ZMW to 1,000 ZMW, which they repay in the form of beans after harvest. As of December 2016, he had given out 2,130 ZMW to 16 farmers and was expecting about 15 - 50kg bags of beans, which he will sell to WFP through the COOP. Mr. Chanda also slaughters two cows every year, and exchanges the meat for beans (1 kg of meat costs 1.5 gallons of beans). He usually keeps half of the meat for home consumption and trades the other half. If a cow is large enough, he can get 300 to 350 gallons (approximately 40 bag of beans).

From his sub aggregation, Mr. Chanda has been able to buy a car which operates as a taxi in Luwingu, a motorbike and a hammer mill. He also has 36 cattle and 3 houses (one of which is on rent in Luwingu town).

5.0 Study Limitations

5.1 Time of Year

The time of year, during rainy and planting season, created some limitations and challenges for the research. Due to poor weather, on multiple occasions not all invited participants would attend a meeting with the research team because it was too cumbersome to travel in the rain. Also, due to the fact that farmers were busy in their fields planting from the early morning until they broke-off for lunch meant it was hard to find the time to meet everyone. And those who did come often, arrived tired and hungry after spending many hours laboring in the field. This limitation was difficult to overcome, but participants were encouraged to select the day and time of their meeting that was most convenient for them.

5.2 Limited Number of Aggregators

This portion of the study also included a limited number of aggregators as research participants. This is because a 'deep dive' using Human Centered Design techniques and tools is very time consuming. The research team spent one day with three of the eight aggregators and three days with the remaining five aggregators. Therefore, it was not possible on the allotted budget or time frame to work with any more aggregators. However, since this study is complementary to the SME Descriptive Study that worked with another 30 participants, it increased the number of agricultural SME's to 38 in total.

5.3 Focus Group Discussion Issues

Focus group limitations were linked to the fact that the entirety of the study was conducted during rainy season, which coincided with the farmers planting their crops for the season. This meant that it was very challenging to form proper focus groups of adequate size and where the genders are separated into two different groups because there were so few people willing and able to participate. Therefore, the research team worked with whomever was available despite the group's size or gender composition. In order to mitigate the issue of not having separate groups for the women, the research team tried to encourage women to speak wherever possible.

5.4 Validity of Aggregator Responses

As with most research, there was a risk that the participants (both aggregators and the other groups as well) would exaggerate their positive or negative perspectives depending on whether they thought it would help or hinder the support they receive or how they would be perceived. In order to reduce the likelihood of this happening, two junior consultants were hired based on their strong ability to understand local language and context. They worked with each group to make sure the information given was as true as possible. Before working with each group, the nature of the study was presented, along with the intended outcomes of the study, and it was highlighted that people should be open and honest during the process. In cases where this type of behavior was suspected, more questioning, probing, or even new tools were used to get the correct information. For example, the team designed the Intangible Scales tool based on the

fact that it was difficult for aggregators to discuss topics such as trust and loyalty. The team also worked with all different groups linked to each aggregator that was possible in order to get multiple perspectives on any given issue. Aggregators in different areas were also selected in order to get more data points to compare.

5.5 Gross Margin Calculation

In calculating the Gross Profit Margin as for the aggregators in the P4P Study, the costs of goods (COGs) was not explicitly stated by the SMEs in their financial statements. Therefore, this figure had to be calculated using the aggregator's reported revenue streams as a guide for identifying COGs. COGs were expanded to also include cost of services as most SMEs provide aggregation services, and the guiding question of "If no sales were made, would this be an expense?" to discern COGs from operational costs. Additionally, aggregator data on specific expenses and revenue streams was at times incomplete or missing, thus estimated values were used when appropriate. Though the four aggregators with financial data were assigned to brackets for gross margins as defined in the Descriptive SME Study, it is important to note that the gross margin figure used here is only representative of the 2015-2016 year. There was not enough data to create an average over three years, as was the case in the Descriptive SME Study.

PART 3: SUMMARY

1.0 Recommendations

1.1 Viable Business Models for Shared Value

Promote business models that create linkages with farmers such as out grower schemes and possess safety nets such as additional revenue streams that can help weather external shocks.

This section outlines the business models of agricultural SMEs that are currently operating successfully in rural areas and addresses the external threats that might affect them. One of the goals of Musika and WFP interventions is to identify agricultural SMEs that not only have proven their commercial viability and sustainability, but have also shown that they know how to successfully work with the smallholder farmer to create shared value.

1.1.1 Out grower schemes

Even though there was a small sample of these business models in the total sample of agricultural SMEs interviewed (only three out grower schemes), all of them still

managed to show up in at least one of the success groups and all of them showed sustainable growth. Although not all worked with low-income customers (one worked with medium income customers only), all companies had some sort of forward contract either with the buyer, the farmer or with both. Although this was not an overarching trend, the out grower scheme that worked only with low-income customers and was still successful was one that received inputs on credit from a larger firm. Therefore, stakeholders working in the private sector should explore the potential benefits of working with these schemes and formalizing commercial linkages between the firm and the smallholder.

1.1.2 Companies with extension services and/or training

The companies that noted they did some sort of informal extension/training also managed to appear in the highly successful groups in terms of revenue, gross margin or growth rate. In the open-ended questions about serving the low-income community it became apparent that these companies understood the importance of training on the usage of inputs, as this lead down a clear path of low-income customer loyalty and creating a market for its products. Stakeholders working in the private sector should explore models that also value the training/extension model.

1.1.3 External threats to the business models

Numerous external threats exist for agricultural SMEs to survive in a rural setting including the nature of the smallholder market itself, infrastructure, long distances between customers, seasonality and the banking environment.

Barriers to market potential: While the market for smallholder farmers as customers is large and expansive, a significant challenge is that most farmers want to negotiate and ask for discounts on product prices or demand for the inputs to be sold on credit. Those who worked with both low income and medium income customers also stated that they expected limited sales from the smallholder farmer due their general lack of funds. While SMEs said that much of these aspects caused their business to suffer in terms of lost sales, they often granted many of these requests in order not to lose a customer's loyalty. Business models said that they also suffer a great loss during loan recovery season as many farmers cannot pay back their loan on time since farming is their main source of income. This highlights the importance of business models with additional revenue streams who can survive during times of low cash flow due to their revenue streams in other products, services and markets.

Uneducated customers: Another challenge related to the smallholder market segment is illiteracy amongst many farmers and inability to quickly grasp agricultural knowledge given by the SMEs. This results in a need for the business to teach the same

thing every season. It also poses the challenge of sensitizing farmers to new agricultural practices and convince farmers to change, for example with regards to usage of chemicals over just weeding. This external threat not only creates the possibility of customers not using the products correctly (and therefore complaining about product quality) but also slows the uptake in the market of new products and technologies.

Transportation and Road infrastructure: The ability to be close to the customer is of high value to SMEs who are making efforts to promote customer retention. A large number of SMEs face the challenge of reaching their customers who are often located in far-flung distances, which must be travelled to under poor road conditions. The ability to provide the necessary extension and training, visit its sales outlets as well as deliver inputs or pick up commodities will pose substantial risks. Transportation costs are also high and involves either purchasing a vehicle and fuel or using public transportation.

Seasonal peaks and drought: Also, mentioned as an obstacle was seasonal business peaks – often resulting in poor liquidity and periods of stagnation for the SME. In the case of a drought as well, farmer’s harvests will suffer thereby causing a loss to the SME as well in terms of loan recovery or commodity aggregation.

Bank lending: High interest rates of commercial banks are a common challenge. Bank loan terms and conditions are also generally not favourable to the SME and are accompanied by a need for collateral, short periods of repayment, a long process for loan processing for the bank and a time delay in receiving funds.

1.2 Categorization Matrix: Criteria for success

Choose to work with businesses that show success in terms of its business model, commercial linkages, management performance, business mindset, finance and customer relations.

The below matrix defines the types of successful SMEs (both aggregators and agro dealers) that were encountered during the survey period. Much of the insights were derived directly from the data of the two studies and aimed to look in particular at the associations between behaviours in certain areas of the business and success as defined by annual revenue, gross margin and growth rate.

The tool’s rating system uses a very simple ‘yes’ and ‘no’ selection method. While simple to understand, it can make it challenging to determine between a yes and no, if an SME seems to fit somewhere in the middle of the two. To help with this issue, the tool includes a more detailed description and key criteria under the ‘Remarks’ column. The total number of possible points an SME can get can vary depending on how many

of the answers are known of a particular SME. So, in order to calculate and compare between SMEs the number of responses known and given is divided by the number of yeses to give a percentage. The higher the percentage, the more likely and/or the more successful an SME is by this rating. A business can improve their likelihood of success by working on the specific factors in which they scored poorly. Note: success has been determined by both an aggregator's ability to be a financially successful aggregator, as well as to support the small holder farmers they work with to their maximum capacity.

Table 18: Key Factors to Determining Aggregator/Agro Dealer Success

Category	Criteria	Remarks	Does the Aggregator/SME meet the criteria? Select Yes or No
Business Model	Has at least one additional revenue stream	Additional revenue streams should indicate having a more even cash flow throughout the year. Working along multiple parts of the agricultural value chain, for example selling inputs, offering field services, transportation, aggregation, crop processing into higher value products, etc. is highly recommended.	YES or NO
	Provides either an out grower scheme or extension/training to its clients or both	This is very useful to enable smallholder farmer participation in the market and to effectively market an SMEs products/services. Extension/training is particularly successful with a supporting institution to provide technical expertise and cover costs for the SME	YES or NO
	The management/ members are vested in the outcome of the business	Examples of this include starting the business with personal funds or family profits as a family. And/or that shares or some other financial pay-out is possible for those contributing to the business.	YES or NO
	Owens its own transport	Ideally the business owns its own transport and uses it efficiently by selling transport services as well as using transport for the business. The type of vehicle depends	YES or NO

		on the situation of the business, but it should be a motorized option. For example, motorbikes, tricycles, tractors with trailers, cars, vans and/or trucks.	
	In addition to aggregation/agro-dealing, the business brings other critical services closer to farmers	Critical services could include (but are not limited to (aggregation, transport, field services, agro-dealing, advice, etc.) These services help farmers save valuable time and money from travelling long distances. Going to a large town can be stressful, so this model can also help reduce farmer's stress levels. Having services closer to farmers, is particularly beneficial for farmers living in areas very far from Lusaka.	YES or NO
Commercial Linkages	Works with more than one buyer	This helps diversify an SME's access to the market rather than solely relying on one buyer to off take all its commodities at only one determined price.	YES or NO
	Receives financing from off takers or other firms to supply inputs on credit to farmers	This helps agro-dealers who are also aggregators create loyalty, have more farmers grow the crops they want to aggregate and provide larger quantities of inputs to smallholders if and when its cash flow is still relatively low.	YES or NO
	The aggregator has a reliable market	The aggregator and their farmers know who will be the off-taker(s) they will be using in the upcoming season as well as what crops the off-taker(s) will be buying from them.	YES or NO
	The aggregator receives financing from off-takers to purchase crops from farmers	This helps farmers with limited liquidity be successful. It can also allow for higher amounts of aggregation at key times of the season if the money is released early enough from the off-taker.	YES or NO

Management Performance	Uses specific criteria to hire management staff	When asked how an owner decides to hire a manager he/she should mention use of evidence to prove relevant work experience and/or relevant educational qualifications in agriculture.	YES or NO
	Has a management board in place	This is a useful characteristic (although not required) for an SME to possess. It demonstrates a strong sense of organizational development and has an enhanced level of support to manage its strategy, finances and other areas of efficient operations of the business.	YES or NO
Business Mindset	Owner has more than five years of experience in business sector	Experience can include a combination of work experience as a manager, as an employee in a core business function (i.e. sales, accounting, etc.) and/or professional business training that totals five years.	YES or NO
	Has a documented business plan	Business plan mentioned can be out-dated but it's not preferred. Do not consider business plans written for previous businesses.	YES or NO
	Keeps both a sales book and a stock book records and ideally one other record	Sales book and stock book should be mandatory for all agro-dealers and aggregators. Additional records to look for could be related to creditors and debtors, expenditures, suppliers, customers, employees, accounting records, cash handling and delivery/ dispatch. The size and functions of the business should be taken into account for what records are deemed appropriate.	YES or NO
Finance	Sufficient liquidity for aggregate	The business has multiple business streams that they can source money from year-round, they have savings they can rely on, they aggregate on credit from an off-taker/firm, or there is sufficient financial reserve. Note, there is always room for growth!	YES or NO

	Proven track record for successfully sourcing and managing finance	This could include successful repayment of loans, having a savings account, etc.	YES or NO
	Owns and uses a bank account for the business	Critical aspect of understanding financial systems. Plus, it keeps money safely.	YES or NO
	Responsible use of credit/loans (or ideally does not use at all).	If buying items outright is possible this is ideal practice. If credit/loans are used it should be for items that are critical to the business, and are paid off as quickly as possible to reduce interest charges. The person using credit should understand interest.	YES or NO
	Plans for growth do not rely fully on grant support	Determine their future plans and how they expect to achieve their goals financially. Looking to avoid dependency on grants.	YES or NO
Customer Relations	The aggregator owns and uses scales (hanging, platform, balance, and/or digital) in a way that farmers trust	Having multiple types of scales is ideal and then letting the farmers decide which scale they prefer. Weighing other items with a product with a known weight (like mealie-meal or sugar). Letting the farmer decide if they want to be present for weighing and if so, if the farmer is comfortable having others touch their bags. Measuring with buckets is not an acceptable scale replacement.	YES or NO
	The aggregator pays the farmers promptly.	Ideally a farmer is paid instantly or soon after. Many farmers need this money to pay for school fees. Farmers get discouraged to sell to aggregators that make them wait weeks or months for payment, and will often try and find alternative aggregators in this case. When money for aggregation runs out, buying halts immediately until more funds are secure. The money for aggregation can come from anywhere (contract with the	YES or NO

		off-taker, the business, other business streams, etc.), so long as the farmer is paid in a timely fashion.	
	Good customer services are offered such as building relationships with clients, offering ancillary services, and/or bonuses or incentives	Relationship building can include activities like talking to clients, asking them what they need, helping them when they have trouble, etc. Ancillary services may include giving free service advice like which type of seed or pesticide to use in their fields, ploughing, loans, etc. Incentives and bonuses typically are given to customers buying or selling large quantities or very loyal customers. A combination of these activities show a commitment to the farmer and offering good service.	YES or NO

Sum of 'Yeses' (for aggregators - all factors including blue)	
Number of Responses (if all answered 23 for aggregators & 18 for non-aggregators, otherwise count number of responses)	
Percentage (# Yeses / # of responses)	%

Nb: This assessment includes the key success factors from both studies, the SME Descriptive SME Study focused on rural SME aggregators and agro-dealers and the Aggregator Assessment focused on aggregators that are a mix of private, COOP and agricultural groups. This has been done to create an overall picture of what factors can determine success.

1.3 Opportunities for Business Development Service Provision

Based on the challenges expressed by the SMEs, there are barriers that each enterprise faces in maintaining its day-to-day business. In order to successfully grow and scale, these SMEs will need to fill the existing gaps in their operational capacities. This process can be accelerated through the help of an outside partner that is vested in seeing the SME succeed; Musika and WFP should consider the gaps in SME business models that create environments for these challenges to arise, and in workshops, trainings, and partnerships find ways to fill them.

1.3.1 Sourcing Funds and Developing the Business

The overarching challenge most commonly cited by SMEs in the SME Descriptive Study was lack of capital and cash flow. Though this is an anticipated barrier for SMEs to do business and scale, it underpins the entirety of these operations – from coordinating outlets and retaining their customer base to hiring experienced staff and developing capacity. Targeting lack of capital indirectly is a low-cost way for Musika and WFP to address this challenge. For example, supporting initiatives that teach SMEs how to source funds and grow their business, and further, connecting them to potential

sources of funding by pooling resources on available grants and low interest loans can be a first step in this process.

Another challenge found across many aspects of the SMEs business is related to cost of transport. If Musika or WFP can develop a network for pooling transport for SMEs who need to deliver inputs to an outlet or transport commodities, distribution challenges could be significantly lessened. Similarly, further investment in community aggregation sites, where SMEs and farmers can go to sell or buy commodities or organize deliveries would also be helpful in supporting transportation-sharing services and lessening the costs associated with transport.

1.3.2 Record Keeping and Business Processes

SMEs can also benefit from a basic record keeping training on how to effectively keep books, organize receipts and paperwork, and safely store these documents. Though many respondents identified the absence of technology in their current record keeping as a barrier, creating a foundational system for keeping records will be the first step towards digitizing in the future. Also helpful for SMEs to glean from these workshops is basic accounting and communication skills. Consideration should also be given not solely on focusing on formalized accounting procedures but also on the aspects of keeping a routine for record keeping so it is not forgotten. Musika and WFP should develop these workshops, or support those of partner organizations to increase business development support. Based on the 93 percent of SMEs who said they would be willing to pay to acquire an extra skill or capacity to help them in running their business, small fees could be charged to the attendees of these trainings. However, follow up visits or trainings will be necessary to ensure the long-term success of these initiatives and should be budgeted for accordingly.

1.3.3 Training on Products and Services

SMEs will also benefit from additional staff training in product knowledge, as several SME owners still feel their staff lack capacity in product knowledge. This is an essential aspect of the business that guarantees the product is used safely by smallholder farmers and the value of the products is realized which can lead to additional sales. Consideration should also be given to addressing in the trainings other areas to increase staff capacity as well. In order to help an SME address lack of motivation of staff, working with the SME owner to find ways to motivate staff through targets, incentives etc. could also be beneficial.

Though SMEs did express interest in month long and longer term consultancies, they are not prepared to pay the suggested 10,000 ZMW for the services. That said, WFP, Musika and BDSA should consider working with non-governmental organizations (NGO) partners to offer lower cost consultancies focused on developing more nuanced business development skills, such as creating or revising a business model and strategy, over a longer period of time. Developing these

capacities and models within SMEs will be necessary to position them to apply for funding in the future, scale their businesses, and continue to grow.

2.0 Conclusion

The Needs Assessment of Rural Agribusinesses report which included findings from the SME Descriptive Study and the Aggregator Assessment took two different approaches to better understand rural Zambian SME's. The SME descriptive study conducted 30 interviews across the Central, Northern, Southern and Western provinces of Zambia. While the Aggregator Assessments used Human Centered Design tools to do in-depth assessments of eight Aggregators in Northern, Eastern, and Southern provinces of Zambia.

The SME Descriptive Study revealed numerous lessons learned with regards to the success factors of privately run rural SME agribusiness, the challenges they face and the business development service provision opportunities to assist them to scale and grow. A number of factors that might determine success for an SME stood out: having a business model with other revenue streams or out grower schemes, provision of extension services and/or training to farmers, an SME working with more than one buyer, receiving financing from off takers to supply inputs on credit to the farmer, using specific criteria to hire management staff versus hiring based on family and friend ties, having a management board in place, keeping a sophisticated record keeping system (more than just three basic records), having developed a business plan before for the business, having at least five years of experience in the business sector, accessing a low number of sources of finance for the business, and owning a business truck. The main challenges SMEs face include: working with the small holder farmer, coordinating sales outlets, challenges with record keeping, challenges with access to finance, challenges with retaining an SMEs customer base due to competition and challenges with staff capacity. The opportunities for business development service provision were mainly centered around technical support for record keeping, business model and strategy development and product knowledge. More than 90 percent of SMEs were willing to pay for these services, including half that were willing to pay 750 ZMW for an all day training (and the other half willing to pay 500 ZMW or less). SMEs were also willing to pay for continuous consulting advice at around 5,000 ZMW or lower on a monthly basis.

With the Aggregator Assessment Study, after spending one to three days with each aggregator, multiple key factors for success were revealed. These key factors included: the aggregator's management or executive team having vested interest in the company, having sufficient liquidity to aggregate crops, owning transport to aggregate the crops, having a reliable market for commodities, building trust through the use of scales, providing prompt if not immediate payment, providing good customer service, bringing aggregation and input services closer to smallholder farmer's homes, having a business mindset, smart use or no use of credit, and using grants to help push forward business and still planning to use internal resources for growth.

The SME Descriptive Study and Aggregator Assessments Study shed light on the need to focus on working with and supporting SMEs that fall under the recommended criteria of success factors. However, no single factor of success serves as a ‘silver bullet’ for identifying a successful SME. Instead it is through demonstration of a combination of the success factors listed in the Categorization Matrix in the recommendations section that a successful SME comes out. This matrix also helps an SME to determine where its weaknesses lie, which in turn presents the opportunity for business development service providers to intervene and fill that gap in capacity. Stakeholders such as Musika, WFP and BDSA should leverage the findings in this report to carry out business development activities in a financially sustainable way that treats the SME as a partner rather than a recipient, and therefore demonstrates the vested interest of all parties including the SME.

In conclusion, by studying 38 agro-dealers/aggregators across Zambia, supported by a variety of organizations including Musika, WFP, SAPP, and NWK there are a lot of lessons to be learned from each aggregator’s story. It is anticipated that their stories can be used to help each other improve, can help other SME’s improve, and can be used to design future donor agency projects linked to SME’s.

Appendix A: Defining Success with Revenue, Gross Margin and Growth Rate

Since the purpose of this study was to examine the commercial viability of these businesses, a focus was taken on financial viability when considering what indicators can help define a successful company. A financially viable business is one that is able to recover its costs of operations while also returning a profit. This profit should also be a sufficient return for the business owner to meet the company's debt obligations. It is worthwhile to note that due to various reasons, it was decided not to include whether the business was able to meet its debt obligations with the profit it earned. The main reasons for this was due to the fact that the data would not have yielded the necessary insights. The particular data collected on debt obligations was intended to provide general information for this study, and did not identify exactly when the credit was taken out and what the outstanding balance was at the time of the interview. Therefore, the following indicators were used as a definition for a successful agricultural SME:

Table 19: Indicators for Success

Indicator	Brackets	How it was Calculated
Annual Revenue	1,000,000-5,000,000 ZMW 500,000-1,000,000 ZMW 100,000-500,000 ZMW 25,000-100,000 ZMW	Average Annual Revenue over past 3 years (2013-2016)*
Gross Margin	61-80% 41-60% 21-40% 5-20%	Average Gross Margin over past 3 years (2013-2016)* Gross Margin = Revenue – Cost of stock/Revenue
Sustainable Growth	Sustainable Unsustainable	Combination of Positive intermediate revenue growth rate (2013-2014) <u>and</u> Positive overall revenue growth rate (2013-2016)* Overall revenue growth rate of between 0-200% (vs. negative rate or 200-900%) (2013-2016)*

*2 years if just started in 2013/14

The bold brackets indicate the variables used to define a successful company.

The rationale behind using three different indicators was the desire to capture all aspects of success. While Annual Revenue is a standard measure for income, Gross Margin was also used so as to include evidence of cost management by a company, accounting for the fact that some agricultural SMEs are not able to raise revenue due to external factors outside their control. And while Annual Revenue and Gross Margin capture the income and cost management of a business, a measurement for Sustainable Growth was also used so as to filter for the SMEs that are not just successful in one year but demonstrate ongoing success. Sustainable Growth was calculated by requiring the existence of two sub-indicators. The first one was to identify stable (versus. turbulent) growth over the course of the three years. It was calculated by getting the intermediate revenue growth rate for the first year. If the growth rate at the beginning was negative while the overall growth rate was positive, this was deemed turbulent growth. The second sub-indicator was to identify a growth rate that fell within a reasonable

parameter for healthy growth, as several of the companies reported growth rates of as much as 600-900 percent. The World Bank Enterprise survey data demonstrated that a typical SME growth rate across sectors is 0-15 percent. Likely due to the dynamic nature of the agriculture sector the growth rates for SMEs in this study were quite high. Therefore, a growth rate deemed as acceptable or ‘healthy’ was anywhere from 0-200 percent.

Appendix B: Case Studies of Viable Business Models to Deliver Shared Value

Agri-Chand Outgrower & Marketing, Chikokoshi (Central Province): This SME served only low-income farmers. It has a forward contract with buyers and worked with such firms such as Yara (Greenbelt), Omnia and Zamseed. It also had forward contracts with its farmers. Although it said it does not purchase from farmers on credit with the guarantee of a larger firm off taking the commodity, it said it did receive financing from firms to provide inputs on credit to the farmer. Overall, in terms of its financial performance it had an average annual revenue (from the past 3 years) of 216,000 ZMW, sustainable growth and an average gross margin of 41 percent. It says that what would help it to invest more in the low income community is if donors were to come on board with proper monitoring services, if it were able to find a way where farmers were to agree to the terms and conditions of the business and if farmers were able to trust the business more.

Mizila Agro, Mumbwa (Western province): This SME served medium-income farmers only in peri urban areas and did not mention low-income customers at all. It held an out grower scheme with customers who tended to do a variety of farming in maize, soybeans, sunflower, groundnuts, pigeon peas, cowpeas and cotton, plus many were civil servants. It had forward contracts with its farmers although it did not have any forward contracts with buyers, and worked with a number of different firms including AFGRI, NWK, millers, Cargill, Novatek and Amatheon. It did not receive any financing from firms to purchase commodities on credit from farmers or to supply inputs to farmers. In terms of its financial performance it had an average annual revenue from the past 3 years of 32,000 ZMW (doing twice as better the most recent year than the two years before), sustainable growth and an average gross margin of 31 percent. Overall what would help this business invest more in the low income community is if it were to see more low income farmers succeed in terms of production and ability to pay for inputs.

Agro-farm Solutions, Mulilima (Central province): This SME said it served both low-income and medium income farmers. It held an out grower scheme with customers who did farming as well as formal employment for income. It had only forward contracts with buyers and worked with companies such as AFGRI, ATS as well as millers. It did not receive any financing from firms to purchase commodity on credit from farmers or to supply inputs to farmers. In terms of financial performance, it only fell in the range

of “success” parameters in terms of having a sustainable growth rate. However, it came very close to other success factors as in addition to sustainable growth it had an average annual revenue from the past 3 years of 464,000 ZMW and an average gross margin of 17 percent. Its overall opinion of working with the low-income community was that people are generally easy to organize for lessons and that they are keen to learn and grow as a farmer. This SME expressed that it would be willing to invest more if it had the ability to scan the market and understand the needs of farmers better. If it saw an opportunity in the market (such as if there was no agro-dealer in a nearby area or a lack of certain inputs), it would be interested to offer these and fill the gap in terms of farmer’s demand and needs.

Appendix C: Definitions of Business Models

It is important to note that every enumerator carried around an instruction manual to each interview with a full glossary of definitions in case the interviewee did not understand the meaning of some business models.

- **Aggregator (Commodity):** Any marketer, broker that combines the loads of multiple end-use customers in negotiating the purchase of agricultural commodities and other related services for these customers.
- **Agro-dealer:** This is a business entity or person who deals in the buy or sell of agricultural inputs or services.
- **Out grower scheme:** Also known as contract farming, are broadly defined as binding arrangements through which a firm ensures its supply of agricultural products by individual or group of farmers (in most cases input supply by the buyer is the most binding arrangement).

Appendix D: An Overall Assessment of Rural SMEs

1.0 Demographic and Firm Characteristics

This section shows the main demographic and characteristic data for both the SME owners or managers and the firm itself. It’s important to point out that 90 percent of the interviewees were the actual owner while 10 percent were a primary person in charge such as a manager, due to the owner not being present or not being the primary person involved in the operations of the business.

Table 20: Demographic Data, all SMEs

Variable	Number	Percentage
Job title of the Interviewee		
Owner	27	90%
Primary Person in Charge	3	10%
Total	30	100%
Interviewee Age		
Average age of respondents	42	
20-30	2	7%
31-40	11	36%
41-50	14	47%
51-60	3	10%
Total	30	100%
Sex of respondents		
Male	24	80%
Female	6	20%
Total	30	100%
Relationship of the primary person in-charge to the household head		
Head	25	83.3%
Spouse	4	13.3%
Son/daughter	1	3.3%
Total	30	100%
Highest education attained by the business owner		
Secondary (8-12)	14	47%
Tertiary	16	53%
Total	30	100%
Length of time has been running this business		
0-5	20	67%
6-10	7	23%
11-15	3	10%
Totals	30	100%
Length of time worked in the business sector in years		
1-5	6	20
6-10	10	33
11-15	5	17
16-20	6	20
21-26	3	10
Totals	30	100
Is the business the major source of income for the owner		
Yes	19	63
No	11	37
Totals	30	100

As Table 21 shows below, almost half of the businesses (47 percent) had been running for 10 years or more while a third had been running for 5-10 years. The majority of the SMEs sold inputs and commodities only (63 percent) and of that group most SMEs (69 percent) sold mainly inputs. Most businesses had 0-9 paid, full time employees, not including part time and seasonal workers.

Table 21: Firm Characteristics, all SMEs

Variable	Number	Percentage
Length of time Business Running		
0-5 years	6	20%
5-10	10	30%
10+	14	47%
Total	30	100%
Product and Service provision		
Inputs only	2	7%
Inputs and Commodities only	19	63%
Inputs and Commodities and Non-agricultural commodities	7	23%
Inputs and Non-agricultural commodities	2	7%
Total	30	100%
Business form		
Sole proprietorship	24	80%
Partnership	4	13%
Corporation	1	3.5%
Other	1	3.5%
Total	30	100%
Number of full-time employees		
0-3	15	50%
4-9	10	33.3%
10-25	5	16.6%
Total	30	100%
Number of paid part time and/or seasonal employees		
0-3	13	43%
4-9	9	30%
10-13	6	20%
14-27	2	7%
Total	30	100%

2.0 Viable Business Models of SMEs

There were four distinct business models that came out of the SME responses to define the business. It's important to note that every business interviewed called itself at least an agro-dealer.

Table 22: Distribution of Business Models

Model	Count	Percentage
Agro-dealer only	2	7%
Agro-dealer / Aggregator	12	40%
Out-grower scheme Agro-dealer / Aggregator	3	10%
Agro-dealer or Agro-dealer / Aggregator with Other Revenue Stream ⁸	13	43%
Total	30	100%

3.0 Commercial Linkages

Respondents were asked about their perceived economic, environmental, and social

⁸ Other revenue includes both agricultural and non-agricultural products and services such as groceries, transportation, photographing services, hardware, bicycles, solar systems, construction, chicken rearing, pig rearing, animal feed and crop farming

impact on the community at large, the responses of which are detailed in the Table below. Overall, 17 out of the 30 (57 percent) agricultural SMEs interviewed specified that they serve customers that include low-income market segments.

Table 23: Impact on Community as Identified by SMEs

Economic Impact	Social Impact	Environmental Impact
Proximity to community, allowing for transport savings; Offering affordable inputs; Encouraging clients to invest in farm as a business;	Education for community on agriculture; Financial support for community events (funerals)	Training farmers on proper use of chemicals; Support of conservation farming methods

As conveyed through survey responses, most respondents felt their economic impact to be the most noteworthy, mentioning their proximity to the community as a means of helping smallholder farmers save on transport when accessing their inputs, which are affordably priced. When SMEs were asked about their greatest perceived impact on smallholder farmers specifically, about two-thirds cited accessibility for the farmer and the dissemination of agricultural knowledge.

Table 24: Distribution of Aggregators Working with Firm

	Count	Percentage
SMEs working with <i>only one</i> firm	6	24%
SMEs working with <i>more than one</i> firm	19	76%
Total	25	100%

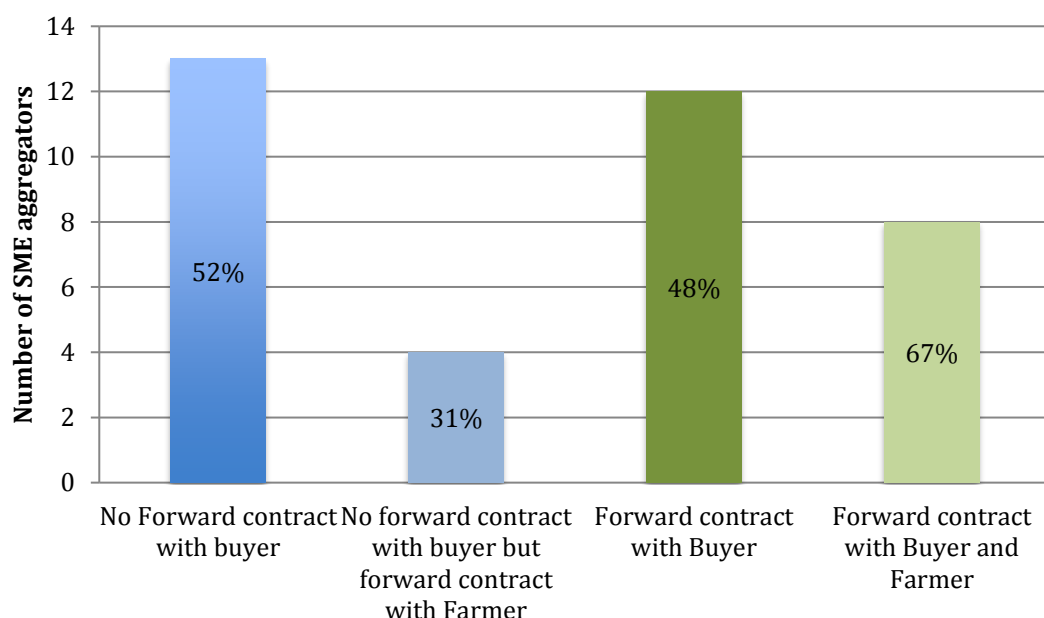


Figure 8: SME Aggregators and Forward Contracts with Buyers and Farmers

Table 25: Support from SMEs to Create Linkages with Farmers

Guaranteed Funds from Firm to Purchase on Credit from Farmer, Only Aggregators		
	Count	Percentage
Received funds from off-takers to purchase on credit from farmers	1	4%
Did not receive funds from off-takers to purchase on credit from farmers	24	96%
Total	25	100%
Inputs supplied by firms on credit to SMEs		
Received finance from off-takers to supply inputs on credit to farmers	6	20%
Did not receive finance from off-takers to supply inputs on credit to farmers	24	80%
Total	30	100%

4.0 Management Performance

Table 26: Criteria to Hire Management Team

	Number	Percentage
Specific criteria for hiring	16	53%
Unspecific criteria for hiring	14	47%
Total	30	100%

Table 27: Performance Management for Managers

	Number	Percentage
Use of formal methods ⁹	19	73%
Use of informal methods ¹⁰	7	27%
Total	26	100%

Table 28: Performance Management Methods for Sales Representatives

	Number	Percentage
Use of Sales records	10	38%
Use of Stock records	5	17%
Use of Sales and stock records	5	17%
Use of Other records ¹¹	8	28%
Total	28	100%

Table 29: Management Board in Place

	Number	Percentage
Management board	19	63%
No management board	11	37%
Total	30	100%

Table 30: Challenges with Staff Capacity

	Number	Percentage
Challenges with capacity	19	63%
No challenges with capacity	11	37%
Totals	30	100%

⁹ Formal assessment involves checking of reports and reconciliations, looking through cash flows and assessing the profitability or overall performance of the business.

¹⁰ Informal assessment was deemed to involve simple observations by managers, verbal instructions, and close supervision and how well a manager judges that staff is following instructions.

¹¹ Other methods include: measuring performance based on product knowledge, customer relations, and marketing abilities

Table 31: Do staff have Sufficient Agricultural Knowledge

	Number	Percentage
Yes	12	40%
No	18	60%
Total	30	100%

5.0 Scalability and Sustainability

5.1 Business Mind Set

Table 32: Number of Records Kept

Number of Records	Number of SMEs	Percentage	Characteristics
1-3	10	33%	Only 2 companies were keeping one record (6 percent of all SMEs) both were agro-dealers only. One kept a sales book only and one kept a stock count book only. Of the group that kept 2-3, all were keeping a sales book to record daily sales. Other common book: stock books, purchase/expenses books, and receipt books
4-7	18	60%	Of 4-10 group, daily sales and stock book were the most common books and were reflected in all of the responses. The following records were commonly kept: accounting records, info on debtors/creditors, bank receipts, customer information and staff information.
8-10	2	9%	
Total	30	100%	

However, 63 percent of all the SMEs still wish they could keep certain records but do not have the skill and/or capacity to do so.

73 percent of SMEs indicated they had accessed business (technical) advice from various organizations, while 27 percent stated they did not access any form of business (technical) advice from any organization. However, even of those that had accessed business (technical) advice from various organizations, 55 percent still wished they could keep more records than they currently do and required more capacity to do so.

With regards to business plans, over 60 percent of SMEs reported having one implemented. Additionally, 83 percent of SMEs who do not have business plans were in the process of developing one. Interestingly, SMEs from Northern Province had the fewest reported business plans, with only 33 percent of SMEs with an implemented plan.

Table 33: Status of Business Plans

Response	Count	Percentage
Yes	15	50%
Yes, but it's outdated	3	10%
No	2	7%
It's being developed, but is not implemented	10	33%
Total	30	100%

Table 34: Marketing Methods

Method	Explanation	Percentage
Extension	Sensitization meetings; farmer trainings on field demo plots; and product knowledge trainings	70%
Leaflets	Distribute flyers and posters on agricultural products sold by the business	27%
Promotions	Discounts to bulk orders; give out t-shirts, caps and other merchandise	73%
Radio	Advertise products sold by SME	43%
Other	Includes delivery services; verbal advertising; selling on credit to loyal customers; keeping good customer relations.	37%

5.2 Financial Inclusion

The table below shows the distribution of the number of sources of finance that each SME noted they had received before.

Table 35: Number of Sources of Finance

	Number	Percentage
No source finance	2	6%
One source of finance	14	47%
One or more sources of finance	14	47%
Total	30	100%

Of the SMEs that accessed only one source of finance, 57 percent used their own funds. Another 14 percent used Community Savings Groups and only 7 percent (1 respondent each) was attributed to family, buying on credit, government or an investor. SMEs were also specifically asked what sources of finance they *started* their business with. The majority (77 percent) of the businesses started their business with only one source, and of that group 87 percent started their business with personals finance as well. Those that started their business with funds from family, investors and grant from NGOs each represented a much smaller percentage of the sample.

For SMEs who accessed more than one source of finance, the other sources mentioned were from family and friends, government (Citizens Economic Empowerment Commission (CEEC)), NGOs (Agri Focus) and Seed Companies such as MRI, Seedco, Pioneer, Zamseed and Pannar. Of all SMEs, about 13 percent accessed community savings groups for loans.

Table 36: Owns a Business Truck

	Number	Percentage
Owns a business truck	13	43%
Doesn't own a business truck	17	57%
Total	30	100%

5.3 Electronic Payment

When asked about the business' use of electronic payment, specifically mobile money, Zoon, electronic banking, or some other form, 77 percent of SMEs reported using at least one. SMEs tended to use Zoon (57 percent) or Mobile Money (53 percent) over Internet banking (46 percent).

Table 37: Number of SMEs using Electronic Payment

	Number	Percent
Zoona	17	57%
<i>Out of Total</i>	29	100%
Mobile Money	16	53%
<i>Out of Total</i>	30	100%
Electronic Banking	13	46%
<i>Out of Total</i>	28	100%

Of the SMEs utilizing e-payment, 74 percent of respondents were using 2 or more forms. Of note, the SMEs in Southern Province stood out as having the lowest proportion of utilization for Zoona (17 percent of total) and Mobile Money (33 percent) as compared to SMEs in the other three Provinces covered in the Study (Northern, Central, and Western).

Table 38: Breakdown of E-payment Usage by SMEs

	Number	Percent
Paying Suppliers	13	57%
<i>Out of Total</i>	23	100%
Paying Staff	8	35%
<i>Out of Total</i>	23	100%
Savings	8	35%
<i>Out of Total</i>	23	100%
Receiving Payment from Customers	18	78%
<i>Out of Total</i>	23	100%

Overwhelmingly, SMEs are using e-payment to receive payment from their customers. This validates the data on SME e-payment user usage rates of Mobile Money and Zoona, which are often more flexible options for quick payments. Interestingly, 89 percent (8 of the 9) SMEs in Western Province are using e-payment to receive funds from customers, as compared to 75 percent in Central, and 33 percent in both Northern and Southern Provinces.

Appendix E: Success Rating by Aggregator

Table 39: Rating of Success Factors by Aggregator

Category	Criteria	Hankkuku	Born to Care	Chimpili COOP	John T. Lungu	KADI	Moomba Investments	Chalamisambo COOP	Tata Mpapa COOP
Business Model	Has at least one additional revenue stream	Y	Y	Y	Y	Y	Y	N	N
	Provides either an out grower scheme or extension/training to its clients or both	Y	N	Y	Y	N	N	N	Y
	The management/ members are vested in the outcome of the business	Y	Y	Y	Y	N	Y	Y	Y
	Owens its own transport	N	Y	N	Y	N	Y	N	N
	In addition to aggregation/agro-dealing, the business brings other critical services closer to farmers	Y	Y	Y	Y	Y	Y	N	N
Commercial Linkages	Works with more than one buyer	Y	Y	N	N	N	Y	N	N
	Receives financing from off takers or other firms to supply inputs on credit to farmers	Y	N	N	Y	NA	Y	N	N

	The aggregator has a reliable market	Y	Y	Y	Y	NA	Y	Y	Y
	The aggregator receives financing from off-takers to purchase crops from farmers	N	N	N	Y	NA	N	N	N
Quality of Leadership	Uses formal methods to track performance of management staff	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
	Uses specific criteria to hire management staff	UNKNOWN	UNKNOWN	UNKNOWN	Y	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
	Has a management board in place	N	N	Y	N	Y	N	Y	Y
Business Mindset	Owner has more than 5 years of experience in business sector	Y	Y	UNKNOWN	Y	UNKNOWN	Y	UNKNOWN	UNKNOWN
	Has a documented business plan	UNKNOWN	UNKNOWN	UNKNOWN	Y	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
	Keeps both a sales book and a stock book records and ideally one other record	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
Finance	Sufficient liquidity for aggregate	Y	Y	Y	Y	NA	Y	N	N
	Proven track record for successfully sourcing and managing finance	UNKNOWN	Y	UNKNOWN	Y	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN
	Owns and uses a bank account for the business	Y	Y	Y	Y	Y	Y	Y	Y
	Responsible use of credit/loans (or ideally does not use at all).	Y	Y	Y	Y	Y	Y	Y	Y

	Plans for growth do not rely fully on grant support	Y	Y	Y	Y	N	Y	N	N
Customer Relations	The aggregator owns and uses scales (hanging, platform, balance, and/or digital) in a way that farmers trust	N	Y	Y	Y	NA	Y	Y	Y
	The aggregator pays the farmers promptly.	N	Y	Y	Y	NA	Y	N	Y
	Good customer services are offered such as building relationships with clients, offering ancillary services, and/or bonuses or incentives	Y	Y	Y	Y	N	Y	Y	Y
Number of Yeses		13	15	13	19	5	15	7	9
Number of answers provided		18	19	17	21	12	18	17	17
Most to Least Successful (by percentage)		72%	79%	76%	90%	42%	83%	41%	53%

Appendix F: Photos of Aggregator Clients

Below are the photos of the aggregator's clients in same order that they are presented in Part 2: Section 4.



Figure 9: Cathrine Mwiinga Beside Her New Home



Figure 10: Cathrine Mwiinga's Son in their Garden



Figure 11: Charles Nchimunya in Front of his Home with his Solar Panel



Figure 12: Liberty Chitanda and his Wife in Front of their Home



Figure 13: Teyani and Judith Zulu in Front of their Oil Pressing Business



Figure 14: Maybin Chanda with his Sheller

Appendix G: Maps of Aggregators from Aggregator Assessment Study

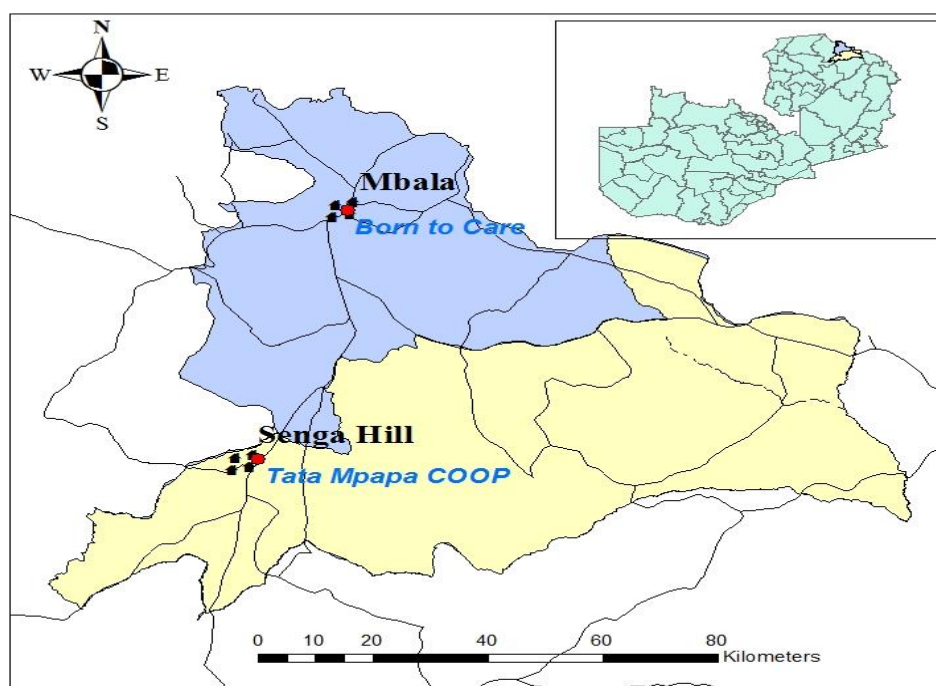
Below are maps for each of the aggregators as discussed in Part 2: Section 1.2.1.

Map for Tata Mpapa COOP and Born to Care

This map shows the locations of Born to Care and Tata Mpapa COOP. Born to Care is located along the main road in Mbala District. Despite the distance to the main markets in Lusaka, Born to Care is still able to access these markets because they own trucks.

Tata Mpapa COOP is located along the main road at the District Center of Senga District. This district was previously part of Mbala District, but was recently excised and as such is still largely undeveloped. Tata Mpapa's location along the main road makes it easily accessible. However, due to its distance from the main markets in Lusaka and lack of transport, market access is still limited.

WFP BEAN AGGREGATORS IN MBALA AND SENG DISTRICTS



Legend

- Mbala District
- Senga District
- District Center
- Aggregators
- Roads

1:867,827

Date: 2/14/2017
Time: 11:18:07 AM
Prepared by: Kondwani Yobe Mumba

Figure 15: WFP Bean Aggregators in Mbala and Senga Districts (Map)

Map of Chalamisambo COOP

This map shows the location of Chalamisambo COOP. The COOP is located about 42 kilometers from Mpulungu Town and about 26 kilometers from the main road. Access to the COOP is not easy, as you can only use a gravel road cutting across hilly terrain. This has caused challenges in terms of transportation, as transportation is sourced from Mpulungu and charges are high due to the state of the road. This has led to limited market access.

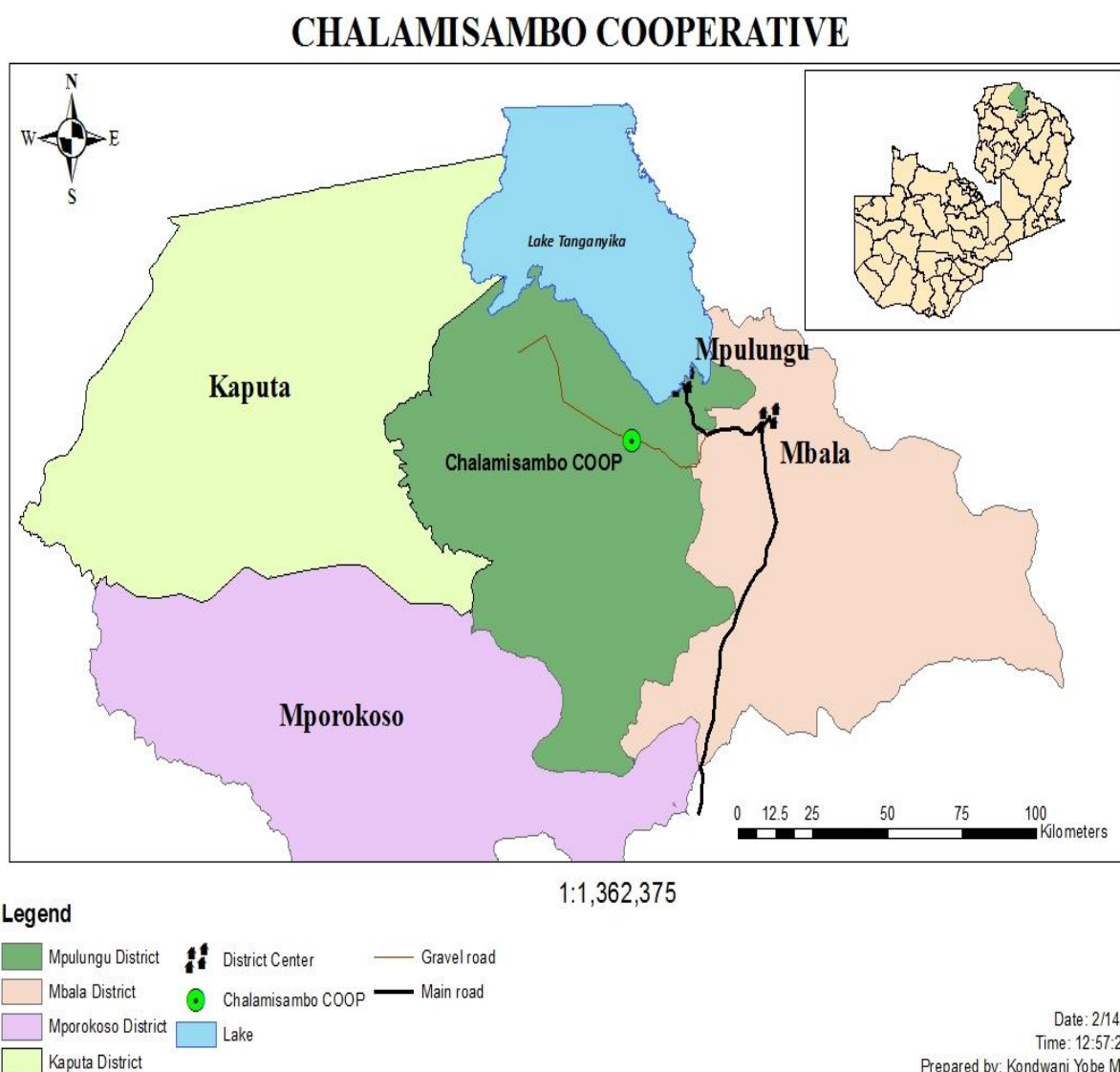


Figure 16: Chalamisambo Cooperative (Map)

Map of Chimpili COOP

This map shows the location of Chimpili Agribusiness Center, run by Chimpili COOP. The map shows the peculiar location of Chimpili COOP, in that despite being in Kawambwa District, it is located closer to Luwingu town. This has posed challenges in terms of accessing services such as FISP and banking. Chimpili is also far from the main commodity markets in Lusaka, and this has created market access challenges.

CHIMPILI COOPERATIVE

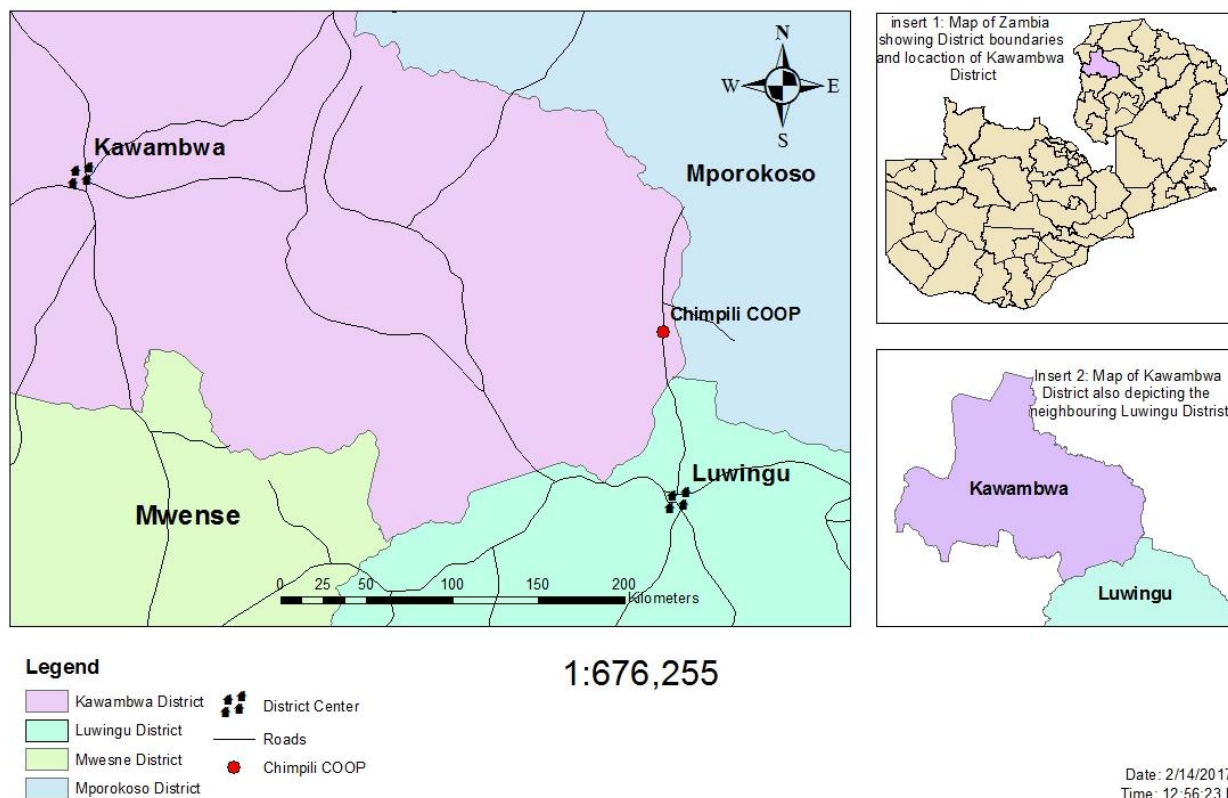


Figure 17: Chimpili Cooperative (Map)

Map of John T. Lungu and KADI

This map shows the location of Kasamanda Agribusiness Development Initiative (KADI) and John T. Lungu. Despite being in Mambwe District, KADI is located closer to Katete Town. Access to KADI is a challenge as the gravel road from Katete is in a poor state, and some bridges are flooded after heavy rains. The map further shows the catchment area for KADI, which extends across Katete and Mambwe Districts. This is a large area with a population of over 20,000 people all of which are considered members of KADI.

John T. Lungu is located about 12 kilometers from Katete Town, and can be easily accessed by a gravel road. Its proximity to Katete Town gives them access to their main market, NWK, and this is made even easier because the company owns two tractors and two trailers which are used for transportation. John T. Lungu is one of the few owners of tractors in the area, such that the tractor is in high demand and is even hired by families on the North side of the main road towards KADI.

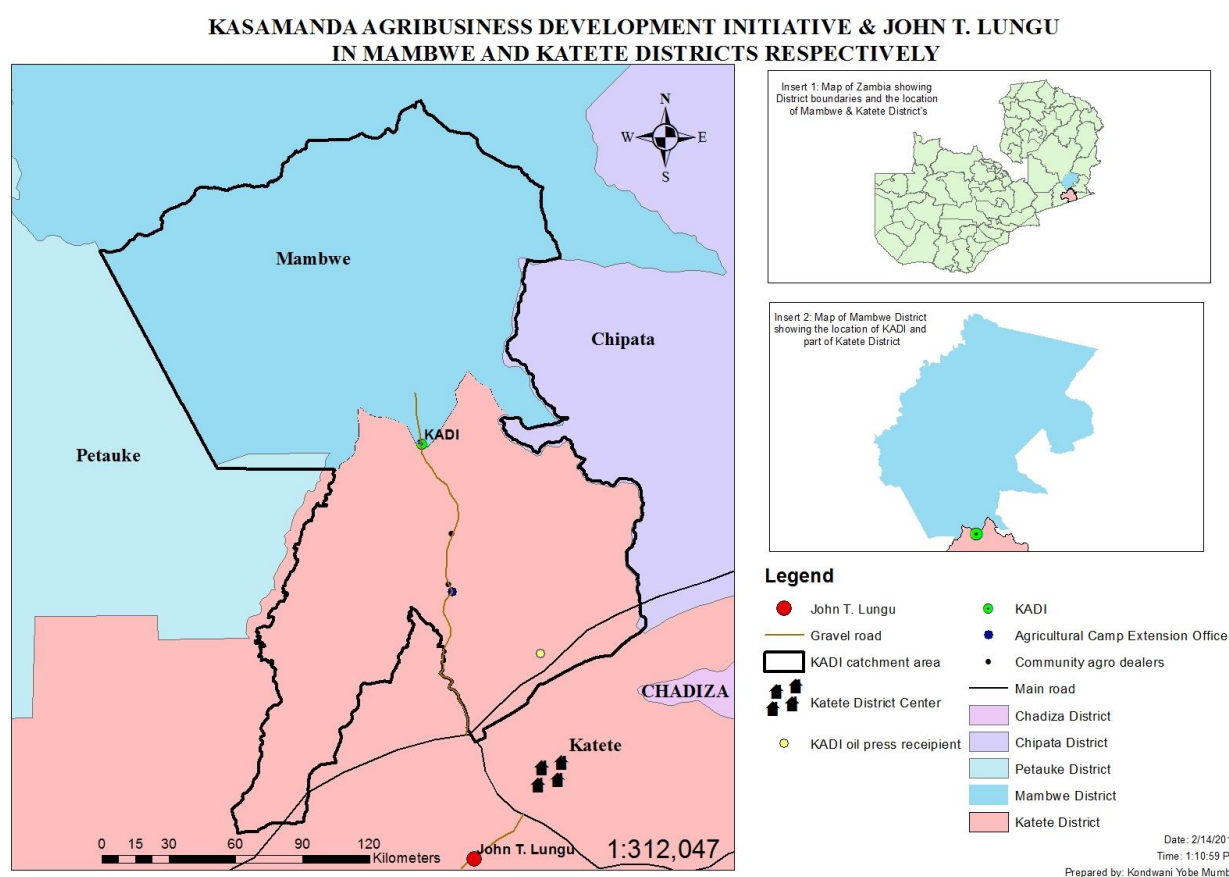


Figure 18: Kasamanda Agribusiness Development Initiative and John T. Lungu in Mambwe and Katete Districts Respectively (Map)

Map of Moomba Investments and Hankkuku Agro Dealers

This map shows the location of Moomba Investments and Hankkuku Agro Dealers. Moomba Investments is located along the main road within the District Center. Moomba Investments has mobile depots in the neighboring Pemba District, and as such can access customers who are far from the main road. Hankkuku Agro Dealers is located in a more rural area than Moomba Investments, about 12 kilometers from Monze Town. Hankkuku can be easily accessed by a gravel road, and is strategically located close to the Agricultural Camp Extension Office. The map also shows that Hankkuku draws clients from within a radius of approximately five kilometers, as compared to Moomba Investments that is present in other districts.

WFP COWPEA AGGREGATORS IN PEMBA DISTRICT, SOUTHERN PROVINCE

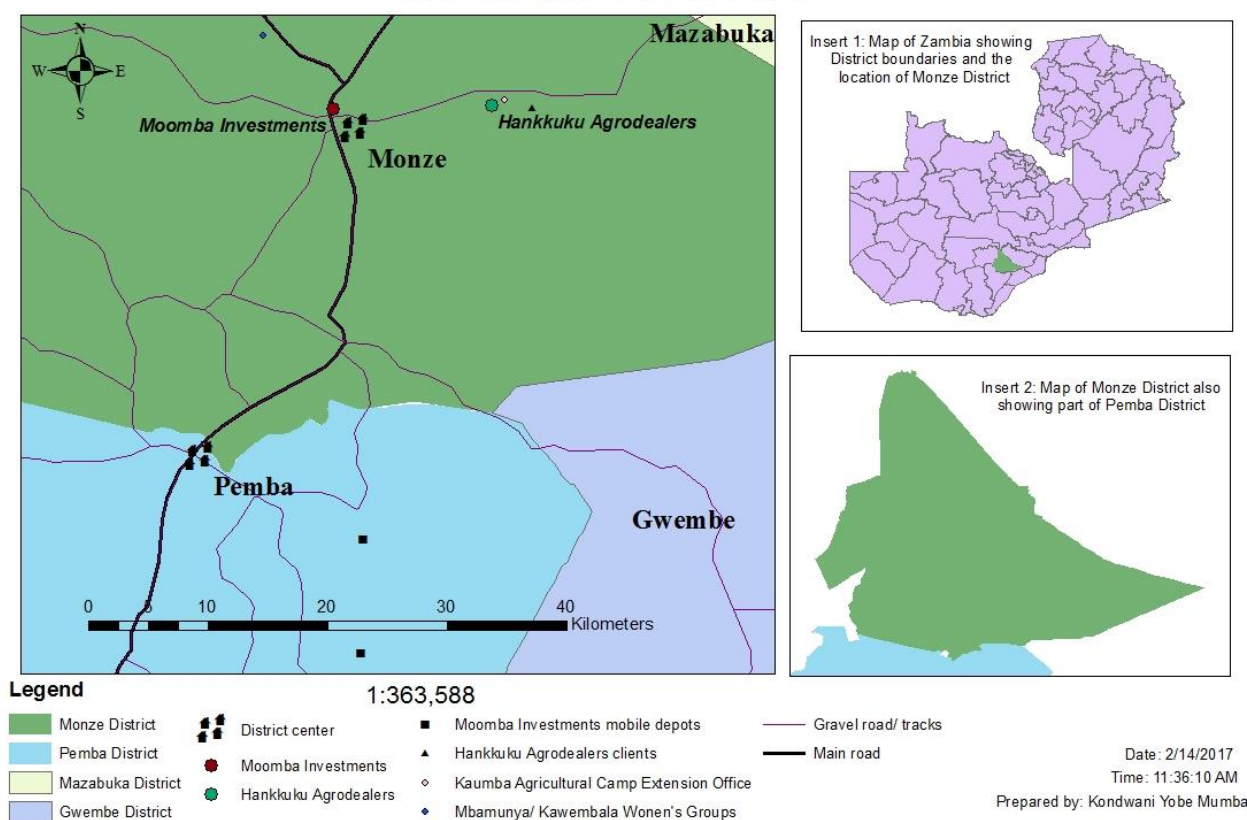


Figure 19: WFP Cowpea Aggregators in Pemba District, Southern Province (Map)