

## **Constraints in firm-farmer partnership and contracting. Taking market linkages to another level**



**Thesis submitted in partial fulfilment of the requirements of the Degree of Master in Management of Development, specialisation Rural Development and Food Security**

**Lovemore Christopher Gwiriri  
Van Hall Lareinstein University of Applied Sciences  
The Netherlands  
September 2012**

## **Acknowledgements**

I am sincerely grateful for the support I received during the study. I would like to acknowledge the guidance and contribution of my supervisor, Geert Houwers, in this study. I would also like to acknowledge the immense contribution of Ted Schrader and Annemarie Groot Kormelinck of Centre for Development Innovation (Netherlands), and Inger Jansen of AgriProfocus (Netherlands).

Thanks to Stanley Musiime and Silvia Nakutunda, who supported and guided the study trajectory in Uganda. I would like to also extend sincere gratitude to Agri-hub Uganda, Trias-Uganda, Africa 2000 Network, Mbarara District Farmers Association, Kaiba Matooke Farmers Group members, and Makuuti Farmers Group members for their support and participation in this study. Thanks to the dedicated staff of Van Hall Larenstein and Wageningen UR, particularly Food Security course coordinator Eddy Hesselink. I cannot forget the Masters in Management of Development Food Security 2011-12 class, Leah Saoke, Lawrence Masaka, Weluzani Mashavira, Caroline Chaumba, Shephard Andrew Zonde, Tyrrel Chisenga, and other international friends for their support, encouragement and friendship during the study period. I would also like to express gratitude to the Nuffic Fellowship Programme (NFP) and AgriProfocus for their financial support.

Finally, to my family, my wife Carmen and son Mufaro Christian, I am eternally grateful for your unwavering support and faith in me. I love you so much. To the almighty God, for the strength and goodwill, I am ever thankful. Glory and honour be unto you!

## **Lists of abbreviations**

|                |   |  |
|----------------|---|--|
| <b>ACCORD</b>  | - | <b>Agency for Co-operation in Research and Development</b> |
| <b>A2N</b>     | - | <b>Africa 2000 Network</b>                                 |
| <b>DFID</b>    | - | <b>Department for International Development</b>            |
| <b>FAO</b>     | - | <b>Food and Agriculture Organisation</b>                   |
| <b>KMFG</b>    | - | <b>Kaiba Matooke Farmers Group</b>                         |
| <b>MFG</b>     | - | <b>Makuuti Farmers Group</b>                               |
| <b>MBADIFA</b> | - | <b>Mbarara District Farmers Association</b>                |
| <b>NARO</b>    | - | <b>National Research Organisation</b>                      |
| <b>NOGAMU</b>  | - | <b>National Organic Movement of Uganda</b>                 |
| <b>RISE</b>    | - | <b>Rural Innovation System Enterprises</b>                 |
| <b>SE</b>      | - | <b>Soleil Enterprises</b>                                  |
| <b>UGX</b>     | - | <b>Uganda Shillings</b>                                    |
| <b>WDR</b>     | - | <b>World Development Report</b>                            |

## **Currencies**

1 USD = 2800 Uganda Shillings (UGX) in August 2012

1 EURO=3100 Uganda Shillings (UGX) in August 2012

## **Abstract**

Farming contracts have been made, for consistent product supply for firms and a guaranteed market for the farmers, but there are challenges in this firm-farmer relationship. A trader has a contract with the 13-member Kaiba Matooke Farmers Group for the supply of bananas in Mbarara district, Uganda. Soleil Enterprises ( part of Africa 2000 Network) has a contract with the 26-member Makuuti Farmers Group for the supply of organically produced pineapples in Iganga district, Uganda. The objective of the study is to analyse the challenges in the firm-farmer relationship in the contract partnership in these two cases using the 2-2 Tango tool. Data was collected through interviews which were held with the firms and the farmers from which challenge areas were drawn. Statements to rank the challenge areas were formulated, and the same set of statements were scored by both the firm and farmers. The results of the scoring were analysed using excel to produce paired graphs that show the level of (dis)agreement on each challenge area. A debriefing session was held with both farmers and the firm to discuss possible solutions to address the challenge areas and improve the relationship. The results indicate that there are similar challenges in both contracts mainly production risks; functioning of the farmer group; marketing and prices; the contract; quality standards and record keeping, and costs/benefits of contract. From the results in can be concluded that both the farmers and the firm were generally positive on the relationship, with an average score of 65% in the banana case and 53.1% in the pineapple case. There was significant disagreement on markets and prices and the contract. Farmers and firms seem to agree positively on benefits of contract farming. However, there were significant differences within each challenge area. Recommendations arrived at include that the firms can provide inputs and extension services to reduce production risks, which can improve farmer productivity and product supply. While contract breach remains a major challenge, the firm and the farmers can agree on a clause in the contract which they can enforce. Regular meetings between farmers can improved communication between the firms and farmers and potentially reduce misconception and mistrust which is the common factor in the challenge areas identified in the study.

## Contents

|   |      |
|---|------|
| Acknowledgements .....  | ii   |
| Lists of abbreviations .....  | iii  |
| Abstract.....   | iv   |
| List of tables.....   | vii  |
| List of figures.....  | viii |
| 1. CHAPTER ONE .....  | 1    |
| 1.1 Introduction.....   | 1    |
| 1.2 Problem context.....  | 2    |
| 1.3 Study objective .....   | 3    |
| 1.4 Research Questions .....  | 3    |
| 1.5 Organization of the thesis .....                                | 4    |
| 2. CHAPTER TWO .....  | 5    |
| 2.1 Definition of terms.....  | 5    |
| 2.2 Banana production .....   | 5    |
| 2.3 Pineapple production .....                                      | 6    |
| 2.4 Conceptual framework.....                                       | 7    |
| 2.4.1 The Rural Innovation Systems and Entrepreneurship model ..... | 8    |
| 2.4.2 The Contract Farming Model.....                               | 9    |
| 3. CHAPTER THREE.....   | 18   |
| 3.1 Study areas and data collection procedures .....                | 18   |
| 3.2 The tool .....  | 19   |
| 3.3 Analysis of business and firm-farmer relationship.....          | 19   |
| 3.3.1 Interviews.....   | 19   |
| 3.4 Survey .....  | 20   |
| 3.5 Analysis of results.....  | 21   |
| 3.6 Debriefing .....  | 21   |
| 4. CHAPTER FOUR.....  | 22   |
| 4.1 Results of the banana business case .....                       | 22   |
| 4.1.1 Interview findings .....                                      | 23   |
| 4.1.2 Survey results for the banana case .....                      | 27   |
| 4.1.3 Debriefing findings for the banana case .....                 | 38   |
| 4.2 Results for the pineapple case.....                             | 39   |

|   |    |
|---|----|
| 4.2.1 Interview findings.....                         | 40 |
| 4.2.2 Survey results for the pineapple case.....      | 43 |
| 4.2.3 Debriefing findings for the pineapple case..... | 55 |
| 5 CHAPTER FIVE .....                                  | 56 |
| 5.1 Discussion .....                                  | 56 |
| 5.1.1 Analysis of firm-farmer relationship .....      | 56 |
| 5.1.2 Survey.....                                     | 56 |
| 5.1.3 The tool.....                                   | 60 |
| 5.1.4 Firm-farmer recommendations .....               | 61 |
| 6. CHAPTER SIX .....                                  | 62 |
| 6.1 Conclusions .....                                 | 62 |
| 6.2 Recommendations .....                             | 62 |
| 7. REFERENCES .....                                   | 64 |
| Annex 1: Questionnaire for banana case .....          | 67 |
| Annex 2: Questionnaire for the pineapple case .....   | 71 |

## List of tables

| Tables | Page |
|--------|------|
|--------|------|

### General tables

|  |    |
|--|----|
| Table 1: Mbarara district six year banana production .....   | 6  |
| Table 2: Seasonal Availability of Pineapples .....           | 7  |
| Table 3: Common farmer and firm obligations and rights ..... | 17 |

### Banana case tables

|   |    |
|---|----|
| Table 4: Summary of banana business case.....   | 22 |
| Table 5: Overall results for all challenge areas for the banana case.....                   | 27 |
| Table 6: Identified challenge areas for the banana case .....                               | 27 |
| Table 7: Statements scored for challenge area 1: Production risks .....                     | 29 |
| Table 8: Statements scored for challenge area 2: Functioning of farmer group .....          | 30 |
| Table 9: Statements scored for challenge area 3: Markets and prices .....                   | 32 |
| Table 10: Statements scored for challenge area 4: The contract.....                         | 33 |
| Table 11: Statements scored for challenge area 5: Quality standards and record keeping..... | 35 |
| Table 12: Statements scored for challenge area 6: Costs/benefits of contract farming.....   | 36 |

### Pineapple case tables

|   |    |
|---|----|
| Table 13: Summary of pineapple business case .....  | 39 |
| Table 14: Overall results for all challenge areas for the pineapple case .....            | 43 |
| Table 15: Identified challenge areas for the pineapple case .....                         | 43 |
| Table 16: Scored statements for the challenge area 1: Production risks .....              | 45 |
| Table 17: Scored statements on the challenge area 2: Functioning of farmer group .....    | 46 |
| Table 18: Scored statements for challenge area 3: Markets.....                            | 48 |
| Table 19: Scored statements on the challenge area 4: Prices.....                          | 49 |
| Table 20: Scored statements for challenge area 5: Quality standards.....                  | 51 |
| Table 21: Scored statements for challenge area 6: The contract.....                       | 52 |
| Table 22: Scored statements for challenge area 7: Costs/benefits of contract farming..... | 54 |

## List of figures

| Figures  | Page |
|--|------|
| <b>General figures</b>   |      |
| Figure 1: The 2-2 Tango logical steps .....  | 3    |
| Figure 2: Pineapples intercropped with bananas .....   | 7    |
| Figure 3: The Rural Innovation System and Entrepreneurship Model.....  | 8    |
| Figure 4: The Contract Farming Model.....  | 10   |
| Figure 5: Banana (Musa ssp) Value Chain in Mbarara District, Uganda.....   | 14   |
| Figure 6: Pineapple Value Chain in Iganga District, Uganda .....   | 15   |
| Figure 7: Map of Uganda showing the study areas .....  | 18   |
| Figure 22: A simple solar dryer .....  | 38   |
| Figure 23: Solar fruit drying at the Soleil plant.....   | 39   |
| <br><b>Banana case figures</b>   |      |
| Figure 8: Graph showing overall scoring results for the banana case.....   | 28   |
| Figure 9: Graph showing level of agreement for all challenge areas for the banana case .....                     | 28   |
| Figure 10: Graph showing scores for challenge area 1 'production risks' .....                                    | 29   |
| Figure 11: Graph showing level of agreement challenge area 1 'production risks' .....                            | 30   |
| Figure 12: Graph showing scores for challenge area 2 'functioning of farmer group' .....                         | 31   |
| Figure 13: Graph showing level of disagreement for challenge area 2 'functioning of farmer group' .....          | 31   |
| Figure 14: Graph showing scores for the challenge area 'marketing and prices' .....                              | 32   |
| Figure 15: Graph showing level of disagreement for challenge area 3 'marketing and prices' ...                   | 33   |
| Figure 16: Graph showing scores for challenge area 2 'the contract' .....  | 34   |
| Figure 17: Graph showing level of disagreement for challenge area 4 'the contract' .....                         | 34   |
| Figure 18: Graph showing scores for challenge area 5 'quality standards and record keeping' .                    | 35   |
| Figure 19: Graph showing level of disagreement for challenge area 4 'quality standards and record keeping' ..... | 36   |
| Figure 20: Graph showing scores for the challenge area 6 'costs/benefits of contract farming' .                  | 37   |
| Figure 21: Graph showing level of disagreement for challenge area 6 'costs/benefits of contract farming' .....   | 37   |



## **Pineapple case figures**

|  |    |
|--|----|
| Figure 24: Graph showing scores for all the challenge areas .....  | 44 |
| Figure 25: Graph showing level of agreement for all the challenge areas.....                                   | 44 |
| Figure 26: Graph showing the scores for challenge area 1 ‘production risks’ .....                              | 45 |
| Figure 27: Graph showing level of disagreement on challenge area 1 ‘production risks’ .....                    | 46 |
| Figure 28: Graph showing scores for the challenge area 2 ‘functioning of farmer group’ .....                   | 47 |
| Figure 29: Graph showing level of disagreement on challenge area 2 ‘functioning of farmer group’ .....         | 47 |
| Figure 30: Graph showing scores for challenge area 3 ‘markets’ .....   | 48 |
| Figure 31: Graph showing level of disagreement on challenge area 3 ‘markets’ .....                             | 49 |
| Figure 32: Graph showing scores for challenge area 4 ‘prices’ .....  | 50 |
| Figure 33: Graph showing the level of disagreement for challenge area 4 ‘prices’ .....                         | 50 |
| Figure 34: Graph showing scores for the challenge area 5 ‘quality standards’ .....                             | 51 |
| Figure 35: Graph showing level of disagreement for challenge area 5 ‘quality standards’ .....                  | 52 |
| Figure 36: Graph showing scores for challenge area 6 ‘the contract’ .....                                      | 53 |
| Figure 37: Graph showing level of agreement on challenge area 6 ‘the contract’ .....                           | 53 |
| Figure 38: Graph showing scores for challenge area 7 ‘costs/benefits of contract farming’ .....                | 54 |
| Figure 39: Graph showing level of disagreement for challenge area 7 ‘costs/benefits of contract farming’ ..... | 55 |

## **1. CHAPTER ONE**

This section gives a brief background of the study subject and problem context. It also highlights the objective of the study and the research questions. It concludes by giving a brief overview of the layout of the thesis.

### **1.1 Introduction**

The Millennium Development Goals emphasises global partnership in development as one of the main objectives toward poverty reduction (Setboonsarng, 2008). Global partnerships can be fostered through strengthening market linkages in agricultural value chains through contracting and partnerships. The World Development Report (WDR) 2008 emphasises the potential of contract farming to reduce poverty and improve household food security. The WDR further ascertains that contract farming is viewed as a tool for fostering and enabling smallholder participation in new high-value product markets, and improving quality standards, thus increasing and stabilising smallholder incomes which has a positive effect on household food security. As reported by Prowse (2007), this focus on integrating smallholder farmers into global value chains through contracting is an important channel for poverty reduction. To that end smallholder farmers in banana and pineapple farming in Uganda have entered into contracts with firms to foster market linkages in the value chains in these products..

Agriculture is the backbone of the Ugandan economy contributing 37% of the country's Gross Domestic Product and 18.8 million people or 77% of the population depend on agriculture for their livelihood (Katungi, 2007). Banana is a staple food crop for 13 million rural Ugandans who consume 200-300kg/capita/year. Banana production covers 1.5 million hectares, which is 38% of total arable land and national annual production is estimated at 610 000 metric tonnes (Katungi, 2007 and Agency for Co-operation in Research and Development (ACCORD) Uganda, 2010). In addition to being a food and cash crop important for food security, it is also used for cultural ceremonies, crafting and as livestock fodder hence plays a major role in the farmers' livelihoods. The banana farmers in Mbarara district have established contracts with traders, but are faced with challenges in this institutional arrangement.

Pineapples are the second largest produced and consumed fruit by volume in Uganda, after bananas. Pineapple production is done exclusively by smallholder farmers, as there are currently no large scale producers in Uganda (FIT Uganda, 2010). They are produced mostly intercropped with bananas or coffee. In order to secure markets for pineapples, which is the main household income source for farmers in Iganga district, famers have entered into contracts with firms but the relationship is equally challenging as in bananas

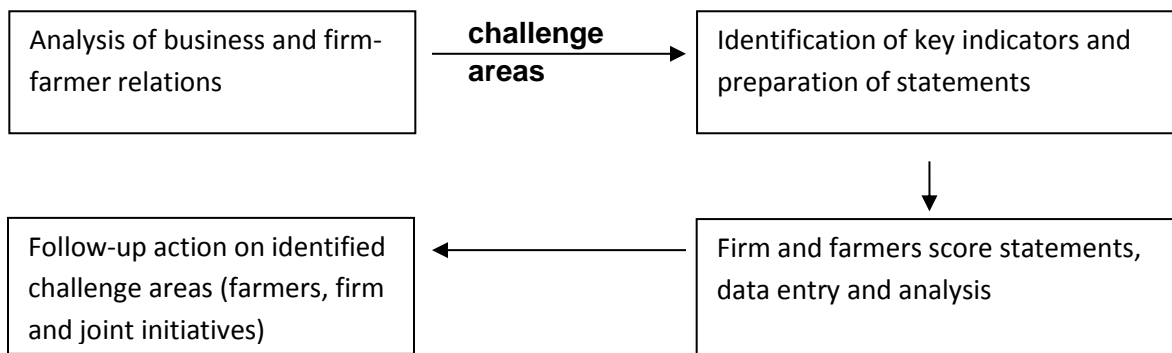
Contract farming is a forward agreement between farmers and processing and/or marketing firms for the supply and procurement of agricultural products under stipulated conditions. Contract farming has the potential to reduce poverty and increase farmer income and has a multiplier effect on employment, income and household food security. As the vast majorities of farms in developing countries are, and will continue to be, less than two hectares in size, contracting integrates smallholders into global value chains through establishing market linkages. Prowse (2007) and the WDR (2008) indicated that a sustainably positive working

relationship is important for contract farming to be efficient and effective. However most contracts are not 'perfectly contingent' and most are vulnerable to interpretation by the farmer and the firm. Baumann (2000) and Singh (2002) conclude that most contracts do not specify in detail the rights and obligations between the farmers and the firms, including the penalties for breach of contract by either side. Therefore most contracts are subject to interpretation and perceptive behaviour. This has been the underlying factor in constraints in this firm-farmer relationship.

## **1.2 Problem context**

Firms have made contracts with farmers and farmer groups to improve production as well as to ensure a consistent supply of produce to the firms, but the desired effect has not been achieved. The firm-farmer physical and social gap is generally wide. Schrader (2012) concludes that stereotype mutual perceptions, misunderstanding and mistrust are common in firm-farmer relations and contracts. Firms associate the contract farming relationship with low produce quality and quantities, inconsistent supplies and side-selling. Side-selling is where the farmer under contract sells the produce to another buyer without the consent of the contracting firm. Contract farmers, who function as buyers of inputs for production and as producers, associate the contract farming relationship with low prices, untimely farming input supplies and low technical assistance. Therefore, there is a need to analyse the firm-farmer relationship in order to contribute to the understanding of the constraints which affect the contract farming relationship and initiate dialogue on these constraints. The analysis can be done by use of the 2-2 tango participatory assessment tool.

The 2-2 tango is a participatory assessment tool that is being developed for self-assessment of the firm-farmer relationship. The tool characterises the factors and identifies the pertinent issues to facilitate communication between farmers and firms with the view to come up with sustainable solutions to these constraints. According to preliminary studies by Schrader (2012), the purpose of the tool is to substantiate and fuel exchange and dialogue between the farmers and the firm on issues at stake and to promote follow-up action to improve the relations. Prowse (2007) also posed that, a sustainable relationship based on trust and understanding of each other's role will yield beneficial results. Generally farmers, firms and facilitators agree that communication and transparency is the key to agribusiness success (Schrader, 2012). The 2-2 tango follows the logic as shown in figure 1 below



**Figure 1: The 2-2 Tango logical steps**

AgriProfocus (Netherlands), under the theme **“Firm-farmer relations: taking market linkages to another level”** has firms in Agrihubs who have contracts with farmers, but there are constraints in the contract relationships. Agriprofocus, in conjunction with Centre for Development Innovation, Van Hall Larenstein, Trias-Uganda and Africa 2000 Network sought to analyse the constraints in banana and pineapple contract farming using the 2-2 tango tool.

### 1.3 Study objective

The objective of the study is to use the 2-2 tango tool to analyse the constraints in the firm-farmer relationship in banana contract farming in Mbarara district and pineapple contract farming in Iganga district, Uganda in order to contribute to the understanding of these constraints and to provide a platform for dialogue on the “burning” issues at stake. The study also aims to contribute to the development of the 2-2 tango tool into a model that can be used to analyse firm-farmer relationships effectively.

### 1.4 Research Questions

The main research questions are:

1. What are the constraints in the firm-farmer relationship in banana contract farming? To attempt to answer this research question, the following specific research sub-questions were formulated:

- a. How is the banana value chain in Mbarara district structured?
- b. What are the challenges, risks, terms and understandings involved in banana contract farming?
- c. How are farmers organized in banana contract farming?
- d. What are the social and economic benefits of banana contract farming?
- e. What solutions could be suggested to address the challenges in banana contracting?

2. What are the constraints in the firm-farmer relationship in pineapple contract farming? To attempt to answer this research question, the following specific research sub-questions were formulated:

- a. How is the pineapple value chain in Iganga district structured?

- b. What are the challenges, risks, terms and understandings involved in pineapple contract farming?
- c. How are farmers organized in pineapple contract farming?
- d. What are the social and economic benefits of pineapple contract farming?
- e. What solutions could be suggested to address the challenges in pineapple contracting?

### **1.5 Organization of the thesis**

This thesis consists of five chapters. The first chapter is the introductory chapter, consisting of; background, problem definition, study objectives and research questions. The second chapter presents the literature and theories on contract farming and firm-farmer relations. The study areas and explanation of the methodologies used for the study are presented in the third chapter. The results of the study are presented in chapter four. Chapter five provides a general discussion of the results. Conclusions and recommendations drawn from the study are presented in chapter six.

## 2. CHAPTER TWO

This section starts by defining terms used in this study. It further gives background information on the banana and pineapple sectors in the respective study districts in Uganda. The section also briefly outlines the models that were employed in the study.

### 2.1 Definition of terms

**Contract farming:** Contract farming is a forward agreement between farmers and processing and/or marketing firms for the supply and procurement of agricultural products under stipulated conditions.

**Food security:** Food security is defined as a state when all people at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO, 1996).

**Firms:** Firms are defined as entities which purchase specific agricultural product from farmers for processing or marketing purposes

**Livelihood:** livelihood can be defined as the capabilities, assets and activities required for a means of living and are sustainable when it is able to cope and recover from shocks and stresses without undermining the resource base (Ellis, 2000).

**Smallholder farmers:** Smallholder farmers can be defined as farmers with a low asset base and are have access to less than two hectares of cropland (Ellis, 2000).

### 2.2 Banana production

Uganda is a major producer of bananas, producing approximately 610, 000 metric tonnes in 2010. However, Uganda is among the smallest banana exporters in the world with 90% of the produced bananas marketed locally and regionally. Banana production covers 1.5 million hectares, which is 38% of total arable land in Uganda (ACCORD Uganda, 2010). Bananas are a staple and cash crop for over 13 million people in Uganda. The per capita annual consumption of bananas in Uganda is the highest in the world, which is estimated at 200-300kg/capita/year (ACCORD Uganda, 2010) or 0.70kg per person per day (The International Network for the Improvement of Banana and Plantain, 2000 and National Agricultural Research Organisation, 2005). Bananas are produced for home consumption as cooked food, beer or juice. The cooked food and juice are often used for cultural functions such as weddings and funeral rites (Katungi, 2007). Leaves are used for steaming food, sheaths are used for ropes and crafts and pseudo-stems for livestock fodder. Due to its multi-purpose properties, the crop is an important part of the livelihood of rural Uganda (Katungi, 2007)

According to Katungi (2007), an estimated 61% of national banana crop is produced in the western part of Uganda, 30% in the central region and the remaining in the eastern region. This concurs with Ssenyonga et al (1999) who stated that the major sources of banana supply are 70% from western, 20% from central and 10% from eastern Uganda. Katungi (2007) further assets that in the last 20-50 years, banana production has shifted and replaced millet as the staple food in the South and West of Uganda.

As in the emergent Isingiro district, close to 70% of Mbarara inhabitants entirely dependent on bananas as their sole economic activity. The average size of land under banana production is half a hectare per household (Katungi, 2007). The average banana production per acre per annum is 1000 bunches and each bunch ranges 30-50kg (ACCORD Uganda, 2010). Banana is a perishable product that requires a proper mechanism for storage. Farmers face daily challenges producing, processing and marketing bananas and banana-based products (ActionAid, 2010). During the dry season in June and July, bananas are in plenty, prices are low and hence 25% of produced bananas are wasted. Banana farmers have entered into contracts with traders to secure markets but there are challenges in the partnerships. Local production in Mbarara for the last six years is as indicated in table 1 below.

**Table 1: Mbarara district six year banana production**

| Year                        | 2001  | 2006  | 2007  | 2008  | 2009  | 2010  |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Area harvested ('1000 acre) | 4.080 | 4.037 | 4.032 | 4.027 | 4.025 | 4.020 |
| Production ('000 tons)      | 9 550 | 9 500 | 9 300 | 9 200 | 9 050 | 9 045 |

Source: FAOSTAT (2012)

### 2.3 Pineapple production

Uganda has abundant sunshine and rainfall (average 1200mm in two peak rainfall seasons), with many smallholder farmers growing fruit like pineapples, passion fruits, papaya, avocado, mangoes, oranges, apple bananas, and jackfruit. The fertile, well-structured soils with a range of textures and conducive climate make it suitable for fruit and vegetable production. These soils also allow organic fruit production for the European niche markets.

Commercial fruit production for local and export consumption was initiated in the 1960s. Government established schemes at Kiige (Kamuli District), Ongino (Kumi District), Odino (Soroti District, 900ha) and Labori (Soroti District, 800ha). These schemes supplied locally and regionally including Kenya, Rwanda and Burundi. The political climate in the 1970s affected management and production in these schemes, hence they collapsed. Currently fruit production is mostly done by smallholder farmers. Fruits like pineapples and mangoes are seasonally produced while apple, bananas and papaya are produced throughout the year. In 2001, regional share of pineapple production was found to be 27% and 13.6% for other fruits including mangoes, avocados, papaya, jackfruit and passion fruit (Agona, Nabawanuka and Kalunda, 2002). Pineapples can be consumed fresh and also as dried fruit. A significant amount of pineapple processing companies produce dried pineapples for the local, regional and international markets. According to Agona et al (2002), the current dry fruit output falls far below the world market demand, estimating that only 10-20% of demand is met. This presents a huge market opportunity for farmers. In their study they estimated that Uganda currently exports 30 metric tonnes of dried organic fruits annually while the world demand is estimated at 164 000 metric tonnes. Fruit drying benefits farmers by reducing wastage during peak production, providing consistent prices of dried fruit hence a relatively consistent income.

Pineapples are the second largest produced and consumed fruit by volume in Uganda, after bananas. Pineapple production is done exclusively by smallholder farmers, as there are no large scale producers in Uganda. They are produced mostly intercropped with bananas as shown in figure 2. Uganda has two rainy seasons, hence pineapples can be harvested at least twice in a year, giving Uganda a distinctive competitive edge. Generally, for smallholder producers, with little or no cash input using only family labour, net annual revenue is estimated at UGX 6–10 Million/ha, (At Ushs 300-500/fruit) (DFID, 2005)



Pineapples are generally produced in the central and eastern parts of Uganda. Main production districts are Iganga, Luwero, Kanyunga and Tororo districts. Due to the bimodal rainfall pattern of Uganda, pineapples are harvested twice a year, though Luwero maintains a higher production throughout the year as shown Table 2. Pineapple farmers have entered into contracts to reduce peak season losses and to ensure a consistent income which has a positive effect on household food security. As in the banana case, there are challenges in the relationship.

**Figure 2: Pineapples intercropped with bananas**

**Table 2: Seasonal Availability of Pineapples**

| District | Month |     |     |     |     |     |     |     |     |     |     |     |
|----------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|          | Jan   | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Iganga   |       |     |     |     |     |     |     |     |     |     |     |     |
| Tororo   |       |     |     |     |     |     |     |     |     |     |     |     |
| Kanyunga |       |     |     |     |     |     |     |     |     |     |     |     |
| Luwero   |       |     |     |     |     |     |     |     |     |     |     |     |



**Peak Supply Period**



**Low Supply**

**(Source: FIT Uganda, 2010)**

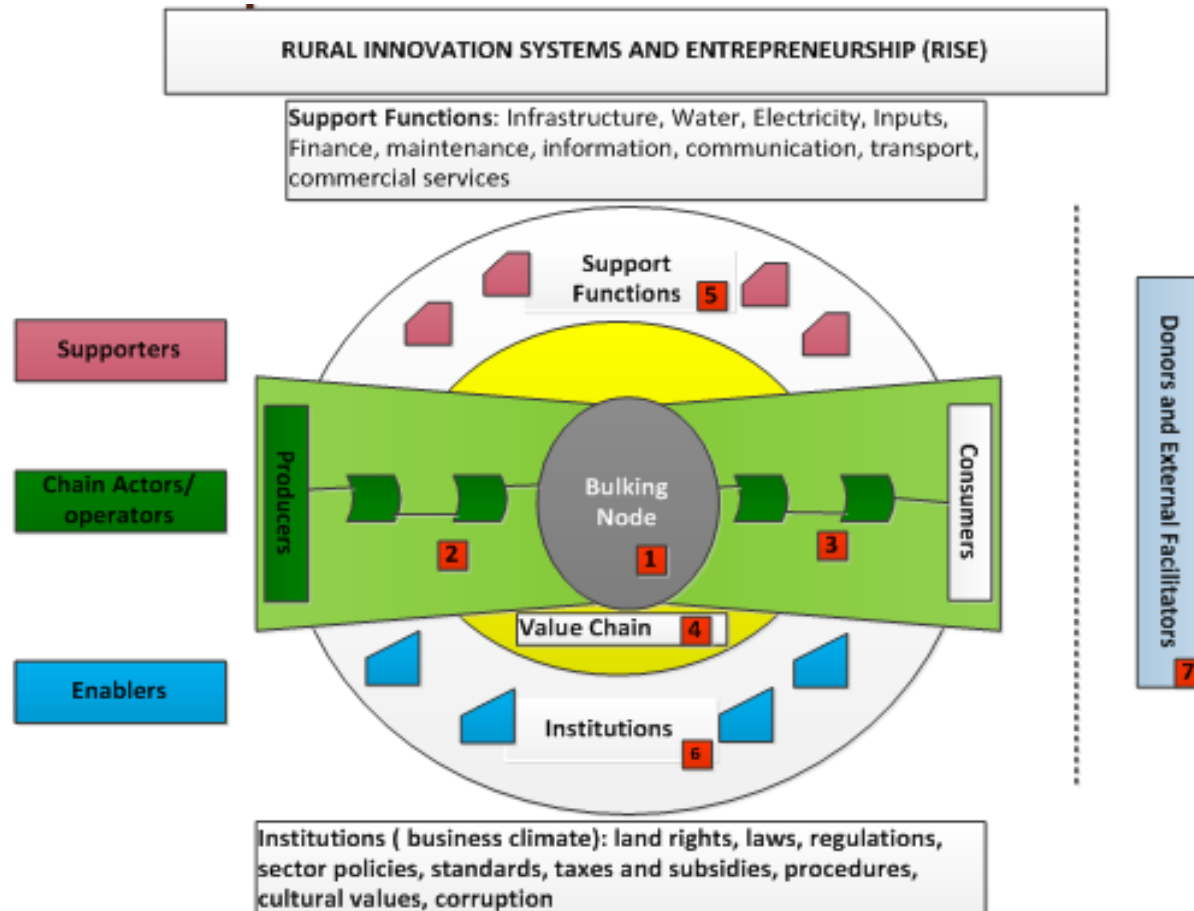
## 2.4 Conceptual framework

According to Uganda Bureau of Statics (2012), the prevalence of food insecurity is higher in the urban areas although the incidence of income poverty is higher in rural areas. To improve



income and hence household food security, market linkages in the form of contract farming can be beneficial. Contract farming is an arrangement between specific actors in the value chain. Contract farming has been linked to increase in market access, risk sharing and price stability, but it also has its pitfalls. In order to understand the partnership in contracting, the Rural Innovation Systems and Entrepreneurship model and contract farming model will be applied.

#### 2.4.1 The Rural Innovation Systems and Entrepreneurship model



**Figure 3: The Rural Innovation System and Entrepreneurship Model (Schrader, 2012)**

The RISE is a conceptual framework that combines approaches and concept of value chain development. It highlights the value chain components and emphasizes that different players need to interact in order to have a well-functioning agri-food market system, reduce transaction risks and costs and to arrive at competitive, sustainable and inclusive value chain development (Schrader, 2012).

The framework classifies the components into three main categories (chain actors, chain supporters and chain influencers/enablers) and how they relate and interact to enable the chain to function as shown by the numerals in figure 3. Innovation in the food and agriculture sector is frequently short-circuited by a lack of trust and communication between actors in the market chain (Lundy, Gottret, Ostertag, Best and Ferris, 2008).

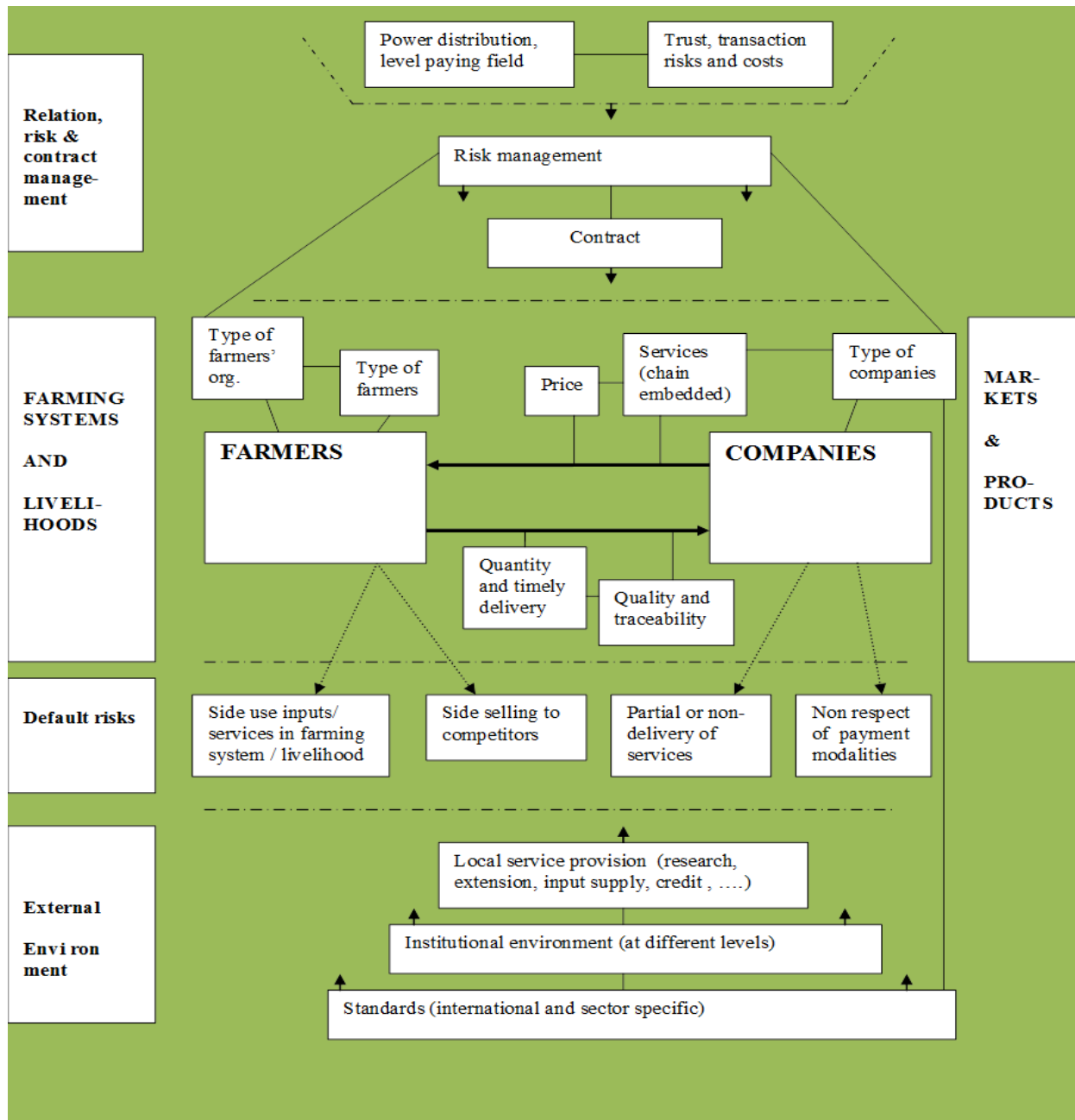
According to Schrader (2012), the RISE is a model that can be applied in conjunction or aid development of rural business models. The RISE framework 'gives rise' to important strategic orientations for interventions seeking to contribute to agribusiness development and farmer entrepreneurship promotion in Africa. It provides lenses for looking at agribusiness development dynamics as indicated below

1. Dynamics around bulking nodes. Bulking nodes include local markets, trade hub, processing unit and collection centres. These include volume, quality, labour, storage, product development, use of by-products.
2. Pre-harvest processes: These include farmers' production practices, productivity and quality, farmers' organization rate, modalities of selling of primary produce to traders and processors.
3. Downstream relations among stakeholders: sellers and buyers of (processed) products at/through bulking node (millers, traders, wholesale) and relations further down the line (retail, consumers).
4. Commercial relations and price transmissions along the value chain. These are the transactions and prices at different stages along the value chain; value and benefits accrued to different chain operators and the distribution among primary producers and labourers.
5. The relations of chain operators with chain supporters (agro-input dealers, banks and Microfinance institutions, transporters). What are opportunities to improve access to services (credit, inputs, transport, research and advice)?
6. The relations (of chain operators and supporters) with chain enablers (predominantly the public sector). What institutions define/influence the business environment and the new relations with districts, ministries and public services? What about opportunities or threats in the external environment?
7. Relations with donors and external facilitators. Do donors and NGO's distort factor, output and labour markets? Do external interventionists adapt their support as the market system evolves?

The focus of this study is on 2, which denotes farmers' production practices, productivity and quality, farmers' organization rate, modalities of selling of primary produce to traders and processors. This is where contract farming occurs and firm-farmer relationships are established to foster the respective value chain market linkages. For the RISE business model to function properly, the relationship at 2 is an integral part which will be studied in this report applying the 2-2 tango participatory tool. To analyse this relationship at 2, the Contract Farming Model will be used.

#### **2.4.2 The Contract Farming Model**

The Contract Farming Model (CFM) depicts various aspects of the contracting arrangement between firms and farmers which influence the functioning of a typical contract between the firm and farmers.



**Figure 4: The Contract Farming Model** (Source: Schrader, 2012)

The factors which affect the relationship between the farmer and the company, termed the firm-farmer relationship can be broadly characterised into relations, risk and contract management; farming systems and livelihoods; default risks and external environment. The influence of these factors on the firm-farmer relationship will be discussed in this section.

### **a) Contract farming**

Baumann (2000) defines contract farming as a system where the central processing or exporting unit, referred to as the firm in this text, purchases the harvests of independent producers where the terms of the purchase are arranged in advance. Prowse (2007) and Setboonsarng (2008) concur with this definition concept of contract farming as a forward agreement between farmers and processing and/or marketing firms for the supply and procurement of agricultural products under stipulated conditions. While the terms of the contract may vary, the common underlying principle is that the contractor supplies all or part of inputs, credit and technical advice and usually specifies how much produce they will buy at an agreed price while the farmer supplies his produce to that contractor at agreed specific times (Little and Watts, 1995). Contract farming has been linked to increase in market access, risk sharing and price stability, but it also has its pitfalls. Producer default; side-selling or marketing; and payment schedule default by the firm are some of the negative aspects of contract farming which need to be considered. There are 3 types of contracts:

- **Market specification contracts or procurement contracts** – these are future purchase agreements which determine quantity, timing and price of commodities to be sold. In this instance the sale and purchase conditions are specified (Baumann, 2000 and Singh, 2002).
- **Partial contracts** – In this type of contract some of the inputs are provided, crops are specified and production is partially managed through quality and standardisation of the crop by the provision of technical and credit support. The price of the produce is pre-determined.
- **Production management contracts also termed total contracts** - associated with large out-grower and nucleus-estate schemes, the firm supplies and manages all the inputs and regulate the production and labour processes of the producer. In this instance the producer just becomes a supplier of land and labour (Baumann, 2000 and Singh, 2002).

### **b) Relation, risk and contract management**

It should be noted that the contract is viewed as a risk distribution between the producer and the contractor, the contract being a 'representation of a relationship rather than the relationship itself', the constitution and administration of the relationship being highly dependent on the political and economic environment in which it is embedded (Dorward, 2001). Literature reviews by Baumann (2000) and Singh (2002) conclude that the distribution of benefits and value between the producer and the contractor is determined by the policy and objectives of the contract; crop characteristics and the dependencies these create; the economic strength of the contractor and producer; and the alternative markets available to them.

### **c) Production risks**

Farmers are faced with production risks emanating mainly from environmental factors manifested in the form of climate change. Climate change has presented farmers with production challenges mainly from a decrease in precipitation and frequency of rainfall. Over

the years, rainfall and weather patterns have become adverse and this has resulted in a negative effect on crop production.

According to a study by McSweeney, New, Lizcano and Lu (2010) in Uganda, indications are that from 2000 to 2009, average precipitation is 8 percent lower (-0.65 standard deviation) than precipitation between 1920 and 1969. They ascertain that the decline in precipitation has seen the contraction of the regions receiving adequate rainfall for viable agricultural livelihoods.

Singh (2002) concludes that farmers face diseases and pests, input costs, access to knowledge and extension which firms have to be aware of for the contract relationship to be successful. Intervention by firms in these risks has often resulted in a positive contractual relationship.

#### **d) Market access and risks**

According to Patrick (2004), contract farming ensures the participation of smallholder farmers unable to gain access to markets due to market failure in credit, information, factors of production and marketing. The most important challenge faced by smallholders is the lack of an assured market with fair price (Eaton and Shepherd, 2001). The primary objective for smallholder farmers to enter into contract farming is market access. Local and international markets for crop commodities are often highly volatile and have unpredictable price changes posing a great risk. Though international markets are more stable than local markets, they are inaccessible to smallholder farmers without specific channels as those provided by contracting. Contract farming often links farmers with distant markets where demand and prices for the product are higher. Often this translates to an improved income hence welfare and household food security.

Improved market access can also result in the expansion of growing areas. Setboonsarng (2008) observed that in a banana contract arrangement in Thailand:

*'Farmers without contracts in the same area cultivated smaller areas since they had limited market opportunity to sell produce. Once farmers entered into contract farming, they doubled their growing areas and brought unused land into production'.*

High risks associated with new technology adoption often deter smallholders from adopting new technology. Contract farming enables smallholder farmers to access new technologies as they often come with technical and extension services.

Firms purchase the crop that falls meeting specified quality and quantity in accordance with the contract terms, hence farmers do not incur losses in income due to price fluctuations (Eaton and Shepherd, 2001).

According to Setboonsarng (2008), lack of access to credit remains one of the biggest challenges to improve agricultural production. Contract farming improves access to credit, which is one of the most frequently given reasons for smallholders to enter into contract farming (Baumann, 2000).

### e) Markets and prices

Globalisation, market liberalisation and rural infrastructure development contributed to emergence of market opportunities for high-value crops and livestock in developed and developing countries (Setboonsarng, 2008). The main limiting factor to banana and pineapple marketing in Uganda is the high transport cost attributed to major suppliers being over 300km away from the major markets of Kampala, Entebbe and Jinja (Agona et al, 2002). Transport cost account for 80% of marketing costs. This has resulted in increased use of contracts to establish market linkages and to reduce marketing risk. In addition to providing an assured market, firms often provide technical and extension support, farm inputs, credit, product accreditation and certification, and assistance in the formulation of farmers' groups (Singh, 2002 and Setboonsarng, 2008). Consequently, contract farming has a positive effect on food security, cash-flow and risk avoidance. This is due to improved market access hence increased income from crop sales at a minimal risk (Baumann, 2000).

**Value Chain:** A value chain can be defined as the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final customers, and final disposal after use (Kaplinsky, 2000). Supporting these activities are services that enable the chain to operate efficiently (Lundy et al, 2008). However the efficiency of the chain is dependent upon how well information flows between chain actors, their level of business linkage, and the ability of services to overcome problems as they arise. Lundy et al (2008) further denotes that the links in the chain (production, post-harvest management, marketing, and business development services) are often disjointed in agricultural markets, generating an inefficient flow of information along the chain. This can be overcome if chain actors along the chain initiate a process of strengthening their business links to enjoy the benefits of systemic chain improvement, often referred to as value chain development.

Contracting can increase farmer profit share in the value chain as shown in the banana value chain (figure 5), where farmers are able to get a price of UGX 6000 compared to UGX 4000 if they use brokers. This is also evident in the pineapple value chain (figure 6) where farmers get UGX 1000 per fruit compared to UGX 500 if they sell to bicycle traders and brokers.

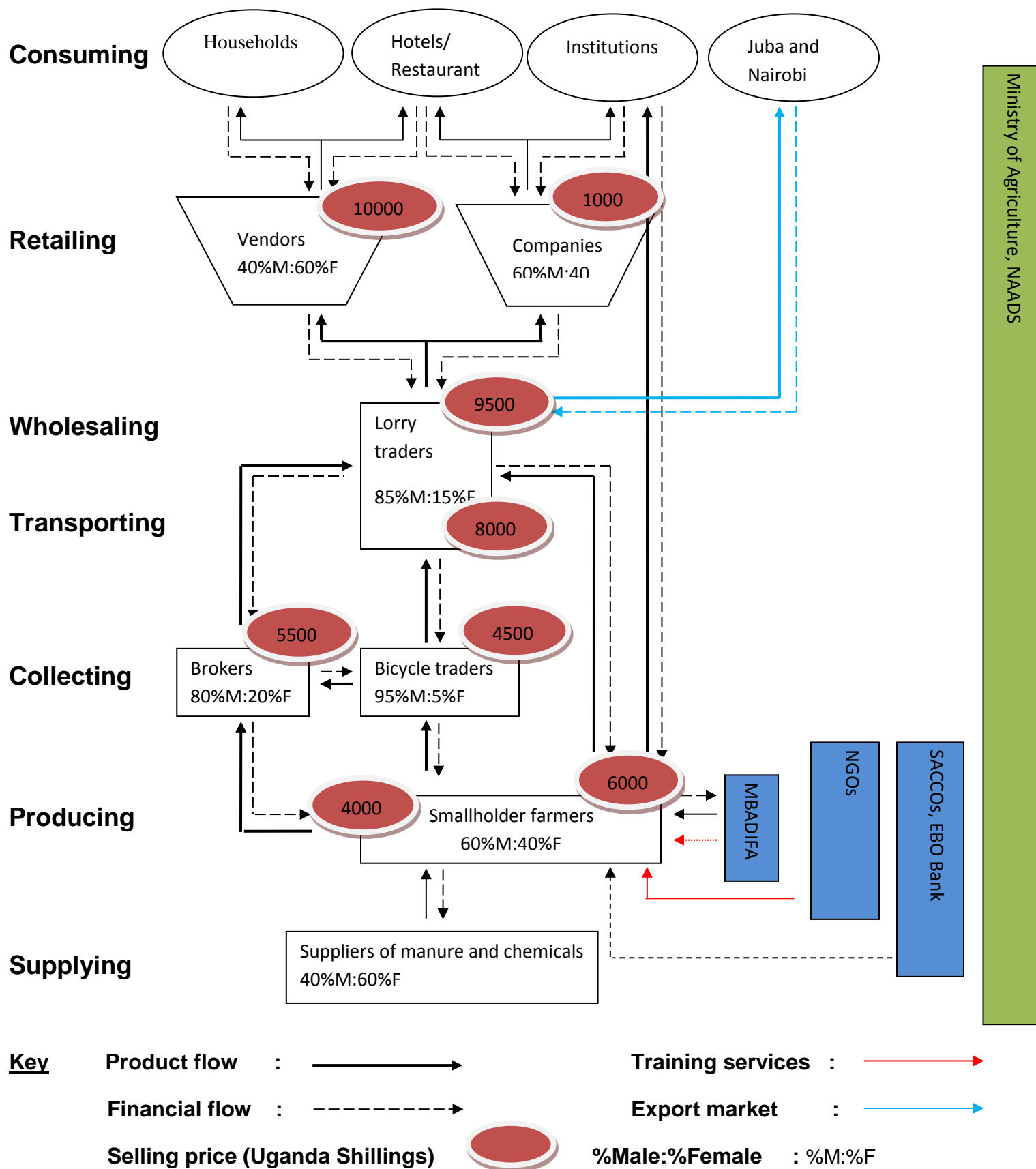


Figure 5: Banana (*Musa ssp*) Value Chain in Mbarara District, Uganda

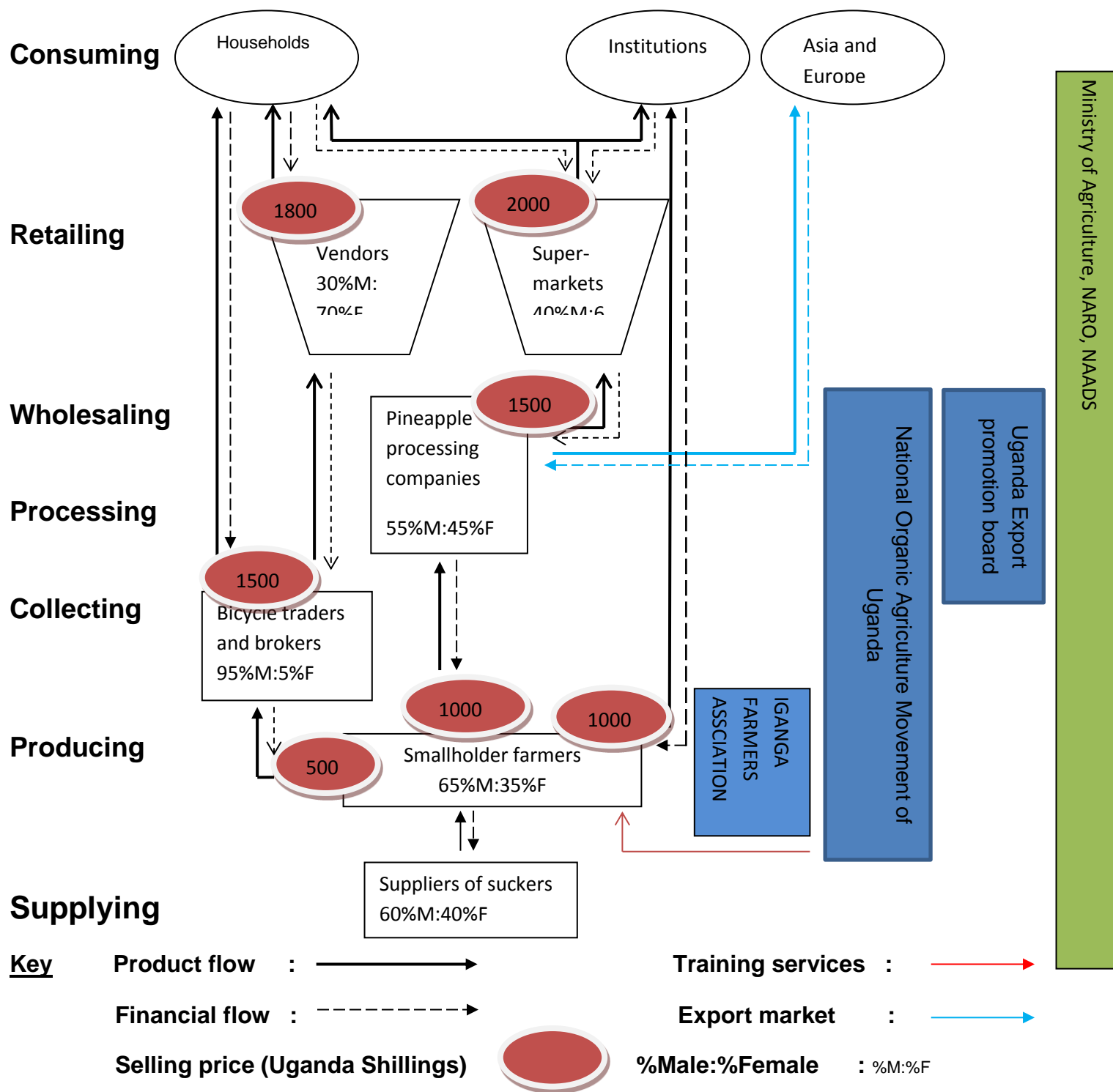


Figure 6: Pineapple Value Chain in Iganga District, Uganda



#### **f) Organised farmers and co-operatives**

The United Nations General Assembly declared 2012 as the International Year of Cooperatives. Cooperatives and farmer groups contribute to socio-economic development, impacting positively on poverty reduction, employment generation and social integration. At the United Nations Conference on Sustainable Development which was held in Rio de Janeiro, Brazil (June 2012), it was affirmed that cooperatives are key for sustainable development (FAO, 2012).

According to FAO (2012), cooperatives offer smallholders market opportunities, access to services such as training, access to information, technologies, innovations and extension services. With farm sizes of less than two hectares forming 85% of all farms in the world (von Braun, 2008; Prowse 2008) economic efficiency is limited due to relatively high input costs and lack of economies of scale. Lack of financial resources namely access to credits and loans limit production capacity. Establishing cooperatives and farmer groups can allow small-scale farmers to share capital and reduce input costs which can increase production and income. Motiram and Vakulabharanam (2007) conclude that farmers in cooperatives and farmer groups have more bargaining power, pose lower transaction costs for loans for financial institutions, and have relatively better access to information which invariably leads to less food security vulnerability.

#### **g) Default risks**

The most common problem that firms face is that of side-marketing. Side-marketing is where a farmer in a binding contract, who is obliged to sell his produce to the contracting firm, sells the produce to a competitor outside the specified contract. This is due to the fact that firms are unable to maintain their monopoly of the market and other buyers appear and offer a better price. Default on quantity and quality has also been cited as one of the most common problems for firms in contract agreements. Furthermore, firms also often face product manipulation by farmers, including but limited to, adding stones for weight, adulterating produce as revenge, and using patronage ties to upgrade produce and to divert inputs intended for contracted crops elsewhere (Baumann, 2000 and Dorward, 2001). These altercations often affect and are a product of the firm-farmer relationship. More often, these contracts are riddled with unclear specifications which may be termed rights and obligations. Table 2 outline rights and obligations common in smallholder contracts.

**Table 3: Common farmer and firm obligations and rights**

| <b>Farmer obligations</b>   | <b>Firm obligations</b>   |
|---|---|
| Follow production regulations as specified in the contract                            | Provide credit, inputs and technical support  |
| Sell produce to the contractor  | Purchase all produce of acceptable quality  |
| Repay loan  | Pay farmer according to agreed formulae   |
| Use of land and inputs for purposes specified in the contract                         | Maintain accounts in a comprehensible manner  |
| <b>Farmer rights</b>  | <b>Firm rights</b>  |
| Timely receipt of services and payments specified as obligations of project authority | Timely recovery of payment for services provided to farmers                                   |
| Compensation in the event of default by project authorities on any of its obligations | Purchase of crop as specified in contract and imposition of penalties in the event of default |

**(Adapted from Baumann, 2000)**

As observed by Baumann (2000) and Singh (2002), most contracts do not specify in detail the rights and obligations between the producers and the contractors, including the penalties for breach of contract by either side. Therefore most contracts are subject to interpretation and perceptive behaviour. In most cases there is no corresponding clause protecting farmers in case of the companies default and vice versa. Baumann (2000) cites the example of the Kenyan Tea Development Authority, which has no formal contract, leaving the producers dependent on the goodwill of the authority. This has so far been successful, largely because of mutual dependencies and the support that the authority has received. Among other factors, lack of clarity on these issues and lack of enforcement by-laws on contracts have led to problematic contractual relationships.

This section discusses the study area, data collection and analysis procedures. The 2-2 tango tool will also be briefly discussed.

[illegible]

The banana study was carried out in Mbarara district and the pineapple case in Iganga district, Uganda as highlighted in figure 7. Mbarara district is located south –west of Kampala, the capital of Uganda. It has an estimated population of 83 700 (Uganda Bureau of Statics, 2012). Banana annual production in Mbarara District was 9,000,000 tonnes of which 40 % (3,600,000 tons) were consumed at home, 35% (3,100,000 tons) was sold and 25% (2,300,000 tons) was wasted during peak production period (June – August)(**MBADIFA project Brief, 2010**).

18

### **3.2 The tool**

The 2-2 tango is a participatory assessment tool that helps to harness the views of farmers and firms on their business relation, based on the same set of statements which they score (Schrader, 2012). According to preliminary studies by Schrader (2012), the purpose of the tool is to substantiate and fuel exchange and dialogue between the farmers and the firm on issues at stake and to promote follow-up action to improve the relations. The tool follows the steps below

- Analysis of business and firm-farmer relationship- Scientific and background information on the firm and the farmers is gathered. From this a checklist is drawn of the potential challenge areas in the firm-farmer relationship.
- Interviews- this stage involves interviewing key respondents from the firm and the farmers in the concerned business relationship. The interviews are guided by the checklist formulated above. Based on the interviews, pertinent issues termed challenge areas are formulated. These are the identified key indicators in the firm-farmer relationship and form the basis of the business and firm-farmer relationship.
- Formulation of statements- statements are formulated to rank the perception of the firm or farmers on each key indicator. The statements are positively stated.
- Survey- the same statements are scored by the firm and the farmers. The statements are scored based on a Likert scale of 0-3, with 0 being “strongly disagree”, 1 being “disagree”, 2 being “agree” and 3 being “strongly agree”. The Likert scale also has smiley’s (☺☹) to indicate the scores.
- Data entry and analysis- the scores are analysed using excel to generate paired graphs. Two types of graphed are generated, one indicating the level of scores and the other indicating the level of (dis)agreement between the firms and the farmers. These graphs become the basis of the dialogue.
- Debriefing- a debriefing session with the firm and the farmers to discuss the outcome of the analysis and to come up with recommendations to improve the firm-farmer relations is carried out.

### **3.3 Analysis of business and firm-farmer relationship**

Background information on the cases was collected using a desk literature study. Scientific literature about production risks, farmer organizations, marketing and prices, value chain analysis and theories, and contracts was collected. Background information on the banana business case and value chain was collected using Trias-Uganda reports, MBADIFA reports, journals and electronic library resources. Background information on the pineapple case and value chain was collected using Soleil Enterprises (SE) annual reports, Iganga Farmers Association reports, journals and electronic library resources. A checklist of the possible challenge areas was drawn from the literature.

#### **3.3.1 Interviews**

For the banana case, interviews were held with 5 randomly selected farmers in the purposively selected 13 member Kaiba Matooke Farmer Group (KMFG), the trader who has a contract with KMFG and a MBADIFA staff member. Another trader at the banana open market was also

interviewed. A Banana IPs Consultative workshop held at Acacia hotel, Mbarara on 19 July 2012 was by attended by the author to gather more information on the banana sector

For the pineapple case, interviews were held with 5 randomly selected farmers in the purposively selected 26 member Makuuti Farmers Group (MFG), the manager for SE, the production supervisor for SE, a community development officer for Africa 2000 Network and a production staff member for SE.

The checklist was used to guide the direction of the interviews. The checklist contained both general and more specific questions concerning the contract. The respondents were asked to state the areas they felt were challenging in the contracts. Probing was employed to get more information on the subject area.

Data on economic and institutional factors such as access to credit, access to extension services, by-laws, product prices and non-governmental organization activities was also collected.

### 3.4 Survey

The findings of the interviews were grouped into challenge areas. Statements were formulated which can be scored by both farmers and the trader or firm simultaneously according to the 2-2 tango tool methodology.

The statements were scored on a Linkert scale of 0-3 represented by smiley's as shown below

| Statements     | 0                        | 1               | 2            | 3                     |
|----------------|--------------------------|-----------------|--------------|-----------------------|
|                | <i>Strongly disagree</i> | <i>Disagree</i> | <i>Agree</i> | <i>Strongly agree</i> |
|                | ☹☹                       | ☹               | ☺            | ☺☺                    |
| Challenge area |                          |                 |              |                       |
| #              | Statement                |                 |              |                       |

The questionnaire was scored by all 13 member farmers (11 Males and 2 Females) for KMFG and 1 trader for the banana case and 25 farmers (17 Males and 8 Females) of the 26 member MFG and 6 SE company staff (4 Males and 2 Females) for the pineapple case.

Scoring of the statements was done by the author with each farmer and a translator. The author probed for answers as to why the farmer/trader/firm had given that score in some of the statements.

### **3.5 Analysis of results**

The data from the questionnaires was analysed in Excel. Paired graphs were generated to indicate the level of (dis)agreement on each statement between farmers and the trader/firm on each challenge area. Two types of graphs were generated: one showing the scores and the other showing the level of (dis)agreement between the firm and the farmers for each challenge area. Results are as shown in chapter 4.

### **3.6 Debriefing**

A debriefing session was held with the farmers and the firm for both cases. The debriefing session is essentially a platform to discuss the outcome of the analysed scores with the farmers and the firm to come up with possible solutions to the challenges identified. A focus group discussion was held with 8 randomly chosen farmers and the trader for the banana case. A focus group discussion was held with 12 randomly chosen farmers and 3 SE employees from the pineapple case.

## 4. CHAPTER FOUR

This section presents the outcome of the analysis of the firm-farmer relationships, survey and debriefing procedures for the banana and pineapple cases.

### 4.1 Results of the banana business case

**Table 4: Summary of banana business case**

Kaiba Matooke Farmers Group (KMFG), a group farming bananas in Mbarara district, has a

|                           |   |
|---------------------------|---|
| Product                   | The highland cooking banana (Musa spp., AAA-EA genome (Matooke))  |
| Country                   | Uganda  |
| Farmers Group Established | 1994  |
| Contract between          | Kaiba Matooke Farmers Group and a trader  |
| Type of Production        | Organic Agricultural Production   |
| Partners                  | <ul style="list-style-type: none"><li>• Ministry of Agriculture Animal Industry and Fisheries (MAAIF)</li><li>• Mbarara District Farmers Association (MBADIFA)</li><li>• Presidential Initiative on Banana Industrial Development</li><li>• Trias-Uganda</li><li>• National Agricultural Research Organisation</li><li>• Uganda Export Promotion Board</li><li>• EBO Bank</li></ul> |

contract with a lorry trader who supplies Kampala and Juba, in Sudan. The contract is signed by the farmer group committee and the trader. The contract is to supply the trader with 400 bunches of bananas twice a month. The contract outlines among other things, the quality in terms of size and ripeness stage and price to be paid for the agreed quality.

KMFG was established in 1994 and registered as a farmers group with the district council and Mbarara District Farmers Association (MBADIFA). KMFG is located in Kamushoko parish, Bubaare sub-county, Kashaari county in the Mbarara district, Uganda. It has 13 households registered to the group. The group collectively sells its bananas twice a month to a single lorry trader. The group accesses loans from Ebo-Bank at a rate of 6% per annum, which it repays from the proceeds of banana sales. The group has regular meetings and has established an internal savings and credit account for members. The account is to cater for emergencies that normally result in side-selling to cater for the immediate arising need. The group has two committees, a marketing committee and a monitoring and research committee. The marketing committee is responsible for quality control and price regulation. The monitoring and research committee is responsible for record keeping and farmer field schools which are currently having demonstration plots and doing on-farm research on bacterial banana wilt disease and Matooke banana varieties. The group is in the process of merging with two other groups to improve on

marketing of Matooke in Kashaari county. The main objective of the group is to collectively market their bananas directly to traders at negotiated, usually better, farm-gate prices. KMFG benefited from training about organizational development by the National Agricultural Research Organization (NARO) and Techno Serve.

#### **4.1.1 Interview findings**

This section summarises the findings of the interviews. The findings of the interviews were grouped into the following challenge areas

##### **a) Production risks**

Farmers highlighted that they were faced with challenges in production emanating from climate change. Over the years, rainfall and weather patterns have become adverse and this has resulted in a negative effect on banana production in Mbarara district. A 66 year old farmer said that:

*“I am an old man, and I have observed the seasons. The rainfall has declined and it doesn’t come at the times we expect it. When it comes sometimes it is so heavy (hailstorms) that it destroys the banana crops”*

They further said banana production has been declining over the past few years mainly due to diseases and pests, soil fertility loss and natural disasters such as hailstorms. At the Banana IPs Consultative Meeting held at Acacia hotel, Mbarara district, on 19 July 2012, it was reported that banana quality and quantity had declined. Diseases, pests and declining soil fertility were highlighted as the leading causes of banana production decline at the forum. Bacterial banana wilt was identified as a major challenge to farmers in Mbarara district.

The forum agreed that banana producers were faced with:

- Soil fertility decline
- Erratic and infrequent rainfall
- Pests and diseases
- Post harvesting losses
- Lack of adequate extension services and capital investment in research
- Unstable prices
- Decline in land holding capacity due to population pressure

Banana bacterial wilt is a major challenge to farmers. Farmers are practicing hygiene standards to curb the spread of the disease. It is interesting to note that the farmers have experimented by using ash at the base of the affected plants which has seen plants recovering, though it has not been proven scientifically if the ash was responsible for the recovery.

Farmer field schools are operational and demonstration plots are being maintained by the research and monitoring committee.



## **b) Functioning of farmer group**

As outlined in the summary, KMFG has a contract with a lorry trader who supplies Kampala and Juba, in Sudan. The contract is signed by the farmer group committee and the trader. The contract is to supply the trader with 400 bunches of bananas twice a month. The contract has a clause that outlines the quality in terms of size and ripeness stage. The contract is now being signed for a shorter period of 3-6 months instead of a year. A committee member said

*“We are now signing the contract with the trader for 3-6 months so that we can cater for price changes and other unforeseen production constraints”*

The farmer group tries to meet the contract specifics in terms of quantity and quality, though they don't always agree with the trader. A farmer said

*“In case we don't have the required quantity especially during the rainy season where production is as low as 200 bunches, we buy from other farmers outside the group to meet the required quantity”*

The trader pays cash upon collecting the bananas and sometimes advances the farmers cash a week before collection to secure the bananas. Traders alluded that it was easier to work with well organized groups. A trader said that

*“Farmers who are organized have mechanisms to access loans and improve their production. When they default, you can take up the case with local council and try to recover the money, though I am not aware of any laws that can enforce this”*

Another trader outlined that it was common for farmer leaders to mismanage collected funds leading to the collapse of many groups. The frequency of meetings was also pointed out as a challenge by the farmers. There were also challenges in record keeping, which was inconsistent and unreliable at times.

## **c) Markets and prices**

Farmers had concerns on the prices. A farmer accounted that

*“The price that these traders give us is too low at times. But we are happy that they sometimes give us an agreed higher price even when prices fall, but it is difficult to negotiate for a better price when prices do increase. So it's a tricky situation”*

The trader believes his price is fair. However, a trader interviewed at the open market said that

*"We are business people and it's a tough industry. We pay the price that makes us a profit, even though we are aware that it is not a good price"*

The farmers indicated that being in a contract was providing a steady market hence they were increasing their production. Accordingly, KMFG is expanding their production areas with an average of 2-4 acres per farmer.

The trader at the open market has the impression that farmers engage in side-selling, and therefore traders engage brokers. A trader highlighted that

*"These farmers sell to the highest bidder especially during the wet season when bananas are scarce. That is why it is pointless to enter into contracts with farmers, because there is nothing we can do when they side sell. I rely on brokers"*

In contrast, farmers said that brokers were distorting the market and causing price fluctuations. A farmer noted that

*"When traders notice that you are in a lucrative contract with a good price, they come to the trader with bananas and offer the trader a lower price, thereby prompting the trader to renegotiate the price with us. It is very frustrating"*

#### **d) The contract**

The farmer and trader are not aware of any legal apparatus to enforce breach of contract. A farmer said

*"I have to be paid cash when the trader loads my bananas. I have nowhere to report if I give the trader my bananas and he does not pay me my dues"*

The trader said the contract terms are mainly on quality and price. There was no clause in the contract which dealt with breach of contract. However he was aware that the farmer group had a penalty for those who breached the contract.

#### **e) Quality standards and record keeping**

Quality was a major issue for both the farmers and the trader. They both indicated that it determined the price of the bananas. Farmers indicated that they produce good quality bananas. A farmer said that:

*“We have been producing good quality bananas for decades, especially in this area, but the traders do not give us the price that matches the high quality. The problem is they give us the same price as other farmers in other areas who produce low quality bananas. At least they should pay us more”.*

The trader accounted that he sometimes did not agree with the way the farmers graded the bananas and that the farmers often did not meet the quality as stated in the contract.

**f) Costs/benefits of contract farming**

The farmers were cognisant of the benefits of contract farming. They alluded to the fact that they were cushioned against price fluctuations. In the dry season when prices were low, they got higher prices. A farmer said

*“At the moment in this contract we are getting UGX6000 per bunch, while our fellow farmers who are not in the contract are getting UGX4000. I have no problems paying my fees for my kids now”.*

The trader said that the contract was very beneficial in times of banana scarcity. He manages to get the product from this group as per the contract arrangements.

The scores for the challenge areas are as shown in the next section

#### 4.1.2 Survey results for the banana case

##### Overall results

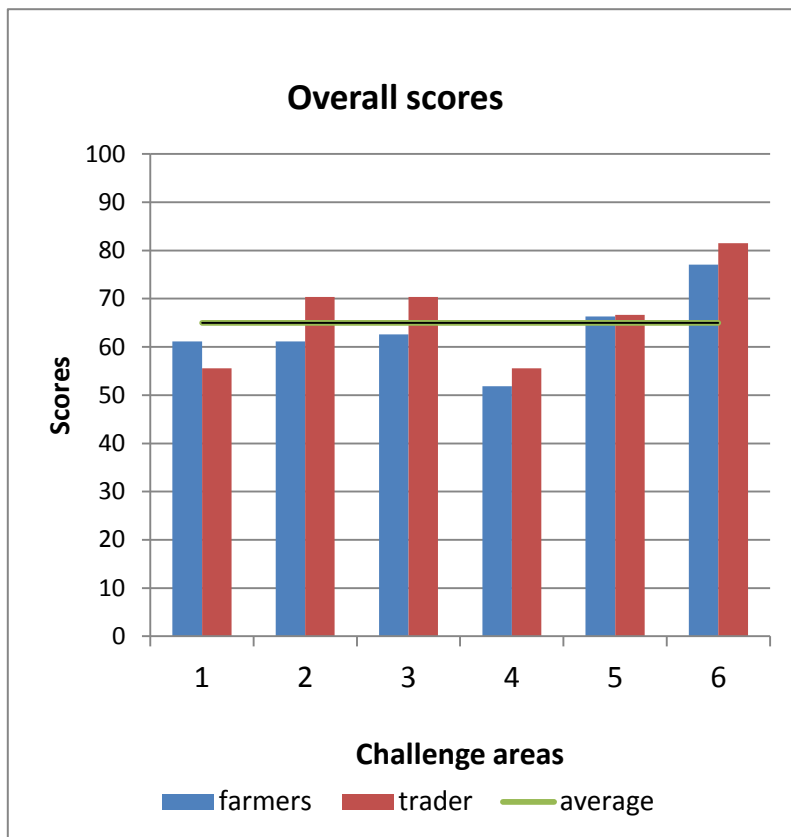
**Table 5: Overall results for all challenge areas for the banana case**

| Overall results                             | Average scores per challenge area |      |      |      |      |      | Average all areas |
|---|-----------------------------------|------|------|------|------|------|-------------------|
| Challenge areas                             | 1                                 | 2    | 3    | 4    | 5    | 6    |                   |
| Farmers' scores                             | 61.1                              | 61.1 | 62.6 | 51.9 | 66.3 | 77.0 | 63.3              |
| Trader scores                               | 70.4                              | 70.4 | 70.4 | 55.6 | 66.7 | 81.5 | 66.7              |
| Average firm-farm per challenge area        | 58.3                              | 65.7 | 66.5 | 53.7 | 66.5 | 79.3 | 65.0              |
| Average overall score (all challenge areas) | 65.0                              | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 |                   |
| Difference farmers - average F-F score      | 2.8                               | -4.6 | -3.9 | -1.9 | -0.2 | -2.2 | -1.7              |
| Difference Company - average F-F score      | -2.8                              | 4.6  | 3.9  | 1.9  | 0.2  | 2.2  | 1.7               |

The average total score is 65%. Generally, there is a positive agreement in the challenge areas but there are significant differences which need to be looked at in each challenge area as will be discussed.

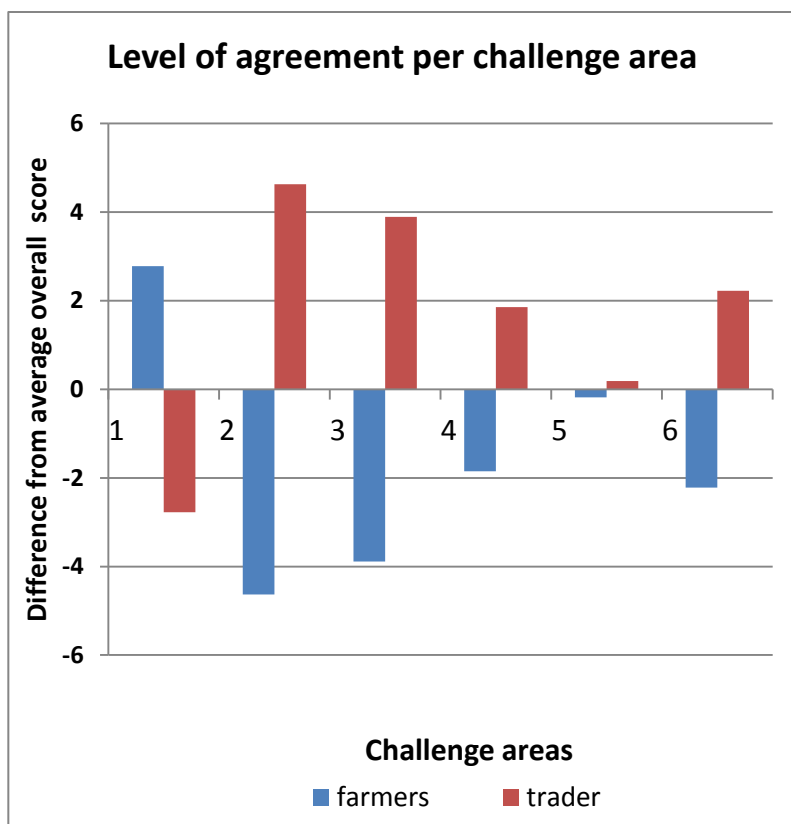
**Table 6: Identified challenge areas for the banana case**

| Challenge areas |                                      |
|-----------------|--------------------------------------|
| 1               | Production                           |
| 2               | Functioning of farmer group          |
| 3               | Markets and prices                   |
| 4               | The contract                         |
| 5               | Quality standards and Record Keeping |
| 6               | Costs/benefits of contract farming   |



The overall scores are quite comparable for the farmers and the trader. Farmers scored more positive on 'production risks' scoring 61.1%, with the trader being more positive on the rest of the challenge areas scoring 70% on functioning of farmer group and market and prices. The trader and farmers score remarkably high on challenge area 6 'costs/benefits of contract farming' scoring 81.5% and 77% respectively. It can be noted that the trader and the farmers scored below average and lowest on challenge area 4 'the contract' scoring 55.6% and 51.9% respectively.

**Figure 8: Graph showing overall scoring results for the banana case**



It can be observed that the perception of farmers and the trader are quite different for challenge areas 1, 2 and 3. There seems to be much more agreement for challenge area 5, with comparable agreement in challenge areas 4 and 6. It can be noted that the trader and the farmers show a high level of agreement on challenge area 5

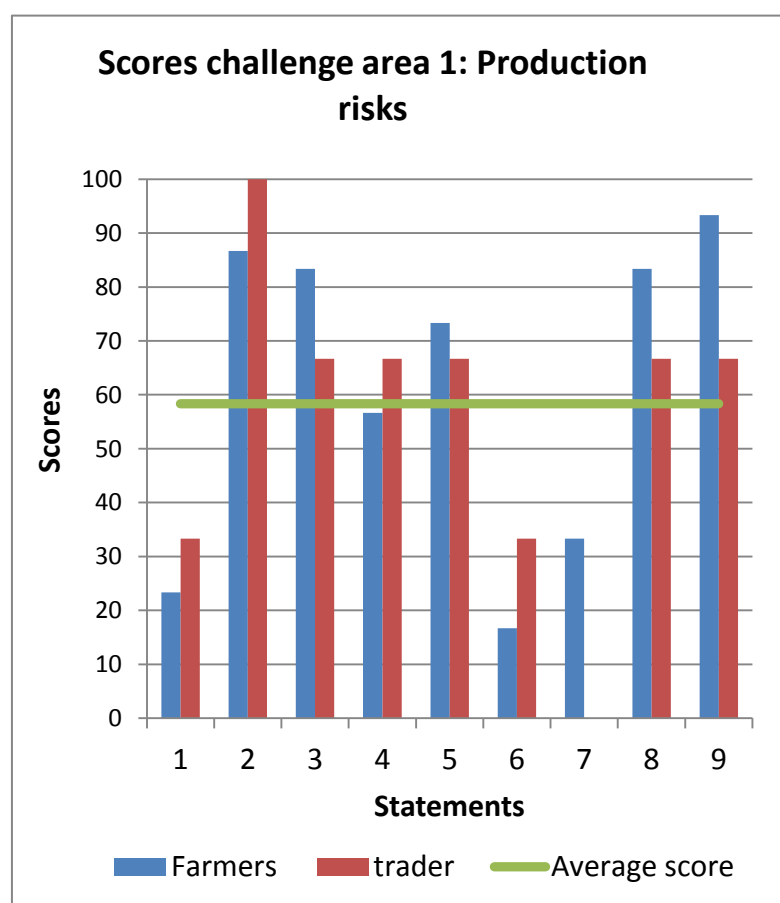
Although the overall results show a general agreement, there are significant differences within each challenge area as will be shown below

**Figure 9: Graph showing level of agreement for all challenge areas for the banana case**

**a) Challenge area 1: Production risks**

**Table 7: Statements scored for challenge area 1: Production risks**

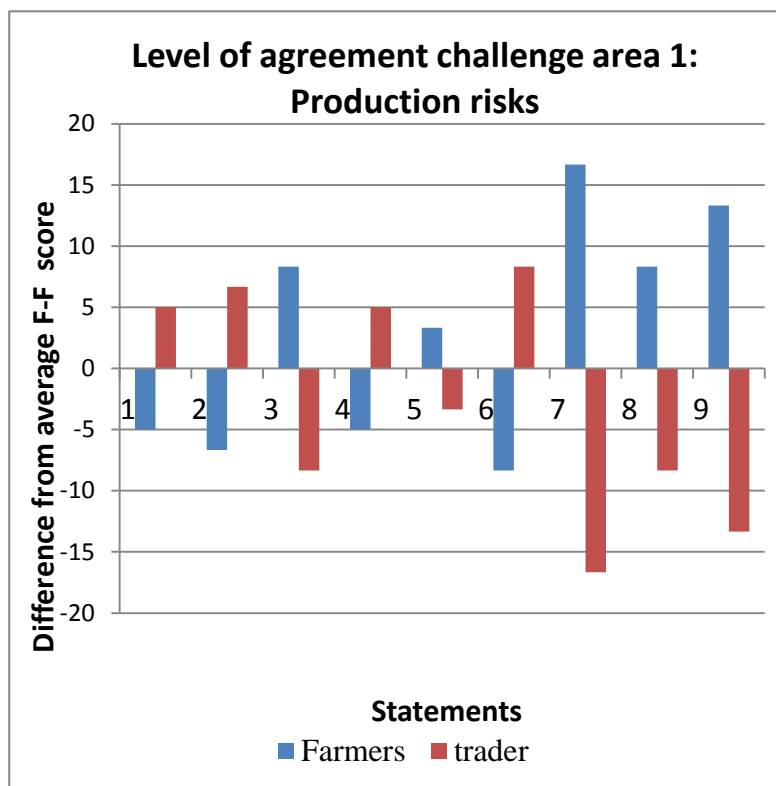
| Statements challenge area: Production risks |  |
|---|--|
| 1.1   | Rainfall quantities are increasing   |
| 1.2   | Diseases have reduced banana quality   |
| 1.3   | Soil fertility is increasing   |
| 1.4   | Farmers get sufficient amount of manure                                      |
| 1.5   | Prices for manure are affordable   |
| 1.6   | Farmers yields are increasing  |
| 1.7   | Farmers are able to calculate production costs per bunch of bananas produced |
| 1.8   | The farmers have sufficient know-how on banana production                    |
| 1.9   | Farmer field schools are operational   |



The average challenge area score is 58.3%. In this challenge area, it clearly comes out that the farmers are more positive in most statements, scoring 93.3% on statement 2 while traders score 66.7% on the same statement. It can be noted that the farmers give the lowest score for statements 1 on rainfall and statement 6 on yields scoring 23.3% and 16.7% respectively.

The trader gives a very high score for statement 2 on diseases scoring 100% and the lowest score on statement 7 on farmers ability to calculate production costs, scoring 0%.

**Figure 10: Graph showing scores for challenge area 1' production risks'**



There is a high level of disagreement on statement 7 on ability of farmers to calculate production costs and relative disagreement on statement 9 on farmer field schools.

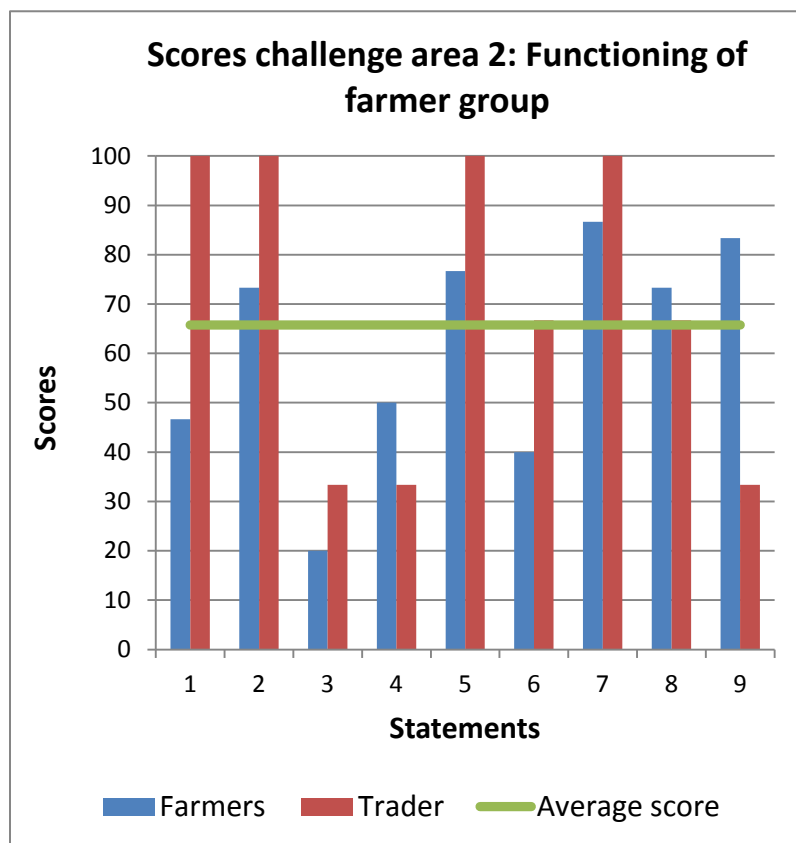
The trader and the farmers seem to agree relatively on the other statements with the highest agreement on statement 5.

**Figure 11: Graph showing level of agreement challenge area 1 'production risks'**

#### b) Challenge area 2: Farmer group functioning

**Table 8: Statements scored for challenge area 2: Functioning of farmer group**

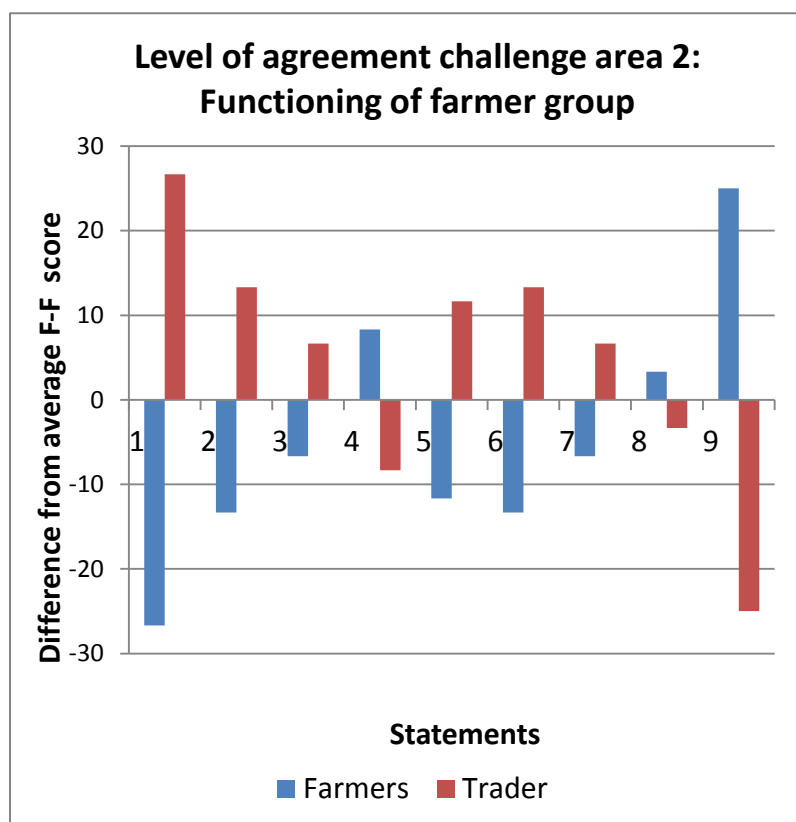
| Statements challenge area:Functioning of farmer group |   |
|---|---|
| 2.1   | We agree with the way the trader selects farmer groups for contracting  |
| 2.2   | We agree that the farmers sell the bananas as a group, and not as individuals   |
| 2.3   | The constitution and by-laws cater for internal and external issues of banana farmer groups                             |
| 2.4   | Elected farmer group leaders adhere to the tasks and responsibilities defined in the constitution and group regulations |
| 2.5   | Farmer group meetings are regular   |
| 2.6   | All farmers are informed and understand group financial issues  |
| 2.7   | The trader is happy with the way the farmer group is operating  |
| 2.8   | The farmer group leaders always represent the common interest of the farmers  |
| 2.9   | Loans are easily accessible for farmer groups   |



Even though the average challenge area score is 65.7%, there are marked differences in this challenge area. The trader scores 100% on statements 1, 2, 5 and 7, while in contrast the farmers scored 46.7%, 73.3%, 76.7% and 86.7% respectively on the same statements. The trader scores very low on statement 9, scoring 33.3%, in contrast with farmers who score 83.3%.

Both farmers and trader score very low on statement 3, scoring 20% and 33.3% respectively. They also score low on statement 4.

**Figure 12: Graph showing scores for challenge area 2 'functioning of farmer group'**



It can be observed that the perceptions of farmers and the trader are quite different for the functioning of the farmer group challenge area. Notable disagreements are in statements 1 and 9, with relative disagreement on statements 2, 5 and 6.

Farmers and the trader have a lower degree of agreement on the other statements, almost agreeing on statement 8 on group leaders serving the interests of the group members.

**Figure 13: Graph showing level of disagreement for challenge area 2 'functioning of farmer group'**



### c) Challenge area 3: Marketing and Prices

**Table 9: Statements scored for challenge area 3: Markets and prices**

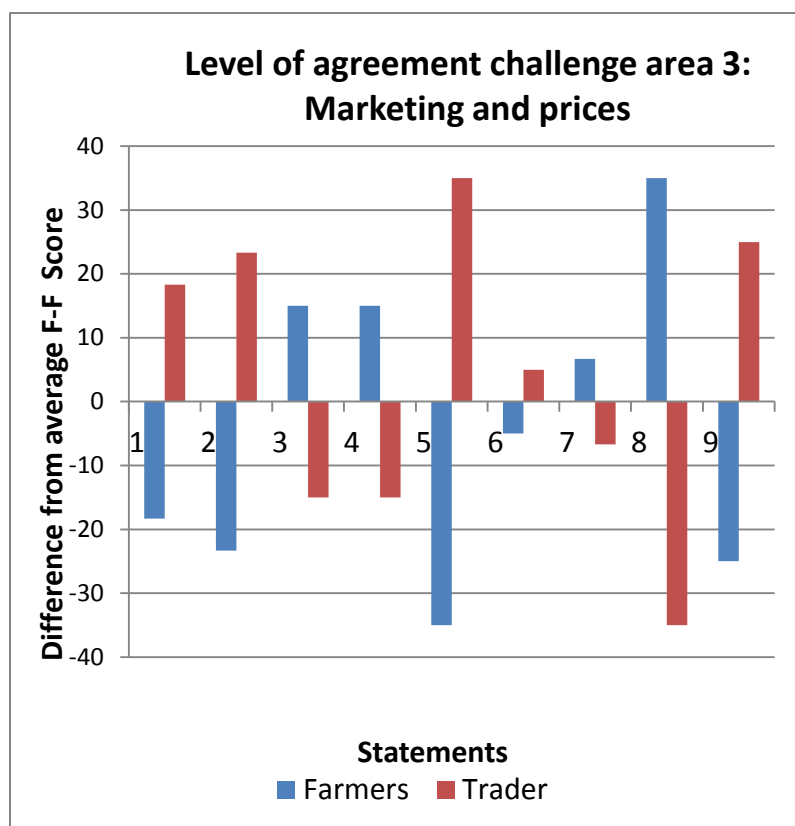
| Statements challenge area: Markets and prices |   |
|---|---|
| 3.1   | The trader is clear about the amount of produce they want to buy from the farmers |
| 3.2   | The trader clearly informs farmers about quality requirements of the bananas      |
| 3.3   | There are other banana buyers on the market                                       |
| 3.4   | Farmers know the final price of the banana at consumer level                      |
| 3.5   | The trader pays farmers a fair price  |
| 3.6   | The trader pays farmers within the agreed time                                    |
| 3.7   | Farmers are satisfied being paid through the farmer group account                 |
| 3.8   | Farmers sell all their bananas to the contracted trader only                      |
| 3.9   | Brokers are beneficial in the banana market                                       |



The average challenge area score is 66.5%. There are notable differences in scores for this challenge area. The trader scored 100% on statements 1, 2, 5, and 6, in contrast to farmers who scored 63.3%, 53.3%, 30.0% and 90.0% respectively on the same statements. Traders scored 0% on statement 8, while farmers scored 70.0% on the same statement.

Farmers scored highest on statement 3 scoring 96.7%, but generally scored below average on most of the statements.

**Figure 14: Graph showing scores for the challenge area 'marketing and prices'**



It is noticeable that the farmers and the trader do not agree on statements 5 and 8.

They agree to a lesser on statement 1, 2 and 9.

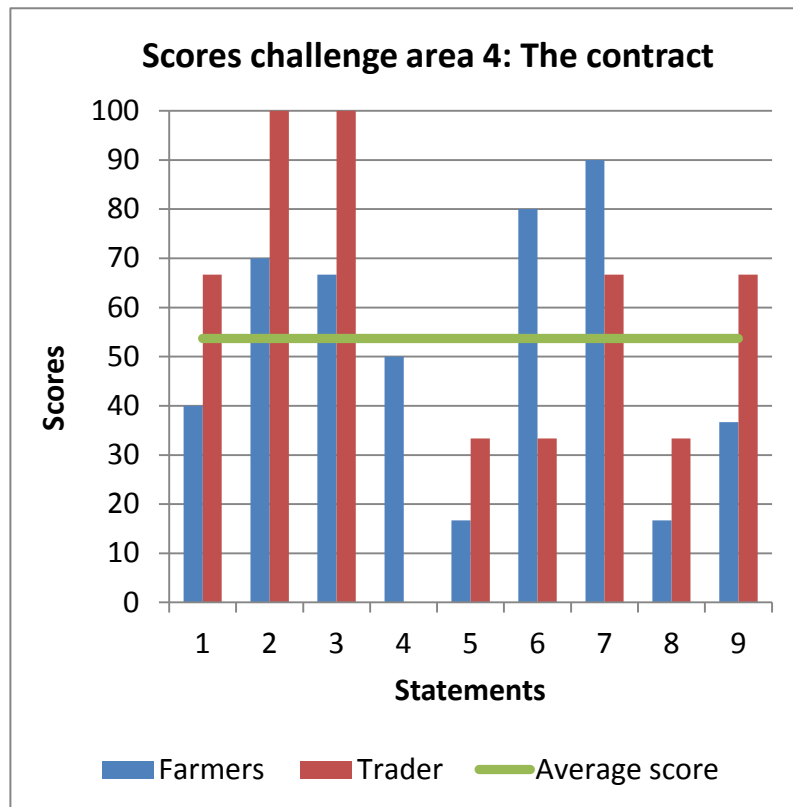
This challenge area shows noticeable differences in all the statements with relative agreement on statement 6 and 7.

**Figure 15: Graph showing level of disagreement for challenge area 3 'marketing and prices'**

#### d) Challenge area 4: The contract

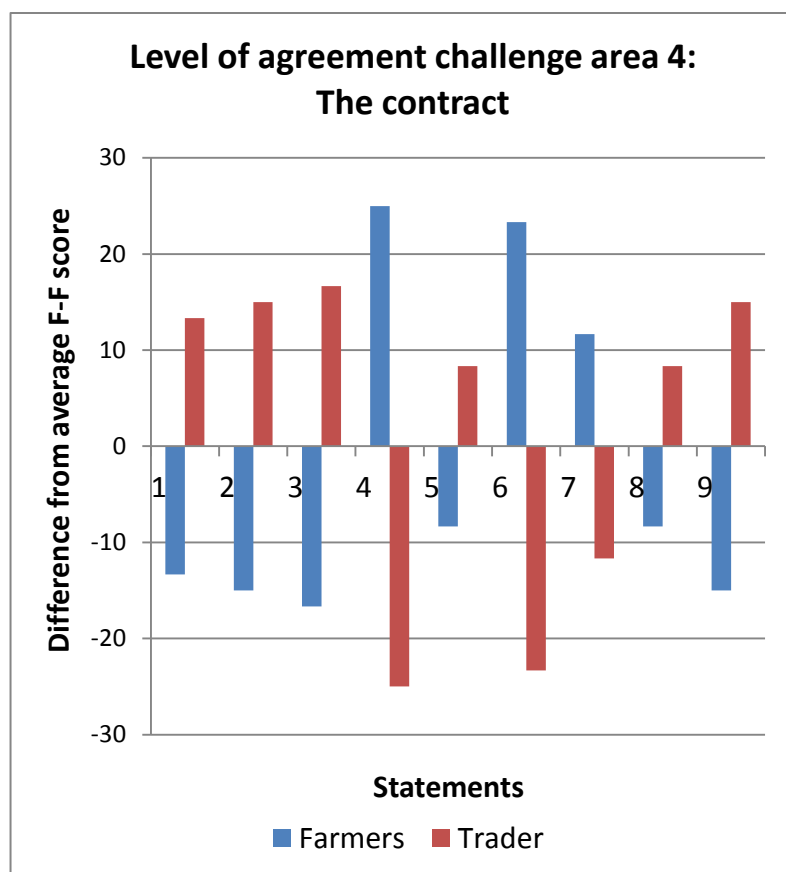
**Table 10: Statements scored for challenge area 4: The contract**

| Statements challenge area: The contract |   |
|---|---|
| 4.1                                     | Each individual farmer understand the content of the contract with the trader |
| 4.2                                     | Farmer group can always discuss contract issues with the trader               |
| 4.3                                     | The trader takes farmers' opinion on contract issues into consideration       |
| 4.4                                     | The contract is binding   |
| 4.5                                     | The contract is clear on dispute resolution                                   |
| 4.6                                     | The farmer group follows the rules laid down in the contract                  |
| 4.7                                     | Farmer group penalize members for breach of contract                          |
| 4.8                                     | The trader takes measures for breach of contract                              |
| 4.9                                     | Brokers are beneficial in the banana market                                   |



The average score is 53.7%. The trader scores 100% for statements 2 and 3 in contrast with farmers who score 70.0% and 66.6% respectively for the same statements. It can be observed that farmers score higher than the trader in statements 6 and 7, scoring 80.0% and 90% respectively while the trader scored 33.1% and 66.6% respectively for the same statements. Both trader and farmer score very low on statements 5 and 8, farmers scoring 17% on both statements while the trader scored 33.1%.

**Figure 16: Graph showing scores for challenge area 2 'the contract'**



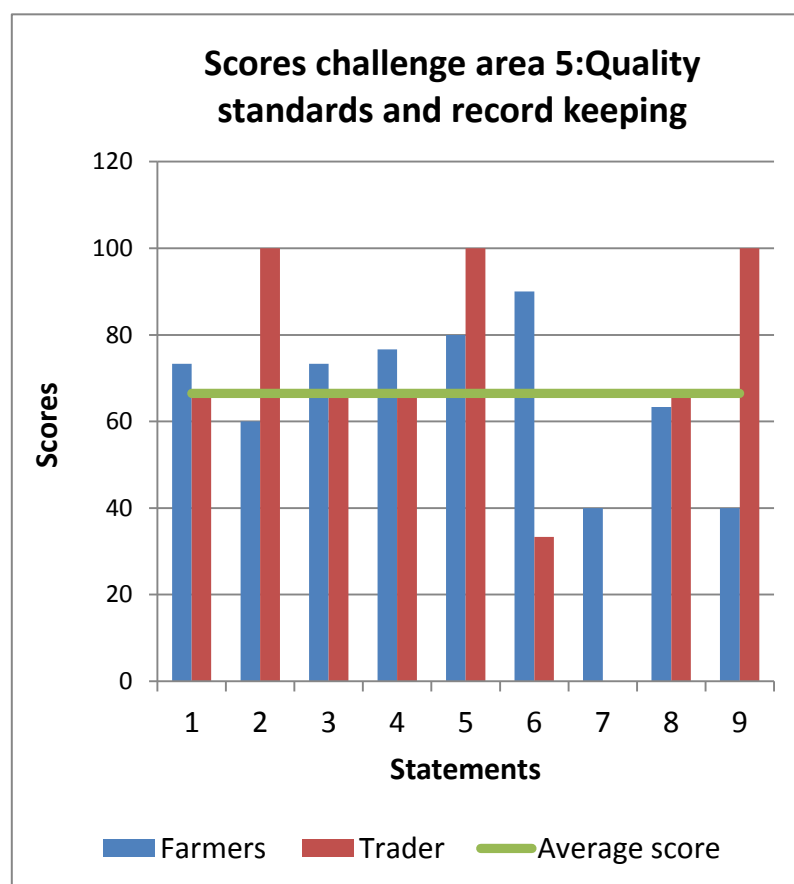
There are notable disagreements between farmers and the trader in this challenge area. The trader and the farmers disagree most on statements 4 and 6. There are variable disagreement levels for the other statements, with a relative level of agreement on statements 5 and 8.

**Figure 17: Graph showing level of disagreement for challenge area 4 'the contract'**

## Challenge area 5: Quality standards and record keeping

**Table 11: Statements scored for challenge area 5: Quality standards and record keeping**

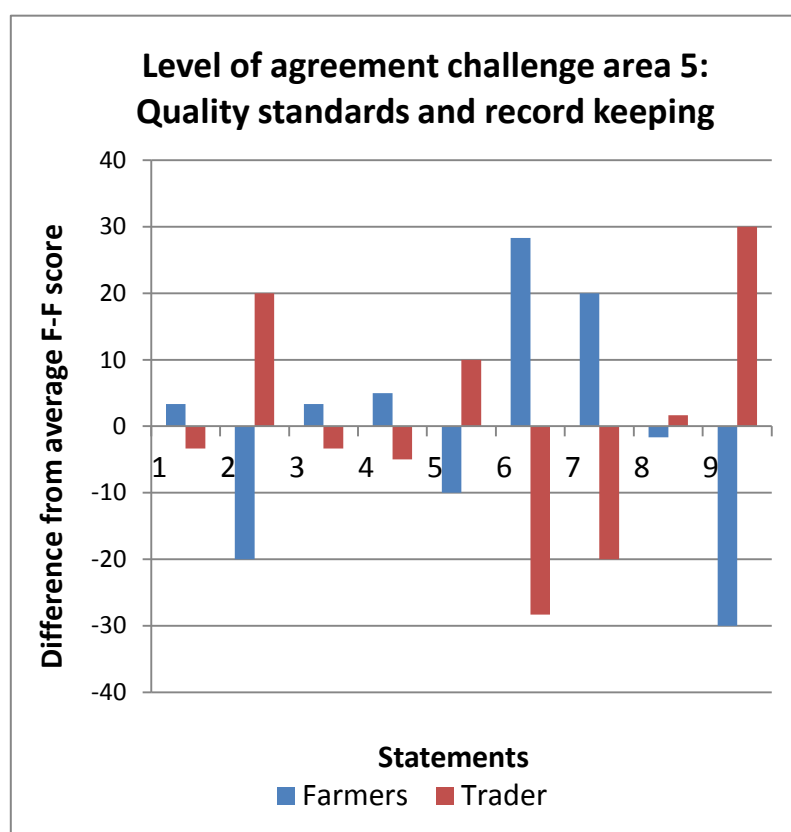
| Statements challenge area: Quality standards and record keeping |  |
|---|--|
| 5.1   | Farmers follow good crop management practices                    |
| 5.2   | Quality standards and reasons for rejection are clear            |
| 5.3   | Farmers follow the hygiene standards at collection point         |
| 5.4   | The farmer group keep records on bananas delivered to the trader |
| 5.5   | Farmer group engages in group grading of the produce             |
| 5.6   | Quality of bananas is good                                       |
| 5.7   | Traders agree with farmer banana grading                         |
| 5.8   | Farmers trust the delivery records by the trader                 |
| 5.9   | Quality matches with the price offered                           |



With an average challenge area score of 66.5%, it can be noted that trader scored 100% in statements 2, 5 and 9 whereas the farmers scored 60%, 80% and 40% respectively in the same statements.

The farmers score higher than the trader in the rest of the statements, in particular statement 6 where the farmers scored 84.9% in contrast to the trader who scored 27.1% for the same statement. The lowest score is on statement 7 where the farmers score 40% and the trader scores 0%.

**Figure 18: Graph showing scores for challenge area 5 'quality standards and record keeping'**



The trader and the farmers have the highest level of disagreement on statement 6 and 9. There is a significant level of disagreement on statement 2 and 7.

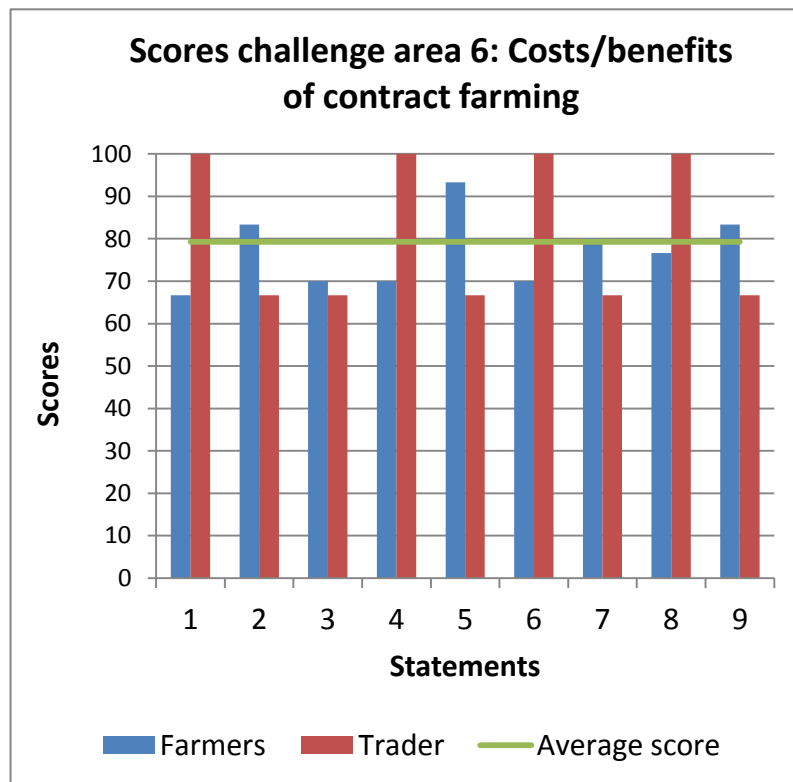
However the trader and the farmers seem to agree on the rest of the statements, with the highest agreement on statement 8.

**Figure 19: Graph showing level of disagreement for challenge area 4 'quality standards and record keeping'**

#### f) Challenge area 6: Costs/benefits of contract farming

**Table 12: Statements scored for challenge area 6: Costs/benefits of contract farming**

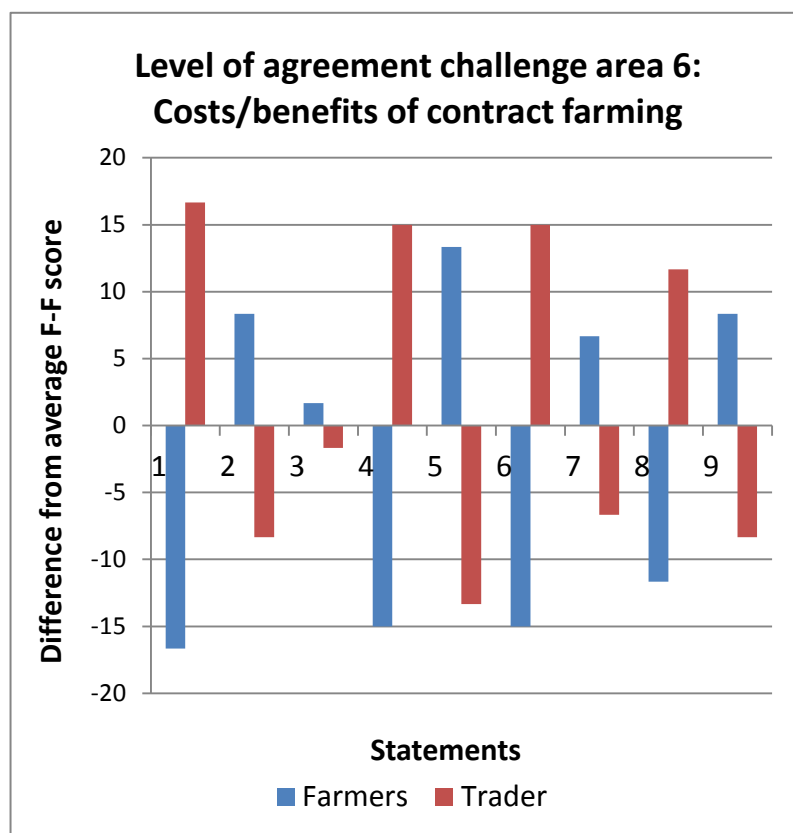
| Statements challenge area: Costs/benefits of contract farming |   |
|---|---|
| 5.1   | Farmers are happy to have a guaranteed market for their produce                       |
| 5.2   | Banana contract provides farmers with a steady income                                 |
| 5.3   | Farmers are happy with the services offered by the trader                             |
| 5.4   | The money from banana contract farming is the most important income of the family     |
| 5.5   | Traders are happy to have a guaranteed banana supply                                  |
| 5.6   | Farmers in contract farming get better income than farmers who are not contracting    |
| 5.7   | In this area, banana farmers are able to get bank loans                               |
| 5.8   | Banana farmers are developing other income generating activities from banana revenues |
| 5.9   | Traders can advance farmers before delivery   |



The average challenge area score is 79.0%. Farmers and trader scores are comparable in this challenge area. The trader scores 100% in statements 1, 4, 6 and 8 while the farmer scores 66.6%, 70.0%, 70.0% and 74.9% respectively in the same statements

Farmers score more positively than the trader on the rest of the statements, both scoring a minimum score of 66.7%.

**Figure 20: Graph showing scores for the challenge area 6 'costs/benefits of contract farming'**



The farmers and the traders disagree on most statements, namely statements 1, 4 and 6. They disagree to a relatively lesser extend on the rest of the statements.

**Figure 21: Graph showing level of disagreement for challenge area 6 'costs/benefits of contract farming'**

#### 4.1.3 Debriefing findings for the banana case

For the banana case the trader and the farmers highlighted the following to address the challenges in the relationship:

- Organised traders – the traders felt that if they were organised into groups that could be registered, they could have more power to deal with contract breach. Furthermore the farmers said that they can trust traders more if they are grouped and registered sighting that it could be easy to deal with them in the event of contact breach.
- Embedded services – Financial constraints affect farmer production capacity, hence provision of inputs and loans by the firm can improve production capacity of farmers.
- Use of artificial fertilisers to curb soil fertility decline.
- Selling bananas as a peeled product. Farmers highlighted that they can make charcoal briquettes from banana peels which they can sell and get income.
- Regular meetings with the firm to discuss issues and get information on prices.
- Drying of bananas during peak production using solar dryers as shown in figure 22 below:



Figure 22: A simple solar dryer



## 4.2 Results for the pineapple case

**Table 13: Summary of pineapple business case**

|                     |  |
|---------------------|--|
| Product             | Pineapples   |
| Location            | Iganga District, Uganda  |
| Company Established | 1997   |
| Contract between    | Soleil Enterprises (SE) and Makuuti Farmers Group  |
| Type of Production  | Organic Pineapple Production   |
| Partners            | <ul style="list-style-type: none"><li>• Africa 2000 Network</li><li>• Ministry of Agriculture Animal Industry and Fisheries (MAAIF)</li><li>• Australian Embassy</li><li>• National Organic Agriculture Movement of Uganda</li><li>• Uganda Export Promotion Board</li></ul> |

The SE fruit drying project “***Income Generation through Ecological Fruit Processing***” was initiated in 2007 by Africa 2000 Network Uganda. It is located along the Mbale – Tirinyi highway close to the Iganga Epicenter in Nakalama sub-county, 5 km from Iganga Town (A2N-Uganda Annual report, 2007). The aim of the intervention was securing sustainable incomes for smallholder farmers through fruit production that can be supplied to the SE fruit drying plant in Iganga District. The plant dries various fruits including pineapple, apple banana, mango, papaya, and jackfruit sourced from Iganga and other surrounding districts. The plant processes fruits from organically certified farmers. Farmer training in organic farming has been done by A2N-Uganda in collaboration with NOGAMU (National Organic Movement of Uganda). The demand for Ugandan dried



fruit is very high, due to their high quality especially mangoes and pineapples. Food safety

**Figure 23: Solar fruit drying at the Soleil plant**  
(Source: A2N-Uganda Annual report, 2007)

regulations for the European Union and other world governing bodies and increased awareness by consumers regarding quality has necessitated emphasis on production methods, use of chemicals, quality and hygiene standards (A2N-Uganda Annual report, 2007). Given that the



annual production in Uganda for dried fruit is 30 metric tonnes against a world demand of 164 000 metric tonnes, the potential impact for this project is huge.

To ensure a consistent supply of quality fruits, A2N-Uganda trained farmers in costing and profitability analysis (projected income statements, gross margin analysis, cost-benefit analysis and risk analysis), entrepreneurship and business management. Sensitization on leadership skills, group dynamics and record keeping reinforcing group functionality and capacity were undertaken by A2N-Uganda to encourage regular meetings, record keeping, planning and implementation of activities, activity follow-ups and performance analysis. According to the A2N-Uganda 2007 annual report, 59 trainings in Iganga District were held with the total number of 1719 participants (54 % women, 46 % men). A manual for fruit drying and handling is being drafted which is the basis for a quality assurance system both at the plant and for the entire supply chain. Soleil has a contract with Makuuti Farmers Group (MFG) for the supply of organically produced pineapples.

MFG is a farmer group established in 1998 under Iganga District Farmers Association. It has a total of 26 members. MFG is located in Naitandu village, Chigulamo parish, Makuutu sub-county, Bugweri county in the Iganga district, Uganda. The group collectively sells pineapples to SE. The group has regular meetings but does not engage internal savings and credit accounts for members. Lack of such an account has resulted in side-selling in times of immediate financial needs. They are producing an average of 4000 pineapples per acre per season, amounting to an average of 8000 pieces per year due to bimodal harvesting. The group has a marketing and a training committee. The marketing committee is responsible for quality control and price regulation. The main objective of the group is to collectively market the pineapples to SE at the agreed price. The farmers have difficulty in accessing loans as individuals and as a group.

#### **4.2.1 Interview findings**

This section summarises the findings of the interviews. The findings of the interviews were grouped into the following challenge areas

##### **a) Production risks**

Farmers and SE narrated that there has been a decrease in the amount and frequency of precipitation, presenting farmers with production challenges due to lack of sufficient moisture for pineapple production. SE said that production has been declining over the years. Although farmers acknowledged production constraints due to weather, they attribute reduction in production to lack of access to finance. Changes in weather had affected product availability times. A SE employee said that

*“During this time (July) last year we had a lot of pineapples, but this year they are not yet ripe”*

Diseases are not very common, but pineapples are commonly affected by root node diseases. Milburg is one of the common pests in pineapples.

According to the farmers, inputs for organic farming are more expensive than for conventional pineapple production. Labour is a major challenge for organic pineapple producers especially for weeding where they do not use chemicals to control weeds. Coffee husks, the method of soil fertilisation, are not readily available and are very expensive.

Although A2N has trained farmers in most aspects of organic pineapple production, there are no extension workers currently and farmer field schools are not operational.

#### **b) Functioning of farmer group**

Farmers said the farmer group sold pineapples collectively. The main objective of the group is to collectively market the pineapples to SE at the agreed price. The group did not hold regular meetings. The farmers have difficulty in accessing loans as individuals and as a group.

#### **c) Markets**

SE purchases the crop that meet specified quality and quantity in accordance with the contract terms, but they do not buy all the pineapples produced by the farmers. Soleil supplies mainly local supermarkets and was exporting to Austrian Universities. The farmers were selling to traders and brokers due to the inability of SE to purchase all the produce. A farmer said

*“Soleil does not buy all our produce. We then sell to other traders”*

SE said that farmers did not inform them correctly of the quantity of produce that is ready for sale. An employee said

*“Farmers lie sometimes. They call you to say they have 500 pieces, but when you get there you find 100 pieces. I think they do this so that we can just come because they need money urgently but not having the required quantities”*

#### **d) Prices**

Farmers believe they are not given a fair price for their pineapples, whereas the company believes it is offering a good price that matches the quality of the pineapples.

*“The price is low. I think those who do conventional pineapples make more money than us. The company should pay us more”*

#### **e) The contract**

MFG has a formal contract to organically produce pineapples and supply SE. The company pays cash upon collecting the pineapples, but sometimes collects the pineapples and pays later. The contract is available in English and the local language. As most farmers are illiterate, most

do not understand the contents of the contract though the company makes efforts to explain the terms of the contract to the farmers. There seems to be no by-laws or legal infrastructure to deal with contract breach, but the company terminates the contracts of farmers who breach contract terms. A farmer said

*“It is difficult to maintain a contract. If my son is send from school, I need money there and then meaning it is difficult for me to wait for the company who might be coming after a week. So I will sell to brokers to offset this cash need”.*

**f) Quality**

Soleil grades pineapples and pays accordingly. The contract specifies quality in terms of size, appearance and ripeness in the contract. The company seems to be happy with the quality of the pineapples produced by MFG. The farmers do not agree with the grading of the pineapples sometimes and they think the price does not match the quality.

**g) Costs/benefits of contract farming**

According to the farmers and the company, they have a positive relationship though challenges are present. The company was cognisant of the advantage of a consistent supply while the farmers benefited from a stable price. The relationship has a significant degree of trust with farmers forwarding crops to the company and being paid later.

## 4.2.2 Survey results for the pineapple case

### Overall results

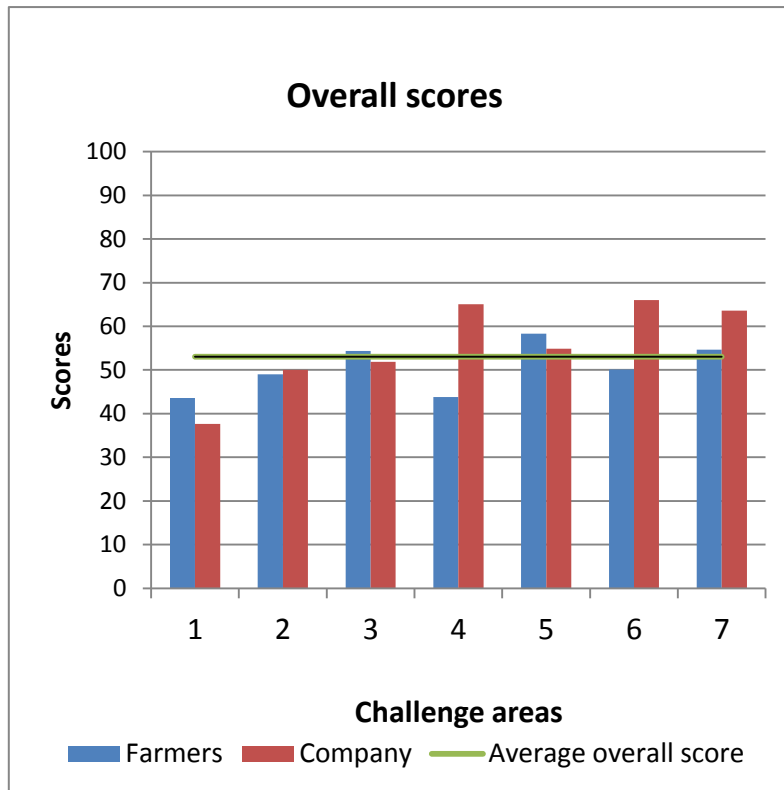
**Table 14: Overall results for all challenge areas for the pineapple case**

| Overall results                             | Average scores per challenge area |      |      |       |      |      |      | Average all areas |
|---|-----------------------------------|------|------|-------|------|------|------|-------------------|
| Challenge areas                             | 1                                 | 2    | 3    | 4     | 5    | 6    | 7    |                   |
| Farmers' scores                             | 43.6                              | 49.0 | 54.4 | 43.8  | 58.3 | 50.1 | 54.7 | <b>50.5</b>       |
| Company scores                              | 37.7                              | 50.0 | 51.9 | 65.1  | 54.9 | 66.0 | 63.6 | <b>55.6</b>       |
| Average firm-farm per challenge area        | 40.6                              | 49.5 | 53.1 | 54.4  | 56.6 | 58.1 | 59.1 | <b>53.1</b>       |
| Average overall score (all challenge areas) | 53.1                              | 53.1 | 53.1 | 53.1  | 53.1 | 53.1 | 53.1 |                   |
| Difference farmers - average F-F score      | 3.0                               | -0.5 | 1.3  | -10.6 | 1.7  | -8.0 | -4.5 | <b>-2.5</b>       |
| Difference Company - average F-F score      | -3.0                              | 0.5  | -1.3 | 10.6  | -1.7 | 8.0  | 4.5  | <b>2.5</b>        |

The average total score is 53.1%. Generally, there is a positive agreement in the challenge areas but there are significant differences which need to be looked at in each challenge area as will be discussed below

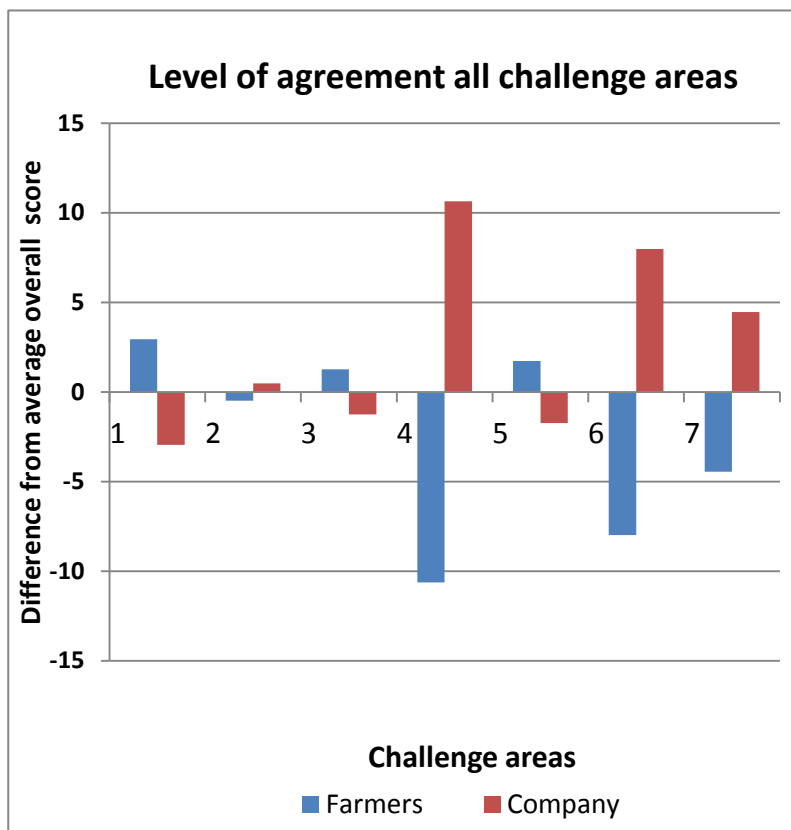
**Table 15: Identified challenge areas for the pineapple case**

| Challenge areas |                                    |
|-----------------|------------------------------------|
| 1               | Production risks                   |
| 2               | Functioning of farmer group        |
| 3               | Markets                            |
| 4               | Prices                             |
| 5               | Quality standards                  |
| 6               | Contract                           |
| 7               | Costs\benefits of contract farming |



The overall scores are quite comparable for the farmers and the company. It can be noted that the scores are mostly low on most challenge areas with the farmers not scoring above 60% in all challenge areas. The company is generally more positive scoring 65.1%, 66.0% and 63.6% in challenge areas 4, 6 and 7 respectively on prices, the contract and the benefits of contract farming.

**Figure 24: Graph showing scores for all the challenge areas**



It can be observed that the perceptions of farmers and the company are quite different for challenge areas 4, 6 and 7.

There seems to be much more agreement for the other challenge areas.

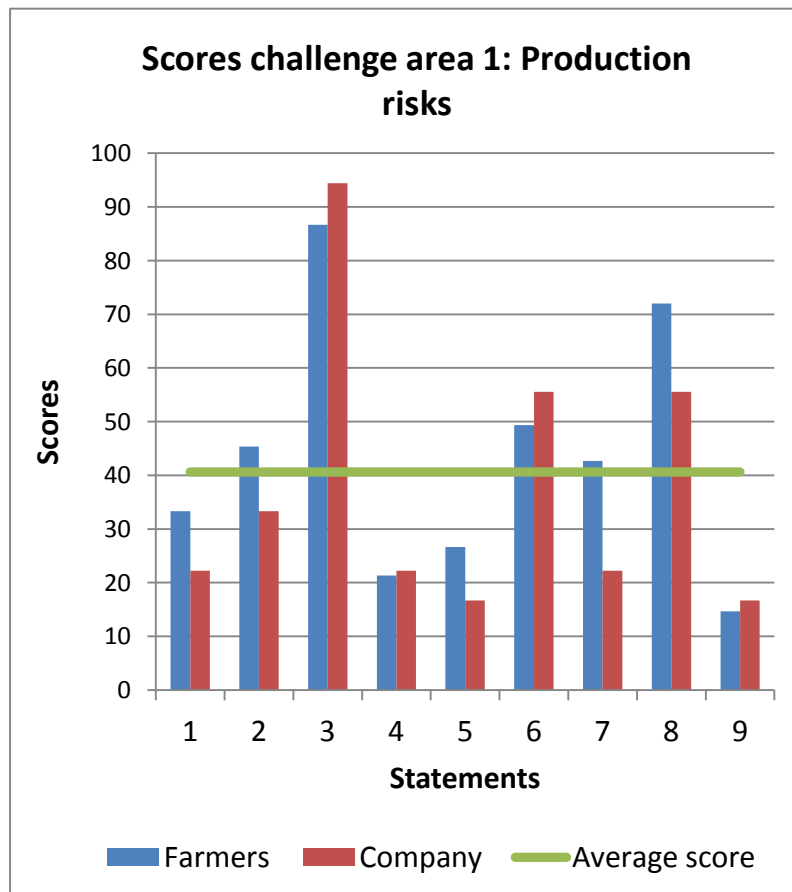
Although the overall results show a general agreement in these challenge areas, there are notable differences within each challenge area as shown below

**Figure 25: Graph showing level of agreement for all the challenge areas**

**a) Challenge area 1: Production risks**

**Table 16: Scored statements for the challenge area 1: Production risks**

| Statements challenge area: Production risks |  |
|---|--|
| 1.1   | Rainfall quantities are increasing   |
| 1.2   | There are diseases in pineapple production                                   |
| 1.3   | Organic farming is expensive   |
| 1.4   | The farmers have enough labour for organic farming                           |
| 1.5   | Prices for coffee husks are affordable                                       |
| 1.6   | Farmers yields are increasing  |
| 1.7   | Farmers are able to calculate production costs per kg of pine apple produced |
| 1.8   | The farmers have sufficient know-how on fruit production                     |
| 1.9   | Farmer field schools are operational   |

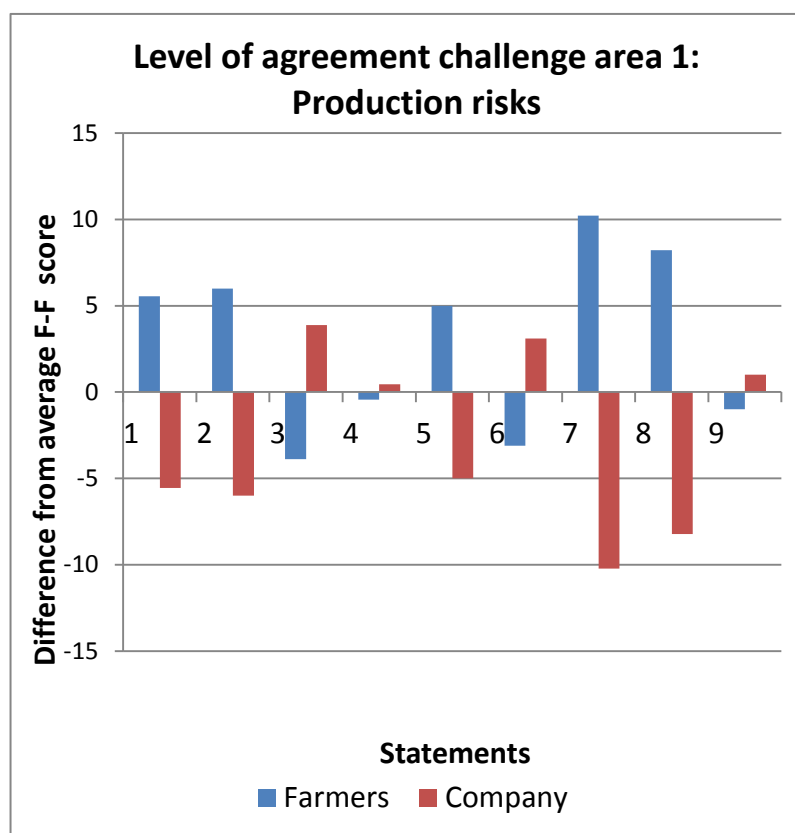


In the challenge area of 'production risks', it clearly comes out that the scores are low for most statements. The average challenge area score is 40.6%.

The company and farmers give a high score for statement 3 scoring 86.7% and 94.4% respectively.

Both farmers and traders scored lowly on statements 4, 5 and 9 with both scoring a maximum of 26.7% in all these statements

**Figure 26: Graph showing the scores for challenge area 1 'production risks'**



There appears to be a generally low level of disagreement for most of the statements.

The farmers and the company seem to disagree on statement 7 on ability of farmers to calculate production costs and on statement 8 about the level of knowledge of farmers on pineapple production aspects.

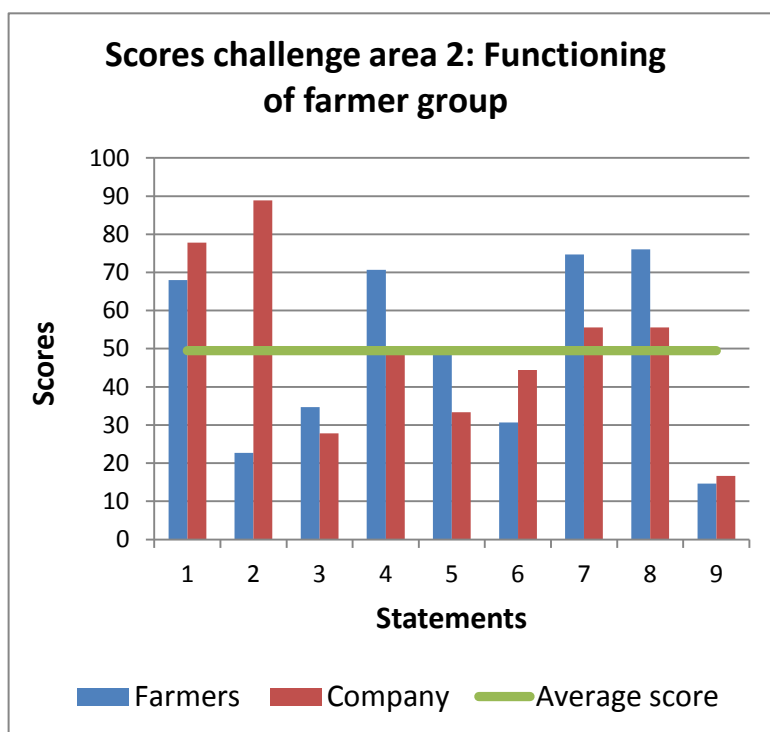
Farmers and the company seem to agree on statement 4 on adequacy of labour for organic farming and on statement 9 on farmer field school operations.

**Figure 27: Graph showing level of disagreement on challenge area 1 'production risks'**

## b) Challenge area 2: Functioning of farmer group

**Table 17: Scored statements on the challenge area 2: Functioning of farmer group**

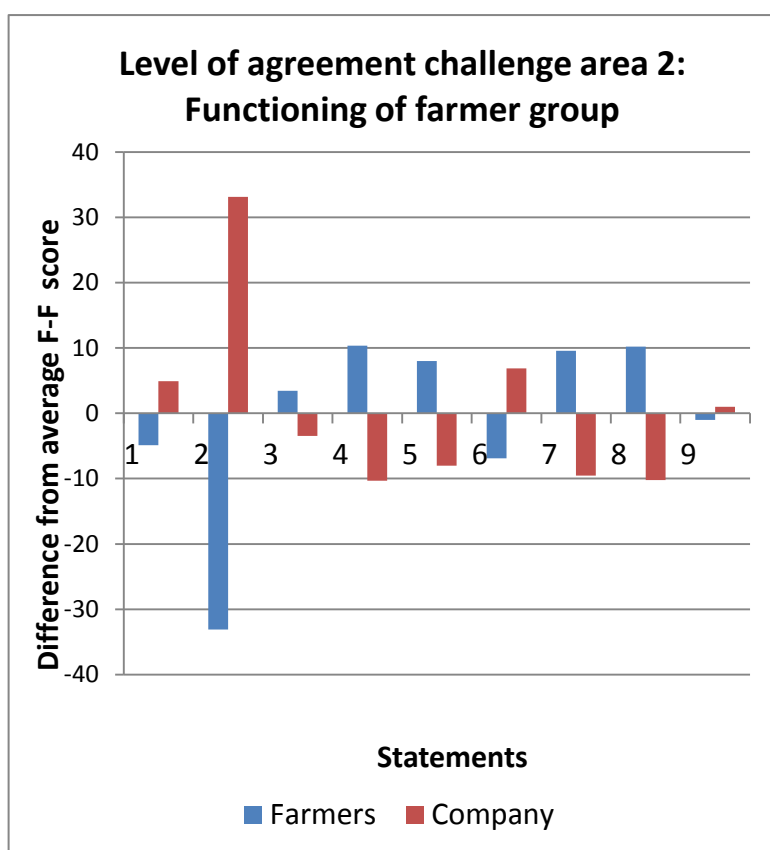
| Statements challenge area:Functioning of farmer group |   |
|---|---|
| 2.1   | The group sells pineapples collectively   |
| 2.2   | We agree that the farmers sell the pineapples as a group, and not as individuals  |
| 2.3   | The constitution and by-laws cater for internal and external issues of farmer group                                     |
| 2.4   | Elected farmer group leaders adhere to the tasks and responsibilities defined in the constitution and group regulations |
| 2.5   | Farmer group meetings are regular   |
| 2.6   | All farmers are informed and understand group financial issues  |
| 2.7   | The company is happy with the way the farmer group is operating   |
| 2.8   | The farmer group leaders always represent the common interest of the farmers  |
| 2.9   | Loans are easily accessible for farmer groups   |



The average challenge area score is 49.5%. There are marked differences in this challenge area. The company scored highly on statements 1 and 2, scoring 77.85 and 88.9% respectively while the farmers scored 68.0% and 22.7% respectively on the same statements. The farmers are positive on statements 4, 7 and 9 scoring 70.7%, 74.7% and 76.0%

Both score lowest on statement 9 on access to loans by farmers, scoring 14.7% and 16.7%.

**Figure 28: Graph showing scores for the challenge area 2 'functioning of farmer group'**



It can be observed that the perceptions of farmers and the company are quite similar and there is much more agreement in most statements.

However there is an outstanding notable disagreement on statement 2 about selling collectively.

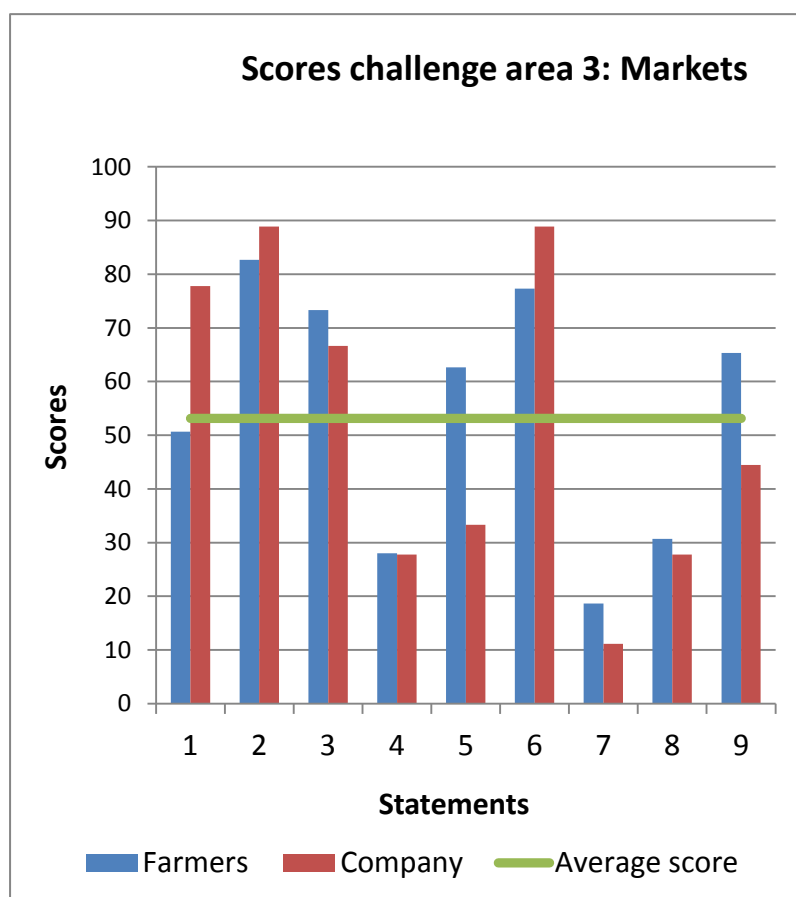
**Figure 29: Graph showing level of disagreement on challenge area 2 'functioning of farmer group'**



### Challenge area 3: Markets

**Table 18: Scored statements for challenge area 3: Markets**

| Statements challenge area: Markets |  |
|------------------------------------|--|
| 3.1                                | The company is clear about the amount of pineapples they want to buy from the farmers          |
| 3.2                                | The company clearly informs farmers about quality requirements of the pineapples               |
| 3.3                                | There are other pineapple buyers on the market   |
| 3.4                                | The company buys all the pineapples produced by the farmer                                     |
| 3.5                                | The farmers inform the company correctly of the quantity of pineapples that are ready for sale |
| 3.6                                | Conventional pineapple producers get better profit margins                                     |
| 3.7                                | Farmers are satisfied being paid through the farmer group account                              |
| 3.8                                | Farmers sell all their pineapples to the contracted company only                               |
| 3.9                                | Brokers are beneficial in the pineapple market   |



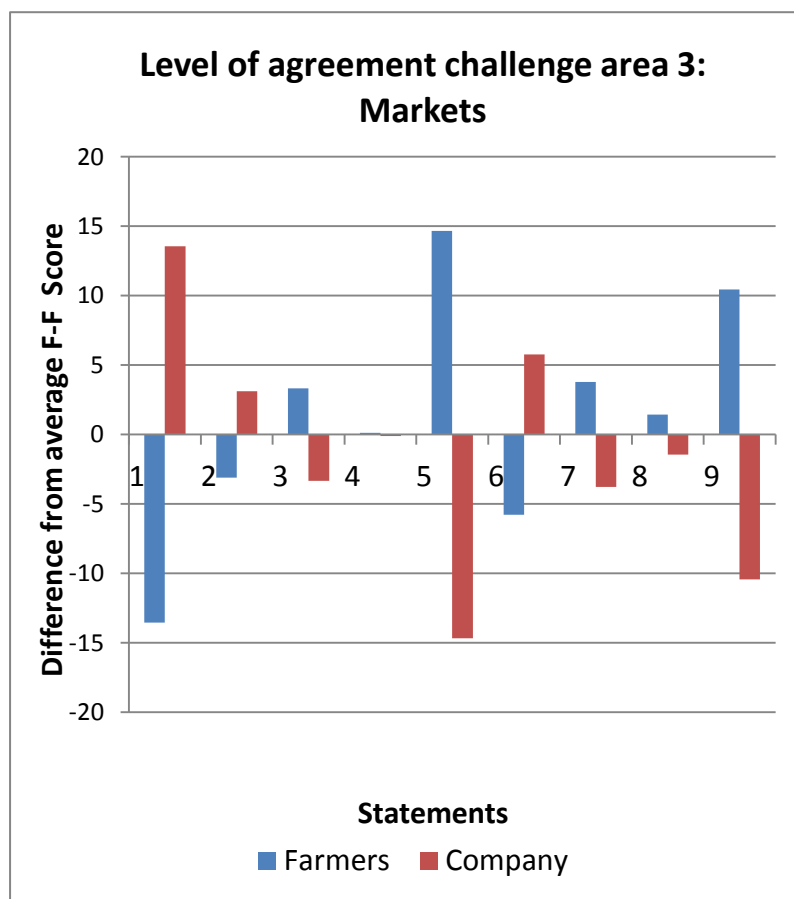
The average challenge area score is 53.1%.

On this challenge area, the company scored 77.8% on statement 1, in contrast with farmers who score 50.7%.

Generally there is contrast in the scoring for statements 1, 5 and 9.

Both score lowly for statements 4, 7 and 8 scoring a maximum of 30.27% for these 3 statements.

**Figure 30: Graph showing scores for challenge area 3 'markets'**



It can be noted that the farmers and the company do not agree on statements 1 and 5. They also do not agree on the benefit of brokers in the pineapple value chain as denoted by statement 9.

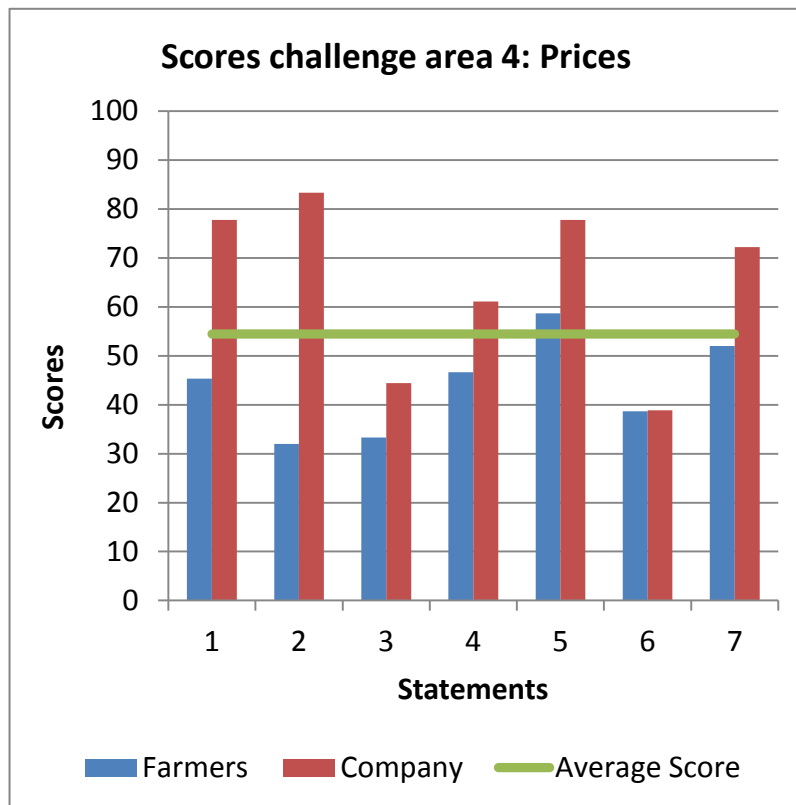
They both agree on most of the other statements, almost agreeing totally on statement 4.

**Figure 31: Graph showing level of disagreement on challenge area 3 'markets'**

#### c) Challenge area 4: Prices

**Table 19: Scored statements on the challenge area 4: Prices**

| Statements challenge area: Prices |  |
|-----------------------------------|--|
| 4.1                               | Farmers are happy with the price the company pays for pineapples |
| 4.2                               | The company pays the highest price in the area                   |
| 4.3                               | The company pays on time   |
| 4.4                               | Farmers agree with the price the company pays                    |
| 4.5                               | The company pays extra money for high quality pineapples         |
| 4.6                               | The price offered is above production costs                      |
| 4.7                               | Quality matches with price offered                               |

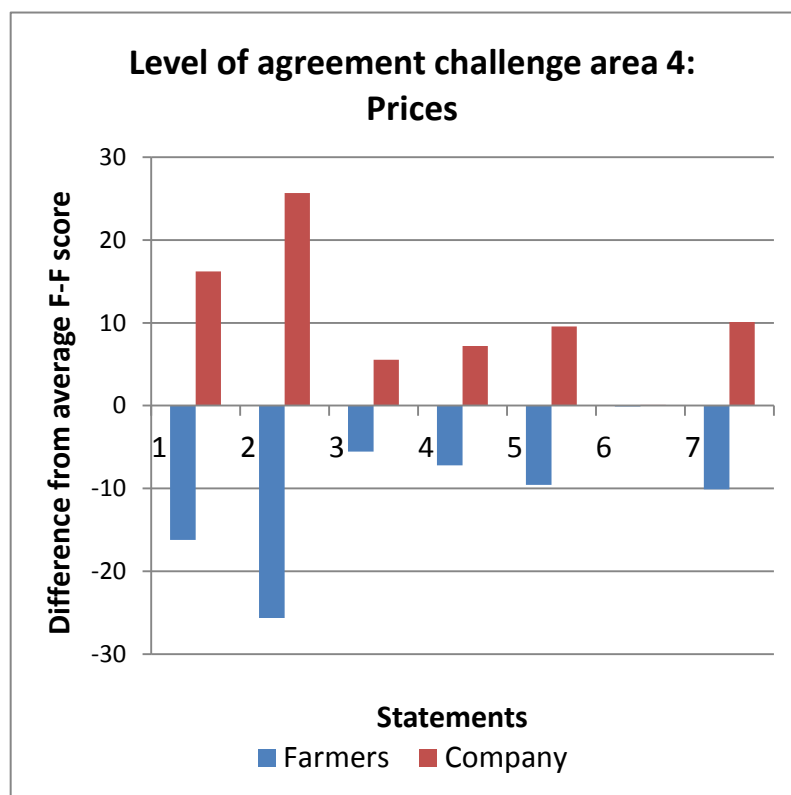


The average challenge area score is 54.4%. In this challenge area, the company scores more positively and higher in most of the statements.

The company scored 77.8%, 83.3%, 77.8% and 72.2% respectively for statements 1, 2, 5 and 7 respectively while the farmers scored 45.3%, 32.0%, 58.7% and 52.0% respectively for the same statements.

They both score 38.9% on statement 6.

**Figure 32: Graph showing scores for challenge area 4 'prices'**



Notable disagreements between farmers and the company are for statements 1 and 2 primarily on the price the farmers are offered.

There seems to be more agreement on the other challenge areas.

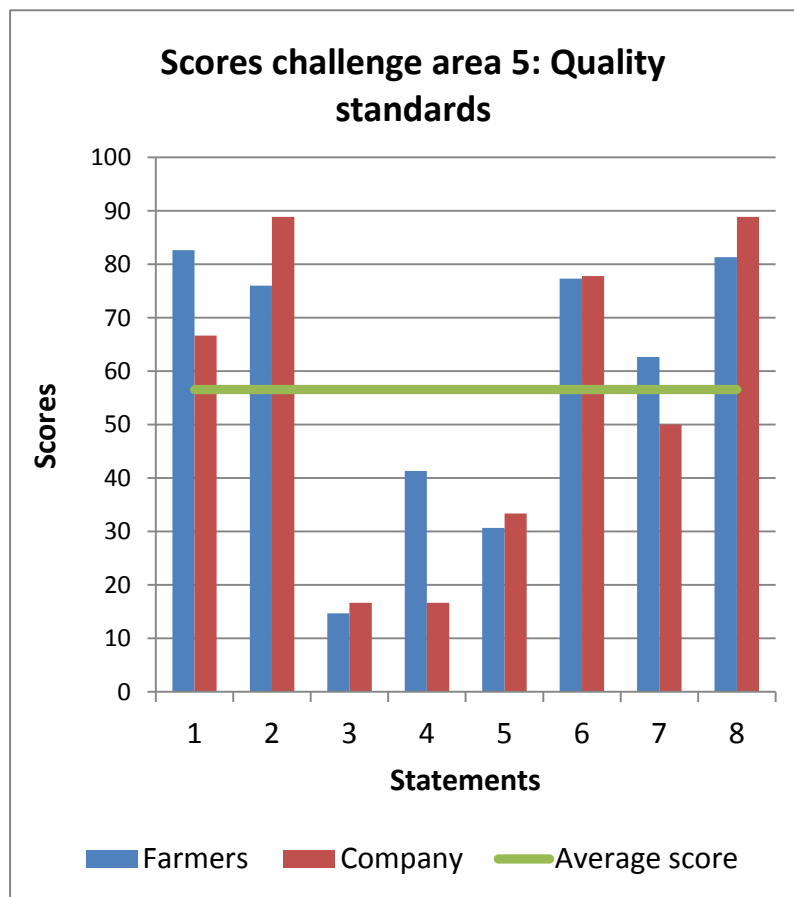
There is almost total agreement on statement 6.

**Figure 33: Graph showing the level of disagreement for challenge area 4 'prices'**

**d) Challenge area 5: Quality standards**

**Table 20: Scored statements for challenge area 5: Quality standards**

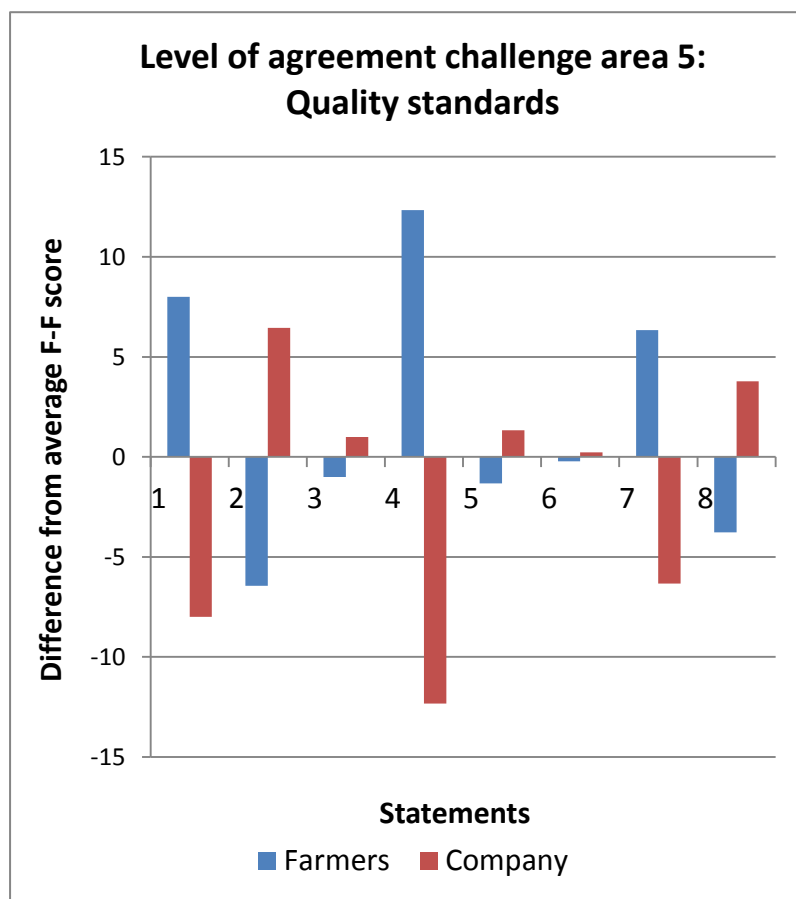
| Statements challenge area: Quality standards |   |
|--|---|
| 5.1  | Farmers strictly follow organic production practices            |
| 5.2  | Reasons for rejection of pineapples are clear                   |
| 5.3  | Farmers use chemicals in pineapple production                   |
| 5.4  | The farmer keeps records on pineapples delivered to the company |
| 5.5  | Farmer group engages in group grading of the produce            |
| 5.6  | Farmers produce high quality pineapples                         |
| 5.7  | Farmers obey buffer zone practises                              |
| 5.8  | Farmers trust the delivery records by the company               |



The average challenge area score is 56.6%. The farmers and the company scored highly on statements 1, 2 and 8. They both scored almost the same for statement 6 scoring 77.3% and 77.8%.

It can be noted that they score low on statements 3 and 5. They score 14.7% and 16.7% on statement 3.

**Figure 34: Graph showing scores for the challenge area 5 'quality standards'**



The company and the farmers disagree on statement 4 on record keeping practises by the farmers.

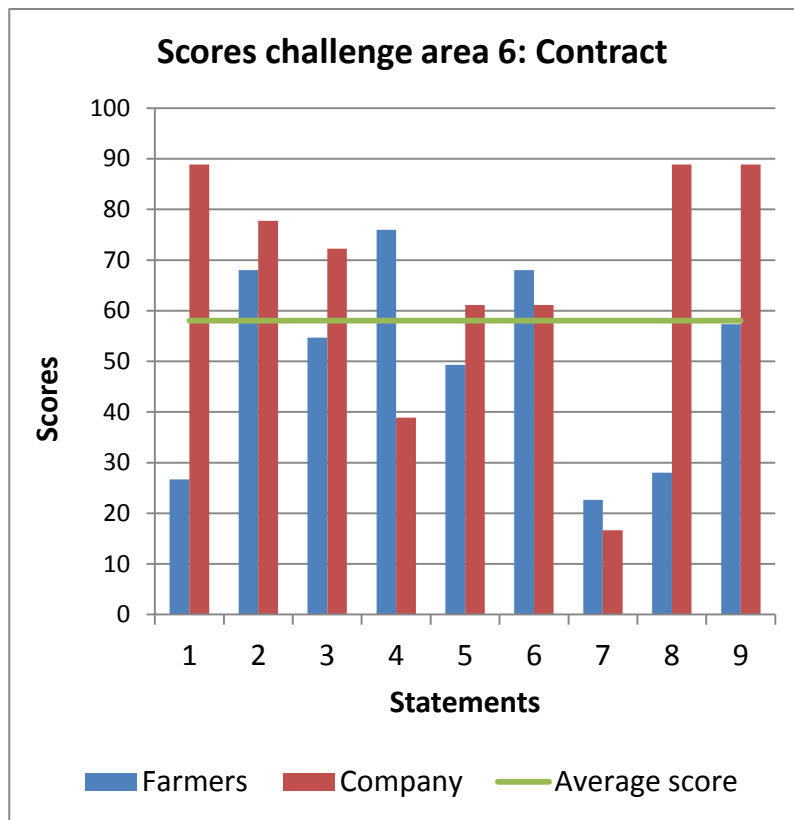
The company and the farmers agree on statements 3, 5 and 6.

**Figure 35: Graph showing level of disagreement for challenge area 5 'quality standards'**

#### e) Challenge area 6: Contract

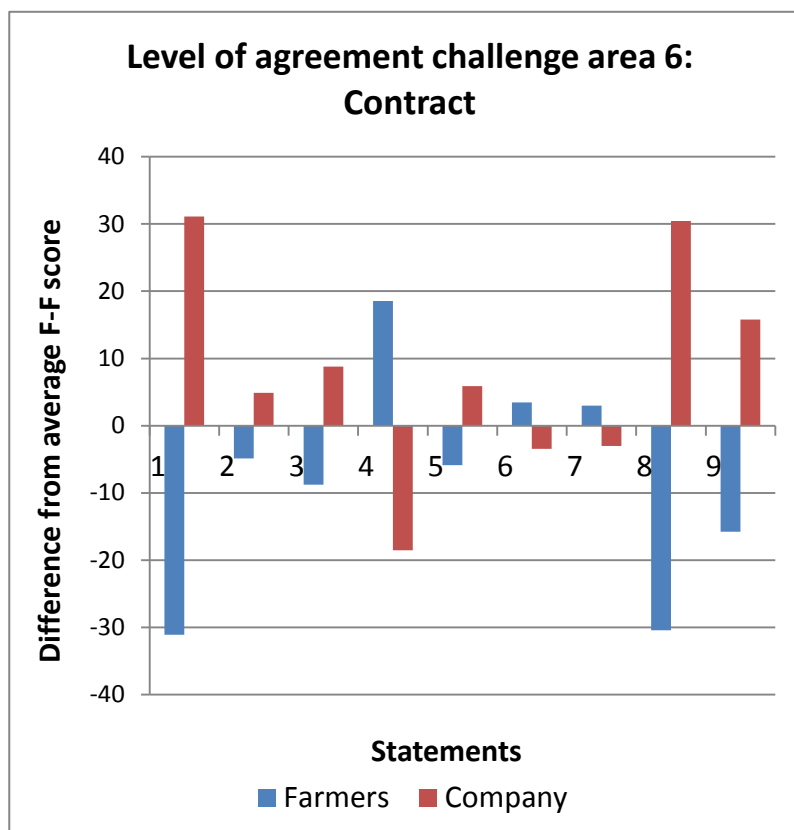
**Table 21: Scored statements for challenge area 6: The contract**

| Statements challenge area: The contract |   |
|---|---|
| 6.1                                     | Each individual farmer understand the content of the contract with the trader |
| 6.2                                     | Farmer group can always discuss contract issues with the company              |
| 6.3                                     | The company takes farmers' opinion on contract issues into consideration      |
| 6.4                                     | The contract is binding   |
| 6.5                                     | The contract is clear on dispute resolution                                   |
| 6.6                                     | The farmer group follows the rules laid down in the contract                  |
| 6.7                                     | Farmer group penalize members for breach of contract                          |
| 6.8                                     | The company takes measures for breach of contract                             |
| 6.9                                     | The contract favours farmers  |



There are significant differences in the scores in this challenge area, with an average score of 58.1%. The company scored 88.9% for statements 1, 8 and 9, while in contrast the farmers scored 26.7%, 28.0% and 57.3% respectively for the same statements. Farmers scored 76.0% on statement 4, while the company scored 38.9% on the same statement. They both scored lowly on statement 7, farmers scoring 22.7% and the company scoring 16.7%.

**Figure 36: Graph showing scores for challenge area 6 'the contract'**



The farmers and the company disagree noticeably on statements 1 and 8.

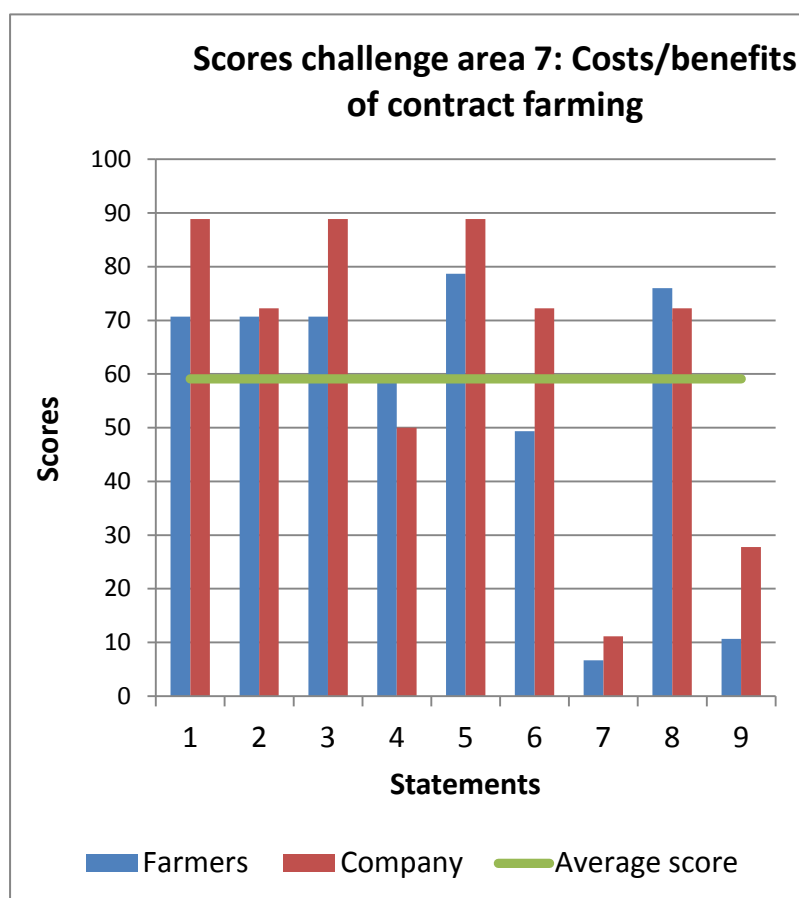
They agree more on the rest of the statements with relative disagreement on statements 4 and 9.

**Figure 37: Graph showing level of agreement on challenge area 6 'the contract'**

f) Challenge area 7: Costs/Benefits of contract farming

**Table 22: Scored statements for challenge area 7: Costs/benefits of contract farming**

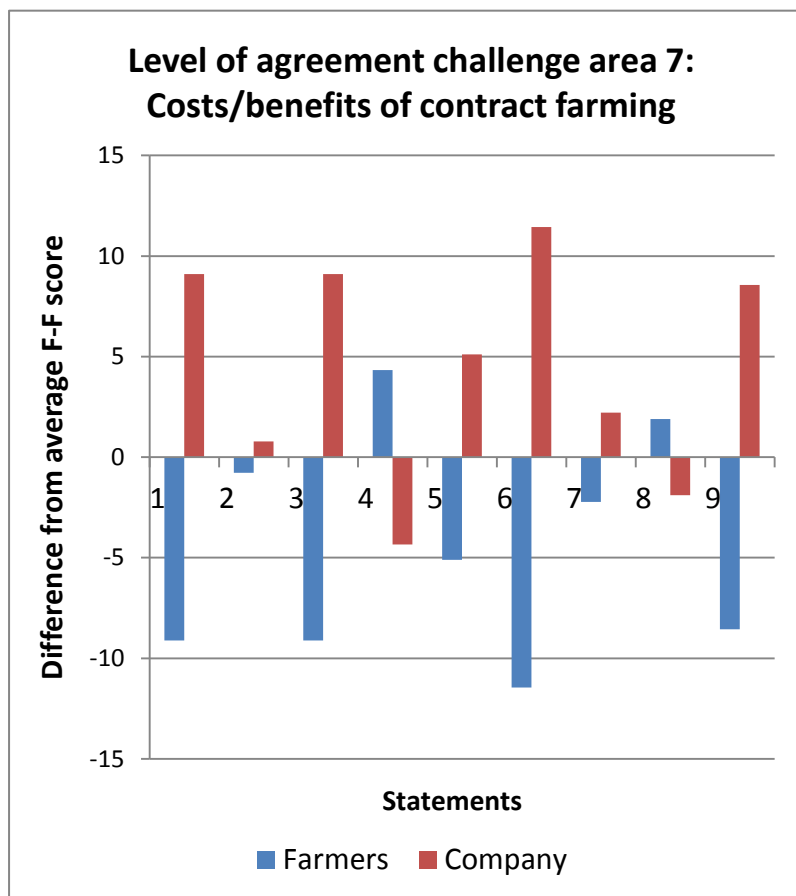
| Statements challenge area: Costs/ benefits of contract farming |  |
|--|--|
| 7.1  | Farmers are happy to have a guaranteed market for their pineapples                       |
| 7.2  | Pineapple contracting provides farmers with a steady income                              |
| 7.3  | Farmers are happy with the services offered by the company                               |
| 7.4  | The money from pineapple contract farming is the most important income of the family     |
| 7.5  | The company is happy to have a guaranteed pineapple supply                               |
| 7.6  | Farmers in contract farming get better income than farmers who are not contracting       |
| 7.7  | In this area, organic farmers are able to get bank loans                                 |
| 7.8  | pineapple farmers are developing other income generating activities from banana revenues |
| 7.9  | Company can advance farmers money before delivery of pineapples                          |



Farmers and the company are more positive in this challenge area, with an average of 59.1%. The company and the farmers scored 70.0% and above for 5 statements.

However they both score remarkably low on statements 7 and 9 on access to bank loans and cash advance before delivery of pineapples, farmers scoring 6.7% and 10.75 respectively and the company scoring 11.1% and 10.75 respectively.

**Figure 38: Graph showing scores for the challenge area 7 'costs/benefits of contract farming'**



Despite scoring high on this challenge area, the company and the farmers disagree on varying levels on most of the statements.

Notable differences are in statement 6, with relative disagreement on statements 1, 3 and 9.

**Figure 39: Graph showing level of disagreement for challenge area 7 'costs/benefits of contract farming'**

#### 4.2.3 Debriefing findings for the pineapple case

Based on the analysed scores, the firm and the farmers came up with the following suggestions to improve the relationship

- Embedded services in input provision and loans. The farmers said that production is mostly limited by lack of financial resources
- Establishment of an internal savings and credit account to cater for times when there are urgent cash needs.
- The firm can link the contract with other strategic partners who can buy the pineapples from the farmers in the event that the firm cannot buy all the pineapples.
- Provision of extension services by the firm



## **5 CHAPTER FIVE**

This section discusses and compares the findings of the study of the banana case and the pineapple case.

### **5.1 Discussion**

#### **5.1.1 Analysis of firm-farmer relationship**

It can be concluded that there are challenges in the contractual relationships. Though the products are different, the results indicate that there are similar challenge areas. The challenges in the contracts are related to production risks, functioning of farmer groups, markets and prices, the contract, quality aspects and benefits of contract farming for the two cases studied.

The analysis indicates that there is generally a positive relationship between the farmers and the contractors. In the banana case, there is a much more positive relationship averaging 65%, compared to the pineapple case which has an average of 53.1%. The results generally indicate a high score for the benefits of contract farming in both cases. The scoring for the functioning of the farmer group, though it is scored higher in the banana case than the pineapple case, indicates the view of the firm on organised farmers as partners in agribusiness as alluded to by Schrader (2012). However, it is noticeable that in both cases, they score very low for the contract issues relating to by-laws and contract breach. As indicated in the previous sections, there are no enforcement facilities for the contract. It is interesting to note that the trader and the company scored more positively in most challenge areas than the farmers.

#### **5.1.2 Survey**

##### **a) Challenge area 1: Production risks**

The analysis indicates that in both cases, the trader, company and farmers have comparable knowledge of the production risks in banana and pineapple production. It can be concluded that they have a general agreement in this challenge area, despite the fact that the average score for the pineapple case for this challenge area is 40.6% compared to banana which had an average of 58.1%. This seems to indicate that there are more risks in pineapple production than in banana production, which might not necessarily be true.

The analysis also indicated that there are challenges in production mostly emanating from climate factors and input costs. In bananas, soil fertility decline was also noted to be of concern which was resulting in a significant reduction in production. According to studies in Kampala, over 100 trucks which reach Kampala daily deplete 1.5 million kilograms of potassium (K) and 0.5 million kilogrammes of magnesium (Mg) from the soils in the rural areas annually (MBADIFA Project Brief, 2010). This translates into production decline affecting the ability of the farmers to supply according to the contract agreements. This negative effect on supply in the contract was often perceived as contract breach by the company and trader. This also affects the food security of the farmers, a fact that was concluded at the Banana IPs Consultative Meeting.

The analysis also highlighted that in both the pineapple and the banana case, the trader and the company have the perception that farmers cannot calculate production costs. This has a reflection on the provision of extension services both by the governing bodies and the companies providing embedded services to the farmers. Despite SE having trained farmers in pineapple production, the firm has a negative perception on this aspect, which is compounded by the lack of extension services and farmer field schools in the pineapple producing Iganga district. This indicates an area where the farmers and the firm need to work on in this relationship.

The current study highlighted that organic pineapple farming was expensive due to the high labour demand especially for weeding, a fact that the firm and the farmers agree on. They both agree that due to the need to control weeds manually, the labour requirements are huge and hence the farmers are often faced with a labour shortage. This significantly increases the production costs for pineapple production. Understanding of this aspect by both the farmer and the firm can be of use when it comes to price negotiation.

Production risks have a negative effect on food availability, which is directly linked to reduction on household food security. This is an important concern area for household security for the farmers.

## **b) Challenge area 2: Farmer group functioning**

It can be inferred there is a high level of agreement on this aspect leading to a general conclusion that organised farmers are preferable for contractors. However, the farmers seem to differ in collective selling, which KMFG in the banana case agree on and the pineapple farmers disagree on.

Farmers in both the pineapple and banana case and the respective firms agree that the farmers do not understand the group finances. This also further indicates the lack of training and illiteracy level of the farmers. However most farmers ascertained that it did not have a bearing on the relationship. The farmers trust the group leaders, which gave a positive view on the relationship.

In the area of access to loans, the study established that the farmers are not very positive about access to loans. Banana farmer groups in Mbarara can access loans, but due to the fact that the loan repayment is a flat rate, they have difficulties in paying the loan in the dry season when prices for bananas are as low as UGX 5000 per bunch. Pineapple farmers cannot access loans, a fact which they said was limiting their production capacity. This has a negative effect on the household food security of the farmers, as the farmers have sighted that these products are their main source of income for the respective products.

According to Setboonsarng (2008), lack of access to credit remains one of the biggest challenges to improve agricultural production. Contract farming improves access to credit, one of the most frequently given reasons for smallholders farmers to enter into contract farming (Baumann, 2000). The underlying factor in access to credit is organisation of farmers into working groups that financiers are willing to fund.

Firms/traders prefer to work with well-functioning farmer groups and are willing to have contracts with farmer groups than individual farmers. It can be concluded that well-functioning farmer groups have a positive effect on the firm-farmer relationship.

Farmer grouping reduces transaction and marketing costs through economies of scale and bargaining power, which has a positive effect on income hence household food security.

### **c) Challenge area 3: Marketing and Prices**

The analysis indicates that this area has the highest level of disagreement in the relationship for both pineapples and bananas. Farmers are consistent in both cases that the price paid is low and does not match the quality of their product. However the farmers are cognisant of the fact that the firm continues to pay the agreed price even if prices reduce within the contract period, exempting them from price fluctuation losses. This is in agreement to observations that firms purchase the crop that meet specified quality and quantity in accordance with the contract terms; hence farmers do not incur losses in income due to price fluctuations (Baumann, 2000; Eaton and Shepherd, 2001). As was highlighted by Uganda Bureau of Statistics (2012), income poverty is higher in rural areas which affects household food security, therefore the consistent higher income afforded the farmers in these contracts offsets income poverty significantly and food insecurity significantly.

The other major disagreement was on the role of traders in the market. Traders think that brokers are beneficial to moderate the banana prices and for the consistent supply of bananas, in contrast to SE who believe that brokers distort the market. In that regard, it was noted in the banana case that brokers try to discourage contracts because farmers access higher prices hence they face product scarcity. Contracts have the potential to link farmers with firms eliminating middleman in the form of brokers, but challenges in immediate needs for money have kept brokers in business. It can be concluded from the banana value chain that contracting increases the market share value of farmers by more than 25%. This increase in income can have a positive effect on farmer's ability to purchase other food sources diversifying the diet, impacting positively on food security.

There is significant difference in the perception on information exchange in this challenge area. The farmers do not agree that the company clearly informs farmers on the quantities they want to buy from the farmers. It is interesting to note that the company also says the farmers do not correctly inform them of the quantities that they have ready for sale. It can be concluded that communication is presenting challenges to the relationship.

### **d) Challenge area 4: The contract**

The study established that farmers believe that the contract is binding for them as a group, but there is no law they are aware of that caters for breach of contract in both pineapple and banana contracting. This they attributed to lack of legal apparatus to enforce laws on breach of contract. This is evidenced by the low score averaging 53% in the banana case and 58% in the pineapple case. The traders and company also concur that the contract is not legally binding.

This is a push factor for traders, which is frequently given as a reason for not entering into contracts. This concurs with the studies by Baumann (2000) and Singh (2002), who observed that most contracts do not specify in detail the rights and obligations between the producers and the contractors, including the penalties for breach of contract by either side. In most cases there is no corresponding clause protecting farmers in case of the companies default and vice versa. In the banana and pineapple contracts, there is no clause pertaining to breach of contract. Among other factors, lack of clarity on these issues and lack of enforcement by-laws on contracts have led to problematic contractual relationships.

It can be inferred that the most common problem that firms face is that of side-marketing. Side-marketing is where a farmer in a binding contract, who is obliged to sell his produce to the contracting firm, sells the produce to a competitor outside the specified contract. This is due to fact that firms are unable to maintain their monopoly of the market and other buyers appear and offer a better price. The firms try to safe guard themselves by specifying levels of production, deducting costs in advance and supplying credit, but this does not guarantee compliance on the part of the farmer. Default on quantity and quality has also been cited as one of the most common problems for firms in contract agreements (Baumann, 2000).

As ascertained in the previous text, what the firms interpret as default on the part of farmers can be directly linked to production constraints, therefore there is need for the firms to ascertain the cause of the quantity or quality default. This can have a positive impact on the relationship. It can be concluded that lack of a clause and an enforcement law on contract breach will remain a major challenge to contract farming. This lack of enforcement on the part of the firm was one of the reasons that the firms do not offer inputs to the farmers, which has a cascading effect on farmer productivity.

#### **e) Challenge area 5: Quality standards and record keeping**

The analysis indicates that this is also a major area of disagreement. Farmers and the trader/firm do not agree on quality aspects. Farmers tend to believe their products are of good quality and the price offered does not match the quality, contrary to the trader/firm.

Quality standards are one of the most important areas in the firm-farmer relationship, as it is a determinant of a lot of other factors including price. Food safety issues, traceability and disease control standards present farmers and companies with strict regulations to follow. This area presents an area of divergence between farmers and traders/firm. The quality of the bananas and pineapples is variable. This is a significant challenge due to the fact that small holder farmers have different farm and post-harvest handling practises. To that end, mostly farmers and the contractor do not agree on the reasons for rejection.

Bananas are a perishable product, and freshness is judged by the colour of the bananas and firmness of the product upon handling. Farmers have resorted to cutting the bananas from the field when the trader has arrived, to ensure the trader of freshness. This is a positive response to the quality challenge, and evidence of a good working relationship, scoring an average of 65% for this challenge area. In contrast, this is a major divergent area in the pineapple case, scoring an average of 56%.

It is interesting to note despite lack of by-laws and enforcement measures, the relationships have a significant level of trust which allows pineapple farmers to supply the pineapples and be paid later. In the banana case the trader can also advance the banana farmers payment before they deliver the bananas.

#### **f) Challenge area 6: Costs/benefits of contract farming**

The analysis indicated that there was generally much more positivity and agreement in both the pineapple and banana cases on the benefits of contract farming. It can be concluded that farmers and traders/firm acknowledge the benefits of a guaranteed market, guaranteed product supply and investment opportunities in other income generating activities from proceeds of banana and pineapple contracting. These have a positive effect on the relationship and act as pull factors in sustaining this relationship. However, it is evident that the banana case has better results averaging 79% compared to the pineapple case which has an average of 59%. This low score in pineapples might be due to the low score on access to loans and financial resources. Pineapple farmers are not able to access these facilities. The impact of contracts on food security cannot be over emphasised, however it is evident that the benefits are greater for well organised farmers and the reduced transaction costs.

##### **5.1.3 The tool**

It can be observed that the tool is quite efficient in highlighting the challenges in the relationship and is relatively easy to apply. It has the ability to foster dialogue and bring out pertinent issues in such institutions. Debriefing also allowed the farmer and the trader to look at possible solutions to these challenges. However it should be emphasised that there is need for follow up action on the issues highlighted by the tool. Dialogue between the trader and the farmers on the issues is very important in building up a sustainable relationship and will go a long way in fostering trust in such a set up. The tool is applicable in varying situations, as seen by it being applied in other crops and other countries concurrently with this study.

The methodology of the 2-2 tango tool was followed. In the administration of the questionnaire, farmers tend to associate the author with the firm or a donor agent. Therefore they may be inclined to give information which the author wants to hear. This is also a possibility when the questionnaire is administered to farmers as a group. They tend to want to give socially accepted answers which might not necessarily represent their own perception on the challenge areas. In this regard, it is imperative to introduce the purpose of the study so that the farmers give correct information based on their own perception, and not tell the author what they want to hear. To that end, in this study the author adopted the approach of scoring the statements with each farmer individually. This was also important in getting the logic and reasoning behind the selection of each score and to gauge if the farmer understood the statement in the sense that it was formulated. From the authors point of view, valuable information was gathered during the scoring, giving a clearer picture of the firm-farmer relationship.

Anonymity was also a factor in the administration of the tool. Farmers were more willing with information if they were not asked their names. If it was made clear that the information they

were giving was confidential and it was solely for the purpose of enhancing the relations, the farmers were more willing to give information in detail.

#### **5.1.4 Firm-farmer recommendations**

The debriefing exercise was meant to give a platform for the farmers and the firm to reflect on the challenge areas in an effort to fuel exchange or dialogue on possible solutions to these challenges. Without debriefing, the tool just generates graphs which show perceptions on the challenge areas, but it does not add value to the relationship. It is therefore imperative that follow up action be done.

The suggestions were interlinked and more often limited by lack of financial resources. They are briefly discussed below

- a) Embedded services – Financial constraints affect farmer production capacity, hence provision of inputs and loans by the firm can improve production capacity of farmers and product availability to the firm. Often failure to supply due to production constraints is often interpreted by the firm as contract breach. However, breach of contract by side-selling remains a challenge and mechanisms to enforce such must be put in place. As has been highlighted throughout this document, the lack of a clause on contract breach has a bearing on the firm's willingness to extend these services.
- b) Use of artificial fertilisers – Soil fertility decline can be curbed by use of artificial fertilisers in banana production. However financial constraints often limit the adoption of the use of artificial fertilisers, which goes back to the issue of extending embedded services by the firm. Currently farmers only use manure and compost to correct soil fertility decline. Another option which has been suggested is looking at transporting bananas as a peeled product. This would leave the peels and the stalk in the fields to restore fertility but the feasibility of such has to be extensively investigated.
- c) Organised firms – It can be suggested that traders in the banana case be organised into working groups that can be registered hence they can be accountable for default and they can enforce measures to deal with defaulting farmers. Farmers attributed that if traders were organised into groups similar to farmer groups, it would be easier for farmers to trust the traders and to enter into contracts. Firms can also form unions that have the capacity to enforce by-laws but more often than not, political notions often come into play especially if the firms are foreign based or foreign funded.
- d) Increasing farmer access to information can improve empower farmers in decisions and contract negotiations. Lack of market information especially on prices can have the effect of reducing the market share of the farmer in this value chain. This information will potentially reduce the perception of the farmers on that the firms give them low prices.
- e) Value addition has the potential to increase income for farmers and curb losses during peak production times. Drying of bananas can be done using solar dryers as shown in figure 5, but initial studies have indicated that there is a significant change in the taste. However, the market for dried bananas has to be investigated first. The question is how much bananas do you need to produce a kilogram of banana powder and how much will you sell the powder kilogram?

## **6. CHAPTER SIX**

This section briefly highlights the conclusions and recommendations drawn from the study

### **6.1 Conclusions**

Based on the study, it can be concluded that there are similar challenges in both contracts which include production risks; functioning of farmer group; markets and prices; quality and record keeping; and costs/benefits of contract farming

It can be concluded that production risks mainly in the form of climate change, high input costs and soil fertility decline have a negative effect on productivity. This affects ability of farmers to meet contractual obligations, reduces quality of product and reduces food availability thereby affecting the relationship and household food security respectively.

Organised farmer groups have lower transaction costs, share capital, have economies of scale and often access loans which all have a positive effect on income and productivity. This invariably has a positive effect on the firm-farmer relationship and household income.

As income poverty is higher in rural areas, access to markets which have a consistently higher price is beneficial. Contracting has that potential but challenges on coming up with an agreeable price are common. It can be concluded that contracting negates the role of middlemen in the value chain, increasing farmer market share and income with as much as 25% in the banana value chain. The link to food security of income cannot be over emphasised.

It can be concluded that the biggest challenge in contracting is lack of enforcement regulations on contract breach. This has a huge impact on the firm-farmer relationship and provision of services by the firm to the farmers. In the author's opinion, solutions to this challenge area will have a great impact on farmer productivity and subsequent effect on food security.

It can be concluded that quality has an effect on price and income. More often than not it is viewed as contract breach by the firms. Furthermore quality has become important due to food safety by-laws.

The benefits of contract farming include reduced transaction costs, improved market access and potentially consistent higher income. The link to food security cannot also be over emphasised but is acknowledged in this study.

It can be concluded that the tool can efficiently bring out 'burning issues' in the contract relationship, but it is essential for follow up action on the identified issues.

### **6.2 Recommendations**

In conjunction with the recommendations that were suggested in the debriefing sessions and discussed in the previous section, the following recommendations were arrived at:

- The firm provide embedded services to the farmers to reduce production risks and to ensure a consistent supply. Embedded services mainly in the form of financial resources, inputs and extension services whose costs can be deducted upon product delivery. However this option still has the challenge of contract breach.

- The firm and the farmers agree on contract breach enforcement procedure clauses in the contracts to improve on trust in the relationship. Contract breach has a bearing on the previous point on provision of embedded services, hence such a clause might improve firm confidence in provision of such services.
- The firms and the farmers organise regular meetings to improve market information flow on markets and prices. Trust and misconception especially on the aspect of prices is normally a manifest of lack of market information on the part of the farmers.
- In administering the survey section of the tool, the scoring be done individually with each farmer which yields more insight into the 'why' of each challenge area. However this will also involve more time in the 2-2 tango tool.
- As a long term strategy, following improvement in legal systems and enforcement capacity, specific regulations should be formulated for contract farming.



## 7. REFERENCES

- Action Aid (2010). Improving Banana Production and Women's Access to Land in Uganda. ActionAid USA e-newsletter. Washington DC, USA. Available at [http://actionaidusa.org/what/monthly\\_feature/banana\\_production\\_and\\_womens\\_land\\_in\\_uganda/](http://actionaidusa.org/what/monthly_feature/banana_production_and_womens_land_in_uganda/) [Accessed 16/06/2012]
- Africa 2000 Network Annual report (2007). Soleil Project Progress Report, Uganda. Available at [http://www.a2n.org.ug/files/Soleil\\_Project.pdf](http://www.a2n.org.ug/files/Soleil_Project.pdf). [Accessed 04/07/2012]
- Agency for Co-operation in Research and Development (ACCORD) (2010). Case study: Problems Facing Small Scale Farmers in Isingiro District, Uganda: Focus on Bananas. Kampala, Uganda
- Agona, J.A., Nabawanuka, J. and Kalunda, P. A Market Overview of the Dried Fruit Sector in Uganda. A Food-net awards project. Available at <http://foodnet.cgiar.org/Projects/Phase2fd8.htm>. [Accessed 28/06/2012]
- Baumann, P. (2000). Equity and Efficiency in Contract Farming Schemes: The Experience of Agricultural tree Crops. Overseas Development Institute, London.
- Bryman, A. (2008). Social Research Methods. Oxford University Press.
- CBI Market Information database. (2012). EU Legislation: Marketing Standards for Fresh Fruit and Vegetables. Available at [www.cbi.eu/marketinfo/cbi/eu\\_legislation\\_for\\_fresh\\_fruits\\_and\\_vegetables](http://www.cbi.eu/marketinfo/cbi/eu_legislation_for_fresh_fruits_and_vegetables). [Accessed 11/07/2012]
- DFID (2005). Making Value Chains Work for the Poor. Agricultural Development International. Phnom Penh, Cambodia.
- Dorward, A. (2001). The Effects of Transaction Costs, Power and Risk on Contractual Arrangements: A Conceptual Framework for Quantitative Analysis. Journal of Agricultural Economics 52: 59-73
- Eaton, C.S., and Shepherd, A.W. (2001). Contract Farming- Partnerships for Growth. AGS Bulletin 145. Food and Agriculture Organisation, Rome.
- Ellis, F. (2000). Rural Livelihoods and Diversity in developing Countries. Oxford University Press, Oxford.
- FAO. 1996. Rome Declaration on World Food Security and World Food Summit Plan of Action. World Food Summit 13-17 November 1996. Food and Agriculture Organisation, Rome.
- FAO. (2012). Cooperatives: International Year of Co-operatives. Food and Agriculture Organisation, Rome. Available at <http://social.un.org/coopsyear/>. [Accessed 22/08/2012]

- FIT Uganda. (2010). Fruit Subsector Market Study in Uganda. Semwanga Consulting report, Uganda. Available at <http://www.fituganda.com/manage/download/atm/marketreports/subsectorstudyfruits.pdf>. [Accessed 22/07/2012]
- Foodnet (2012). Banana (*Musa* spp.) growing for export: Innovative approaches in production and marketing - The need for partnerships (conference paper). *Acta Horticulturae* 879: 53-56
- Kaplinsky, R. (2000). Spreading the gains from globalisation: What can be learned from value chain analysis? *Journal of Development Studies* 37: 2
- Katungi, E.M. (2007). Social Capital and Technology Adoption on Small Farms: The Case of Banana Production Technology in Uganda. Phd Thesis. University of Pretoria. Available at <http://upetd.up.ac.za/thesis/available/etd-05152007-175906/>. [Accessed 04/07/2012]
- Little, P and Watts, M. (1995). *Living Under Contract: Contract Farming and Agrarian Reform in sub-Saharan Africa*. University of Wisconsin press, Madison.
- Lundy, M., Gottret, M.V., Ostertag, C., Best, R. and Ferris, S. (2008). *Participatory Market Chain Analysis for Smallholder Producers*. Catholic Relief Services, Baltimore.
- MBADIFA project Brief (2010). *Post-Harvest Handling and Marketing of Perishable Agricultural Products Using Solar Dryers*. Mbarara, Uganda.
- McSweeney, C., New, M., Lizcano, G. and Lu, X. (2010). Improving the Accessibility of Observed and Projected Climate Information for Studies of Climate Change in Developing Countries. *Journal of American Meteorological Society* 91:2
- Motiram, S., & Vakulabharanam, V.. (2007). Corporate and Cooperative Solutions for the Agrarian Crisis in Developing Countries: Review of Radical Political Economics 360-467.
- National Agricultural Research Organisation. (2005). *Banana marketing and utilisation in Uganda: Baseline Survey Report, 2008*. National Research Programme.
- Patrick, I. (2004). *Contract Farming in Indonesia: Smallholders and Agribusiness Working Together*. Australian Centre for International Agricultural Research Technical Reports No. 54, Canberra.
- Prowse, M. (2007). *Making Contract Farming Work with Co-Operatives*. Opinion Paper 87. Overseas Development Institute. London.
- Schrader, T. (2012). *Firm-farmer partnership and contracting: taking market linkages to the next level*. Center For Development Innovation, Wageningen UR (Unpublished).

- Setboonsarng, S. (2008). Global Partnership in Poverty Reduction. Contract farming and Regional Cooperation. Asian Development Bank Institute Discussion Paper 89. Tokyo. Available at <http://www.adbi.org/discussionpaper/2008/02/25/2491.global.partnership.poverty.reduction/>. [Accessed 04/07/2012]
- Singh, S. (2002). Contracting Out Solutions: Political Economy of Contract Farming in the Indian Punjab. *World Development* Vol. 30, No. 9:1621–1638.
- Ssenyonga, J., Bangamba, F., Gold, C.S., Tushemeriewe, W.K., Karamura, E.B. and Katungi, E. (1999). Understanding the Current Banana Production with Special Reference to Integrated Pest Management in South-west Uganda. In: Proceedings of a workshop on banana IPM, 23-28 November 1998, Nelspruit, South Africa. International Network for the Improvement of Banana and Plantain, Montpellier, France.
- Terrillon, J. 2010. Gender mainstreaming in value chain development – Practical guidelines and tools. Corporate Network Agriculture, SNV.
- The International Network for the Improvement of Banana and Plantain. (2000). Networking Bananas and Plantains. Annual report, 2000.
- Uganda Bureau of Statistics (2012). 2012 Statistical Abstract. Kampala, Uganda. Available at [www.ubos.org](http://www.ubos.org). [Accessed 16/06/2012]
- Verschuren, P. and Doorewaard, H. (2010). Designing a Research Project, 2<sup>nd</sup> Edition. Eleven International Publishing, The Hague.
- Von Barum, J. (2008). Poverty, Climate Change, Rising Food Prices and the Small Farmers. International Fund for Agricultural Development, Rome: IFPRI
- World Development Report (2008). Agriculture for Development. World Bank. Washington D.C.

## Annex 1: Questionnaire for banana case

| Statements                                      |   | Scores                   |                 |              |                       |
|---|---|--------------------------|-----------------|--------------|-----------------------|
|   |   | 0                        | 1               | 2            | 3                     |
|   |   | <i>Strongly disagree</i> | <i>Disagree</i> | <i>Agree</i> | <i>Strongly agree</i> |
|   |   | ☹☹                       | ☹               | ☺            | ☺☺                    |
| <b>1    <i>Production Risks</i></b>             |   |                          |                 |              |                       |
| 1.1   | Rainfall quantities are increasing  |                          |                 |              |                       |
| 1.2   | Diseases have reduced banana quality  |                          |                 |              |                       |
| 1.3   | Soil fertility is increasing  |                          |                 |              |                       |
| 1.4   | Farmers get sufficient amount of manure   |                          |                 |              |                       |
| 1.5   | Prices for manure are affordable  |                          |                 |              |                       |
| 1.6   | Farmers yields are increasing   |                          |                 |              |                       |
| 1.7   | Farmers are able to calculate production costs per bunch of bananas produced                |                          |                 |              |                       |
| 1.8   | The farmers have sufficient know-how on banana production                                   |                          |                 |              |                       |
| 1.9   | Farmer field schools are operational  |                          |                 |              |                       |
| <b>2    <i>Functioning of farmer groups</i></b> |   |                          |                 |              |                       |
| 2.1   | We agree with the way the trader selects farmer groups for contracting                      |                          |                 |              |                       |
| 2.2   | We agree that the farmers sell the bananas as a group, and not as individuals               |                          |                 |              |                       |
| 2.3   | The constitution and by-laws cater for internal and external issues of banana farmer groups |                          |                 |              |                       |
| 2.4   | Elected farmer group leaders adhere to the tasks and responsibilities defined in            |                          |                 |              |                       |

|                             |   |  |  |  |  |
|-----------------------------|---|--|--|--|--|
|                             | the constitution and group regulations  |  |  |  |  |
| 2.5                         | Farmer group meetings are regular   |  |  |  |  |
| 2.6                         | All farmers are informed and understand group financial issues                    |  |  |  |  |
| 2.7                         | The trader is happy with the way the farmer group is operating                    |  |  |  |  |
| 2.8                         | The farmer group leaders always represent the common interest of the farmers      |  |  |  |  |
| 2.9                         | Loans are easily accessible for farmer groups                                     |  |  |  |  |
| <b>3 Markets and prices</b> |   |  |  |  |  |
| 3.1                         | The trader is clear about the amount of produce they want to buy from the farmers |  |  |  |  |
| 3.2                         | The trader clearly informs farmers about quality requirements of the bananas      |  |  |  |  |
| 3.3                         | There are other banana buyers on the market                                       |  |  |  |  |
| 3.4                         | Farmers know the final price of the banana at consumer level                      |  |  |  |  |
| 3.5                         | The trader pays farmers a fair price  |  |  |  |  |
| 3.6                         | The trader pays farmers within the agreed time                                    |  |  |  |  |
| 3.7                         | Farmers are satisfied being paid through the farmer group account                 |  |  |  |  |
| 3.8                         | Farmers sell all their bananas to the contracted trader only                      |  |  |  |  |
| 3.9                         | Brokers are beneficial in the market  |  |  |  |  |
| <b>4 The Contract</b>       |   |  |  |  |  |
| 4.1                         | Each individual farmer understand the content of the contract with the trader     |  |  |  |  |

|   |   |  |  |  |  |
|---|---|--|--|--|--|
| 4.2   | Farmer group can always discuss contract issues with the trader         |  |  |  |  |
| 4.3   | The trader takes farmers' opinion on contract issues into consideration |  |  |  |  |
| 4.4   | The contract is binding   |  |  |  |  |
| 4.5   | The contract is clear on dispute resolution                             |  |  |  |  |
| 4.6   | The farmer group follows the rules laid down in the contract            |  |  |  |  |
| 4.7   | Farmer group penalize members for breach of contract                    |  |  |  |  |
| 4.8   | The trader takes measures for breach of contract                        |  |  |  |  |
| 4.9   | The contract favours farmers  |  |  |  |  |
| <b>5 Quality standards and record keeping</b> |   |  |  |  |  |
| 5.1   | Farmers follow good crop management practices                           |  |  |  |  |
| 5.2   | Quality standards and reasons for rejection are clear                   |  |  |  |  |
| 5.3   | Farmers follow the hygiene standards at collection point                |  |  |  |  |
| 5.4   | The farmer group keep records on bananas delivered to the trader        |  |  |  |  |
| 5.5   | Farmer group engages in group grading of the produce                    |  |  |  |  |
| 5.6   | Quality of bananas is good  |  |  |  |  |
| 5.7   | Traders agree with farmer banana grading                                |  |  |  |  |
| 5.8   | Farmers trust the delivery records by the trader                        |  |  |  |  |

|   |   |  |  |  |  |
|---|---|--|--|--|--|
| 5.9   | Quality matches with the price offered  |  |  |  |  |
| <b>6 Thriving firm-farmer relation benefits</b> |   |  |  |  |  |
| 6.1   | Farmers are happy to have a guaranteed market for their produce                       |  |  |  |  |
| 6.2   | Banana contract provides farmers with a steady income                                 |  |  |  |  |
| 6.3   | Farmers are happy with the services offered by the trader                             |  |  |  |  |
| 6.4   | The money from banana contract farming is the most important income of the family     |  |  |  |  |
| 6.5   | Traders are happy to have a guaranteed banana supply                                  |  |  |  |  |
| 6.6   | Farmers in contract farming get better income than farmers who are not contracting    |  |  |  |  |
| 6.7   | In this area, banana farmers are able to get bank loans                               |  |  |  |  |
| 6.8   | Banana farmers are developing other income generating activities from banana revenues |  |  |  |  |
| 6.9   | Traders can advance farmers before delivery   |  |  |  |  |

## Annex 2: Questionnaire for the pineapple case

| Statements                        |   | Scores                   |                 |              |                       |
|-----------------------------------|---|--------------------------|-----------------|--------------|-----------------------|
|                                   |   | 0                        | 1               | 2            | 3                     |
|                                   |   | <i>Strongly disagree</i> | <i>Disagree</i> | <i>Agree</i> | <i>Strongly agree</i> |
|                                   |   | ☹☹                       | ☹               | ☺            | ☺☺                    |
| <b>1 Production Risks</b>         |   |                          |                 |              |                       |
| 1.1                               | Rainfall quantities are increasing  |                          |                 |              |                       |
| 1.2                               | There are diseases in pineapple production  |                          |                 |              |                       |
| 1.3                               | Organic farming is expensive  |                          |                 |              |                       |
| 1.4                               | The farmers have enough labour for organic farming  |                          |                 |              |                       |
| 1.5                               | Prices for coffee husks are affordable  |                          |                 |              |                       |
| 1.6                               | Farmers yields are increasing   |                          |                 |              |                       |
| 1.7                               | Farmers are able to calculate production costs per kg of pine apple produced  |                          |                 |              |                       |
| 1.8                               | The farmers have sufficient know-how on fruit production  |                          |                 |              |                       |
| 1.9                               | Farmer field schools are operational  |                          |                 |              |                       |
| <b>2 Farmer group functioning</b> |   |                          |                 |              |                       |
| 2.1                               | The group sells pineapples collectively   |                          |                 |              |                       |
| 2.2                               | We agree that the farmers sell the pineapples as a group, and not as individuals  |                          |                 |              |                       |
| 2.3                               | The constitution and by-laws cater for internal and external issues of farmer group                                     |                          |                 |              |                       |
| 2.4                               | Elected farmer group leaders adhere to the tasks and responsibilities defined in the constitution and group regulations |                          |                 |              |                       |
| 2.5                               | Farmer group meetings are regular   |                          |                 |              |                       |
| 2.6                               | All farmers are informed and understand group financial issues  |                          |                 |              |                       |
| 2.7                               | The company is happy with the way the farmer group is operating   |                          |                 |              |                       |
| 2.8                               | The farmer group leaders always represent the common interest of farmers  |                          |                 |              |                       |
| 2.9                               | Loans are easily accessible for farmer groups   |                          |                 |              |                       |
| <b>3 Markets</b>                  |   |                          |                 |              |                       |
| 3.1                               | The company is clear about the amount of pineapples they want to buy from the   |                          |                 |              |                       |



|                            |  |  |  |  |  |
|----------------------------|--|--|--|--|--|
|                            | farmers  |  |  |  |  |
| 3.2                        | The company clearly informs farmers about quality requirements of the pineapples               |  |  |  |  |
| 3.3                        | There are other pineapple buyers on the market   |  |  |  |  |
| 3.4                        | The company buys all the pineapples produced by the farmer                                     |  |  |  |  |
| 3.5                        | The farmers inform the company correctly of the quantity of pineapples that are ready for sale |  |  |  |  |
| 3.6                        | Conventional pineapple producers get better profit margins                                     |  |  |  |  |
| 3.7                        | Farmers are satisfied being paid through the farmer group account                              |  |  |  |  |
| 3.8                        | Farmers sell all their pineapples to the contracted company only                               |  |  |  |  |
| 3.9                        | Brokers are beneficial in the pineapple market   |  |  |  |  |
| <b>4 Prices</b>            |  |  |  |  |  |
| 4.1                        | Farmers are happy with the price the company pays for pineapples                               |  |  |  |  |
| 4.2                        | The company pays the highest price in the area   |  |  |  |  |
| 4.3                        | The company pays on time   |  |  |  |  |
| 4.4                        | Farmers agree with the price the company pays  |  |  |  |  |
| 4.5                        | The company pays extra money for high quality pineapples                                       |  |  |  |  |
| 4.6                        | The price offered is above production costs  |  |  |  |  |
| 4.7                        | Quality matches with price offered   |  |  |  |  |
| <b>5 Quality standards</b> |  |  |  |  |  |
| 5.1                        | Farmers strictly follow organic production practices   |  |  |  |  |
| 5.2                        | Reasons for rejection of product are clear   |  |  |  |  |

|   |   |  |  |  |  |
|---|---|--|--|--|--|
| 5.3   | Farmers use chemicals in pineapple production                                 |  |  |  |  |
| 5.4   | The farmer keeps records on pineapples delivered to the company               |  |  |  |  |
| 5.5   | Farmer group engages in group grading of the produce                          |  |  |  |  |
| 5.6   | Farmers produce high quality pineapples                                       |  |  |  |  |
| 5.7   | Farmers obey buffer zone practises  |  |  |  |  |
| 5.8   | Farmers trust the delivery records by the company                             |  |  |  |  |
| <b>6 Contract</b>                           |   |  |  |  |  |
| 6.1   | Each individual farmer understand the content of the contract with the trader |  |  |  |  |
| 6.2   | Farmer group can always discuss contract issues with the company              |  |  |  |  |
| 6.3   | The company takes farmers' opinion on contract issues into consideration      |  |  |  |  |
| 6.4   | The contract is binding   |  |  |  |  |
| 6.5   | The contract is clear on dispute resolution                                   |  |  |  |  |
| 6.6   | The farmer group follows the rules laid down in the contract                  |  |  |  |  |
| 6.7   | Farmer group penalize members for breach of contract                          |  |  |  |  |
| 6.8   | The company takes measures for breach of contract                             |  |  |  |  |
| 6.9   | The contract favours farmers  |  |  |  |  |
| <b>7 Costs/benefits of contract farming</b> |   |  |  |  |  |
| 7.1   | Farmers are happy to have a guaranteed market for their pineapples            |  |  |  |  |
| 7.2   | Pineapple contracting provides farmers with a steady income                   |  |  |  |  |

|     |  |  |  |  |  |
|-----|--|--|--|--|--|
| 7.3 | Farmers are happy with the services offered by the company                               |  |  |  |  |
| 7.4 | The money from pineapple contract farming is the most important income of the family     |  |  |  |  |
| 7.5 | The company is happy to have a guaranteed pineapple supply                               |  |  |  |  |
| 7.6 | Farmers in contract farming get better income than farmers who are not contracting       |  |  |  |  |
| 7.7 | In this area, organic farmers are able to get bank loans                                 |  |  |  |  |
| 7.8 | pineapple farmers are developing other income generating activities from banana revenues |  |  |  |  |
| 7.9 | Company can advance farmers money before delivery of pineapples                          |  |  |  |  |