COMPARATIVE ANALYSIS
OF THE COOPERATIVES UNDER THE
AGRIFLORA SMALLHOLDER
OUTGROWERS SCHEME

BY

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UNIVERSITY OF ZAMBIA

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COMPARATIVE ANALYSIS OF THE COOPERATIVES
UNDER THE AGRIFLORA SMALLHOLDER
OUTGROWERS SCHEME

A Thesis Presented to the Department of Agricultural Economics and
Extension Education of the University of Zambia.

By

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In partial fulfilment of the requirement for the degree of Bachelor of
Agricultural Sciences.

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ABSTRACT

COMPARATIVE ANALYSIS OF THE COOPERATIVES UNDER THE AGRIFLORA SMALLHOLDER OUTGROWERS SCHEME

MWINGA MUKWITI NCHOOILI
UNIVERSITY OF ZAMBIA, 2002

The study was initiated and designed as a comparative evaluation of the cooperative performances of four Outgrower cooperatives affiliated with Agriflora Smallholder Outgrowers Scheme. Based on the information indicated in the production summary for the 2000/2001 season in appendix I, two selected cooperatives performed very well and another two performed very poorly. The main aim of the study was to generate information that would highlight the major factors that contribute to the performance disparities in the four cooperatives under consideration.

The survey was carried out in Katuba, Leobex (Leopard Hill/ Ibex Hill area), Nyemba and Lilayi cooperatives. A total of 46 farmers were sampled and questionnaires were administered to them as the main source of primary data. In addition to this, primary data was also obtained from the administrative officials in the Agriflora Smallholder Outgrower Scheme through an interview. Secondary data from various literature reviews of previous studies pertaining to contract farming (Outgrowing) was revised.

The study assessed the factors that have a major bearing on the individual farmer’s performance which subsequently bear on their cooperative’s overall performance. A beneficiary assessment of the small scale farmers was done to obtain the farmer’s general opinion on the strengths and weaknesses of the contracting firm Agriflora. The study concludes that there is a very strong positive relationship between the performance of an individual farmer and:

a) the amount of farming experience a farmer has

b) the length of time a farmer has been affiliated to the outgrower scheme
c) the amount of Extension service a farmer receives

d) the level of education of a farmer

e) the supervision of farm workers and the active participation of the farmer in the
   actual field work in his/her farm.

f) the engagement of the farmer in other income generating activities

All these factors relate to the overall performance of the cooperatives. The effect of these
factors will vary from one cooperative to another. With all these factors put into
consideration, Agriflora can then tailor its production support to meet the specific needs
of the small-scale farmers.
ACKNOWLEDGEMENTS

My sincere gratitude goes to my supervisor, Mr.G.Jere, for his invaluable guidance and advice throughout the study. His comments and suggestions have been helpful in producing this report. I also thank all the other members of staff in the department of Agricultural Economics in the School of Agricultural Science for their valued comments and assistance rendered.

The management of Agriflora Smallholder Outgrowers Scheme willingly opened their doors and provided logistics for me to collect the necessary data. I'm greatly indebted to the following people at Agriflora: Mr.D.Harvey (Director), Mr.J.Mwale (Deputy Director), Mr.D.Jakobi (Technical Training Manager), Mr.Sinyinda (Agronomist), Mr.E.Munkombwe (Agronomist) and all the Depot and Extension staff in the Scheme.

I wish to thank the following people for their various assistance: Mr. Ignatius Shaba, for all the encouragement and support; Mr.James Mulolo, for the use of his computer and for guidance in the write-up of the report; Gwai Ganizani, for his assistance in data analysis; Agnes Sakala, for the use of her laptop and all my close friends, most especially my classmates.

I dedicate this work with much love and gratitude to my late father, Musembwa Mwiinga; my loving and ever so caring mother Margaret Mwiinga; my brother, Mugwagwa; and my sisters Malita, Maelo, Mutinta and Malita Muntanya.

Most important of all, I thank the Lord Almighty for all that He has blessed me with throughout my study period.
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ACRONYMS AND ABBREVIATIONS

CLUA       Cooperative League of the United States of America
RGBPOGS   Rural Group Business Programme Small-scale Out grower Scheme
KTDA      Kenya Tea Development Authority
SPSS      Statistical Package Social Sciences
ZATAC     Zambia Agribusiness Technical Assistance Centre
CHAPTER 1

1.0 INTRODUCTION

Contract farming has been in existence for many years as a means of organizing the commercial agricultural production of both large scale and small-scale farmers. Interest in it continues to expand, particularly in countries that previously followed a central planning policy and in those countries that have liberalized marketing through the closing down of Marketing Boards.

Changes in consumption habits, such as the increasing number of fast food outlets, the growing role played by super markets in many countries, and the continued expansion of world trade in fresh and processed products, have also provided the driving force for further development of this mode of production.

Agribusiness firms in Zambia, especially Agro industrial processors and agricultural marketing firms, have attached considerable importance to the contract farming and marketing system. In Zambia, this is being practiced through smallholder outgrower schemes (Shula, 1988). Instead of the firms owning land and farming directly, local farmers are contracted to use inputs supplied by the firm for the production of specified crops on a stipulated acreage. In addition, the firm provides the necessary extension service. However, production inputs are basically supplied as loans in kind.

A key feature of contract farming is that the contracting firm assumes the responsibility of marketing and all risks associated with marketing. Notable cases of formal contract farming/marketing or outgrower schemes in Zambia cover crops such as cotton, sugarcane, chillies, paprika, tobacco and a wide range of vegetable crops like tomato, baby corn, mange tout, e.t.c.

CLUSA Zambia is an important and permanent feature in the Outgrower/contract farming industry in Zambia. Its operations and activities give a general overview of the outgrower initiative in Zambia. Through the RGBPOGS, CLUSA focuses on raising
farmer's incomes and alleviating poverty by improved production and marketing of agricultural products and small-scale enterprise development.

The outgrower scheme that has been initiated by RGBP has been addressing a critical missing link in the small scale farmer - Agribusiness chain that has been a major obstacle impeding the agricultural sector transit from a command economy to a free market economy.

On one hand Zambia's Agribusiness has realized that production from small-scale producers was needed to make their companies profitable and competitive. On the other hand, small-scale farmers have been encountering a diminishing source of inputs as government credit programs and marketing boards have been dismantled. Furthermore, many small-scale farmers find it very difficult to market their crop due to rather large number of dishonest buyers and high transportation costs due to the low volumes produced by single farmers (CLUSA publications, 2001)

The following research will focus its attention on the Agriflora outgrower program. The Agriflora small-scale outgrowers scheme involves the production and export of fresh vegetables by small farmers situated within a 50km radius around Lusaka. These farmers have to be members of one of the (then) ten existing cooperatives affiliated with Agriflora.

The main crops grown by these farmers are Baby corn, Fine beans, Sugar snap and Mange tout. These vegetable crops are mainly for export. Some more recent crops introduced to this list are Paprika, Sun hemp, Vetiver grass and the most important of all Coffee.
1.1 The Study Area

The study area comprised four cooperatives out of the then 10 functioning cooperatives under the Agriflora Smallholder Outgrower Scheme. These cooperatives are Katuba, Leobex, Nyemba and Lilayi. It must however be mentioned that Katuba cooperative is no longer functional.

1.2 Problem Statement and Rationale

Given all the necessary support to the farmers in the cooperatives Agriflora works with and indeed the commitment of the small scale farmers, one would expect the overall performance of the farmers in the Cooperatives to be fairly good in terms of increased production and quality produce.

However, production records for the 2000/2001 production season (appendix I) have shown that certain cooperatives have performed very poorly and have not actually been able to recover finances spent on inputs. On the other hand, other cooperatives have been able to perform well and have recovered close to 100% of the budget that was spent on inputs.

This study will therefore attempt to examine the reasons for the performance disparities in the cooperatives. The information gathered would then be of great use to the farmers in the cooperatives that have not performed well i.e. they would be able bridge up the performance gap.

1.3 Study Objectives

General Objective
To find out the reasons for the performance disparities in four cooperatives under the Agriflora Small holder Scheme.
Specific objectives

1. To find out whether the frequency of extension visits by Agriflora extension staff has a positive influence on the performance of the farmers in the cooperatives.

2. To determine whether the engagement of the farmer in other income generating activities has a positive influence on the performance of the farmers in the cooperatives.

3. To find out whether farming experience of a farmer will positively impact his/her performance.

1.4 Hypothesis

In order to achieve the objectives of the study, the following hypotheses were tested.

1. The more extension service the farmers receive in a particular cooperative, the better the performance of the cooperative.

2. The engagement of farmers in other income generating activities will entail the better performance of the farmers and the overall good performance of their cooperatives.

3. The more farming experience a farmer has the better the performance of the farmer and the overall performance of the cooperative.

Therefore, the following would be the null hypothesis ($H_0$) and the alternative hypothesis ($H_1$), and the decision rules using the Chi square test.

1. $H_0$: There is no significant relationship between the number of extension service visits farmers received and their performance.

   $H_1$: There is a significant relationship between the number of extension service visits farmers received and their performance.

2. $H_0$: There is no significant relationship between the engagement of farmers in other income generating activities and their performance.

   $H_1$: There is a significant relationship between the engagement of farmers in other income generating activities and their performance.

3. $H_0$: There is no significant relationship between a farmers farming experience and his/her performance.

   $H_1$: There is a significant relationship between a farmers farming experience and his/her performance.
Decision rules using the Chi square ($X^2$) test.

$X^2_{\text{cal}} - X^2$ calculated value.

$X^2_{\text{crit}} - X^2$ critical value.

If $X^2_{\text{cal}} \geq X^2_{\text{crit}}$, then $H_0$ was rejected.

If $X^2_{\text{cal}} < X^2_{\text{crit}}$, then $H_0$ was not rejected.

1.5 Theoretical Framework of Outgrower Schemes

Definition of Contract Farming - This is an agreement between farmers and processing firms and/or marketing firms for the production and supply of agricultural products under forward agreements, frequently at predetermined prices. The arrangement also invariably involves purchasers providing a degree of production support through, for example, the supply of inputs and provision of technical advice. The basis of such arrangements is a commitment on the part of the farmer to provide a specific commodity in quantities and quality standards determined by the purchaser, and a commitment on the part of the company to support the farmer’s production and to purchase the commodity (Jackson and Cheater, 1989).

Contract Farming and Agricultural Development - In Zambia, due to the low incomes of the people especially in rural areas, the savings capacity of most small scale farmers is insufficient to finance farm investment. As farmers gradually change from subsistence to semi subsistence, the farmers require more inputs. This then calls for either the use of credit facilities, which may be in the form of finances, or inputs. Contract farming therefore, offers not only a means of production support but also a very reliable and assured market.

Contract farming is therefore necessary and of great importance in order to facilitate the expansion and investment in new technology resulting in from improvements and modernization of the Agricultural sector. Not only can it improve on the farmer's ability to source inputs, but it will also provide the farmer with agricultural knowledge and
education, farm management skills and incentives for the adoption of new technology leading to more efficient utilization of factors of production.

It must however, be mentioned that the production support and agricultural knowledge rendered to the small scale farmer by the contracting firm is no guarantee for the good or satisfactory performance of the small scale farmer. The farmers will express varying levels of performance based on a number of factors that range from the farmers' farming experience to the amount of extension service that the farmer receives.

1.6 Study Limitations

The major limitation of much of the study was the fact that I wasn’t able to target as many farmers as possible. As a case study, all the farmers in the four cooperatives were supposed to be taken up for sampling. However due to limited time, finances and logistical arrangements, only a limited number of respondents were studied.
CHAPTER 2

2.0 LITERATURE REVIEW

In the age of market liberalization, globalization and expanding agribusiness, there is a danger that small-scale farmers will find it difficult to fully participate in the market economy. In many countries such farmers could become marginalized as larger farms become increasingly necessary for a profitable operation. A consequence of this will be a continuation of the drift of populations to urban areas as is being witnessed almost everywhere.

Attempts by government and development agencies to arrest this drift have tended to emphasize the identification of “income generation” activities for rural people. Unfortunately there is little evidence that such attempts have borne fruits. This is largely because the necessary backward and forward market linkages are rarely in place, i.e. rural farmers and small scale entrepreneurs lack both reliable and cost effective inputs such as extension advice, mechanization services, seeds, fertilizers and credit, and guaranteed and profitable markets for their output. Well-organized contract farming does however, provide such linkages, and would appear to offer an important way in which small producers can farm in a commercial manner. Similarly, it also provides investors with the opportunity to guarantee a reliable source of supply, from the perspectives of both quality and quantity.

Contract farming ventures thus promote close and stable relationships between agro-industry processors and agricultural producers, and are being advanced as a potential innovative form of agricultural and rural development (Goldsmith, 1985). The notable success of some contract farming schemes in Africa such as the Kenya Tea Development Authority, which has grown into the largest and most successful smallholder tea scheme in the world continues to attract agricultural processing industries, government and aid agencies into exploring the potential for the out grower and contract farming projects.
Some examples of out grower schemes in Zambia include Lonhro Cotton Zambia Limited, for cotton production and processing, Amaka Agricultural Development Company, for cotton production and processing, BIMZI Limited, for Paprika production and processing, Agriflora small scale out growers scheme, for fresh vegetable production and processing, etc.

The intensity of the contractual arrangements displayed by these out grower schemes may vary according to the depth and complexity of the provisions of each of the following three areas:

1. **Market provision**: The buyer and grower agree to terms and conditions for the future sale and purchase of a crop or livestock production.

2. **Resource provision**: In conjunction with the marketing arrangement, the buyer agrees to supply selected inputs, including on occasions land preparation and technical advice.

3. **Management specifications**: The grower agrees to follow recommended production methods, input regimes and cultivation and harvesting specifications.

With efficient Management, contract farming can be a means to develop markets and bring about the transfer of technical skills in a way that is profitable for both the sponsor and the farmers. This approach is widely used, not only for the tree crops and other cash crops but increasingly, for fruits and vegetables, poultry pigs, dairy produce and even prawns and fish.

The contract farming system should be seen as a partnership between agribusiness firms and farmers. To be successful, it requires a long-term commitment from both parties. Exploitative arrangements by managers are likely to have a limited duration and can jeopardize agribusiness investments. Similarly, farmers need to consider that honoring contractual arrangements is likely to be to their long-term benefit.
Contractual farming is becoming an increasingly important aspect of agribusiness, whether the products are purchased by the Multinationals, smaller companies, government agencies, farmer cooperatives or individual entrepreneurs.

However, contract farming or smallholders out grower schemes have their disadvantages if not properly executed. Some of the disadvantages include the following:

a) Farmers may find themselves “locked in” or bound to a deteriorating situation of bad debt mainly because of production problems and excessive advances.

b) The management may be such that larger portion of the benefit accrues to the contractor, this is especially the case if the contracting company is unreliable or possesses an exploitative monopolistic position.

c) Farmers may begin to grow more cash crops at the expense of food production for home consumption.

d) The farmers may divert inputs supplied on credit to other purposes, thereby reducing yields. This is a loss in terms of sales output on the part of the contracting company.

e) The farmer may also sell their produce outside the contract (extra contractual marketing) thereby reducing the sales output or processing output.

(Glover, 1984).

All these problems have begun to express themselves in Zambia. Moyo (1980) indicates that it is of critical importance for future studies on contract farming to pay special attention to the most important areas such as the distribution of benefits between the farmers and the contracting firms, the economics and economic logic of the arrangements in the context of national economy and the individual producer, and to scrutinize the nature of the contract binding the involved parties.

Shula (1988) indicates that the contract farming and marketing system is an invaluable model that can help efficiently resolve some of the economic crisis, especially that of increasing agricultural output. The system accommodates all those farmers facing constraints with production and marketing.
Even though contract farming through out-grower schemes have been promoted and advocated as a form and means of agricultural and rural development, very little research has been done. This is especially the case in evaluating the impact. Understanding the conditions under which contract farming/ out-grower schemes are beneficial to small-scale farmers and agro industries and/or marketing firms is a matter of critical importance. In Zambia this is mainly because the current government policy emphasizes transformation of the economy from a copper-based economy to one based on agriculture.

From the literature review that was carried out, it is clear to see that contract farming is advocated for on grounds of agriculture and rural development. Moyo (1980) and Shula (1988) have mainly indicated the characteristics of Contract farming/Outgrower scheme and what it takes for a successful Contract farming /Outgrower scheme. They have, however, not brought out any reasons for the unsuccessful ones. This study is thus aimed at examining the reasons for the success and failures of different of different categories of farmers engaged in a Contract farming/Outgrower scheme. Lessons drawn from the successful framers will be of great use to those farmers that have not been successful in the Contract farming/Outgrower scheme. The specific Contract farming/Outgrower scheme under consideration is the Agriflora smallholder outgrowers scheme.
CHAPTER 3

3.0 STUDY METHODOLOGY

3.1 Introduction
This was an exploratory case study that used the survey approach to collect data so as to comparatively evaluate the performance of four cooperatives that have farmer membership outgrowing for Agriflora.
In order to address the different objectives, this study was carried out based on the outline below.

3.2 Sample Selection
The population from which the study sample was drawn was a composition of small scale farmers from Katuba, Leobex, Nyemba and Lilayi cooperatives. The total number of small scale farmers was 274 with 87 from Katuba, 40 from Lilayi, 77 from Nyemba and 70 from Leobex.
Sample Size - Due to limitations, the sample size for the study was 46 small scale farmers as respondents. The sample was stratified in four groups based on the four cooperatives under consideration. 17 respondents were from Katuba, 8 from Lilayi, 13 from Nyemba and 8 from Leobex.
Purposive sampling was used so as to ensure that farmers who have been in production for Agriflora for 1 year were sampled.

3.3 Data Collection
In this study, data was collected at two levels, namely: at the institutional level (The contracting firm) and at the farmer level. At the institutional level qualitative and quantitative secondary data was collected using key informant interviews. In addition to this an extensive review of the pertinent literature and analysis of farmer records and operation records of the firm were looked at.

At farmer level, qualitative data was collected using a questionnaire that was semi-structured and administered on the farmer through a personal interview by the researcher.
Of great relevance to the study in the questionnaire included matters that related to extension service received, production and marketing services rendered and farmer’s opinion of the contract they entered into.

3.4 Data Analysis
The analysis of the collected primary data was computer aided using Microsoft Statistical Package for Social Sciences (SPSS) software. This software generated descriptive statistics that gave frequencies about variations of the sample and cross tabulations of the relationship between cooperative performance and other selected variables. Chi square test was used to establish the correlation between selected variables.
CHAPTER 4

4.0 THE CONTRACTING FIRM - AGRIFLORA

4.1 Background

Agriflora Smallholder Outgrowers Scheme was initiated in 1999 in response to the felt need that small scale farmers should have the opportunity to participate in the production of export crops.

Agriflora Limited, Zambia's largest exporter of fresh produce to markets worldwide entered into a partnership with small scale farmers for the production of export crops. These farmers organised themselves into cooperatives to grow export quality vegetables mainly Baby Corn, Mange Tout Peas and Sugar Snap Peas. The Scheme targeted farmers with 1-4 hectare plots within a 50-km radius of Agriflora's internationally accredited pack house, near the Lusaka International Airport

The growers produce the crops in partnership with Agriflora Limited. Farmers provide the land, labour, water, management and indirect input costs. The farmers are grouped up into cooperatives to bulk up the quantity of produce and allow the farmers to be represented through democratically elected executives. All the dealings with the farmer are channeled through the executive to encourage the spirit of cooperation and streamline the administrative load.

Agriflora provides the following:

- Cooperatively based collection centres, which house a refrigerated container, input container and grading bay. The farmers deliver their produce here, bulking it up for collection by refrigerated trucks.
- Trained staff, to issue inputs and grade produce at the cooperative level.
- A cooperatively based extension staff/officials to offer advice in the farmer's fields.
- Inputs (Seed, Fertilizer and Chemicals) on a short-term credit.
• Irrigation on medium term credit facility depending on the farmer's performance (in conjunction with ZATAC).

• Group training's in appropriate techniques to sustainably increase farmer incomes.

• Assured market for produce with prices in foreign exchange, set at the beginning of every season.

• Centrally controlled and monitored crop protection team in line with overseas customer requirements.

• Newsletters and familiarization tours to ensure that cooperative members are abreast of latest developments.

• Centrally located internationally recognised packing and grading facilities to allow farmers access to markets worldwide.

• Information from Agriflora Agronomy department to keep abreast of latest technical developments and customer requirements.

• Support service - Due Diligence department to ensure international social and environmental standards are maintained.

The scheme has recently introduced semi perishable export crops (Washed Arabica Coffee, Paprika and Sunhemp) to stabilize farmer's incomes and reducing risk by a range of crops.

4.2 Operational Setup

The Scheme provides a full package to the small scale farmer.

• Infrastructure - Depot sheds, Input storage container, Refrigerated container and transport.

• Credit Facilities -Input credit on seed and fertilizer, and Irrigation loans.

• Support service - Extension services (Farm visits Grower field days), Due Diligence (Good agricultural practice, Tractability, Paper trail) and Mobile Spray Team (Full control of chemical application, Well trained and equipped operators and State of the art equipment)

• Market - The price of the export crop is known well in advance, highly predictable market, prompt payment and returns are assured.
CHAPTER 5

5.0 STUDY FINDINGS AND DISCUSSION

This chapter deals with the findings and discussion of the study. The demographic characteristics of the study sample are first presented, then an analysis of variables that affect the individual performance of the farmers and the cooperatives they belong to.

5.1 Demographic Characteristics

Table 1 Demographic Characteristics

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<tr>
<td>2-4 ha</td>
<td>3</td>
<td>6.6</td>
</tr>
<tr>
<td>4-6 ha</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Above 6 ha</td>
<td>37</td>
<td>80.4</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Survey Data
Table 1 above shows the demographic characteristics of the farmers that were interviewed. The majority (54.3%) of the farmers were female and the male farmers were in the minority. However gender distribution in the cooperatives differs from one cooperative to another.

The majority (73.9%) of the respondents are aged 50 years and above. Based on the age distribution, the study reveals that most of the farmers are retired and have taken up farming as their main occupation. Eighty seven percent of the farmers are married, while 2.2% are single and 10.9% are widowed, and none are divorced.

In terms of education, 13% of the farmers do not have any formal education, the majority (45.7%) had attained secondary education, and 39.1% with tertiary education and only 2.2% had primary education.

Farm size distribution among the farmers is such that 80.4% had farms larger than 6 hectares, 13% had between 4-6 hectares and 6.6% had farms less than 4 hectares in size.

5.1.1 Gender Distribution

The study revealed that 54.3% of the farmers in the scheme are male and 45.7% female. However, from the cooperative records it was noted that the distribution at cooperative level differs from one cooperative to another. From the study statistics the followings results were obtained:

Table 2 Gender Distribution

<table>
<thead>
<tr>
<th>Cooperative</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katuba</td>
<td>64.70%</td>
<td>35.50%</td>
</tr>
<tr>
<td>Leobex</td>
<td>12.50%</td>
<td>87.50%</td>
</tr>
<tr>
<td>Lilayi</td>
<td>61.50%</td>
<td>38.50%</td>
</tr>
<tr>
<td>Nyemma</td>
<td>62.50%</td>
<td>37.50%</td>
</tr>
</tbody>
</table>

Source: Field Survey Data

The cooperatives that are in predominantly farming regions i.e. Katuba, Lilayi and Nyemma, have male membership in the majority. Leobex mainly has female membership, as most of the farmers are housewives.
5.1.2 Age Distribution

The majority of farmers sampled fell in the age group between 50 years and above. The most productive age group ranging between 31 years and 40 years had the least number of farmers. This implies that the number of youth participating in the project is very small. With this in mind the potential for the scheme to thrive well is not very favorable. 10.9% of the sample farmers fell in the 31 to 40 year old age group, 15.2% fell in the 41 to 50 year age group and the remaining 73% in the 50 years and above age group. The following table shows the age distribution in the four cooperatives.

<table>
<thead>
<tr>
<th>Age</th>
<th>Cooperative</th>
<th>31 to 40 years</th>
<th>41 to 50 years</th>
<th>Above 50 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katuba</td>
<td>11.80%</td>
<td>17.60%</td>
<td></td>
<td>70.60%</td>
</tr>
<tr>
<td>Leobex</td>
<td>12.50%</td>
<td></td>
<td>-</td>
<td>87.50%</td>
</tr>
<tr>
<td>Lilayi</td>
<td>12.50%</td>
<td>12.50%</td>
<td></td>
<td>75.00%</td>
</tr>
<tr>
<td>Nyemba</td>
<td>7.70%</td>
<td>23.10%</td>
<td></td>
<td>69%</td>
</tr>
</tbody>
</table>

Source: Field Survey Data

The high percentage of farmers in the 50 years and above category indicate that most of the farmers are either retired or not in any form of formal employment and have thus taken up farming as a means of livelihood.

5.1.3 Educational Level and Employment Status

Table 4 shows that 13% of the sample farmers have no formal education at all while 2.2% have primary education, 45.7% have secondary education and the remaining 39.1% have tertiary education. Katuba cooperative recorded the lowest number of farmers with tertiary education and the only cooperative with farmers that have no form of formal education. All the farmers in Leobex, Nyemba and Lilayi only fell in the secondary and tertiary education category.
Table 4 Educational Level.

<table>
<thead>
<tr>
<th>Cooperative</th>
<th>None</th>
<th>Primary</th>
<th>Secondary</th>
<th>Tertiary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katuba</td>
<td>35.30%</td>
<td>5.90%</td>
<td>52.90%</td>
<td>5.90%</td>
</tr>
<tr>
<td>Leobex</td>
<td>-</td>
<td>-</td>
<td>37.50%</td>
<td>62.50%</td>
</tr>
<tr>
<td>Nyemba</td>
<td>-</td>
<td>-</td>
<td>46.20%</td>
<td>53.80%</td>
</tr>
<tr>
<td>Lilayi</td>
<td>-</td>
<td>-</td>
<td>38%</td>
<td>62.50%</td>
</tr>
<tr>
<td>% of total</td>
<td>13%</td>
<td>2.20%</td>
<td>45.70%</td>
<td>39.10%</td>
</tr>
</tbody>
</table>

Source: Field Survey Data

\[ X^2 \text{ cal} = 20.13 \quad X^2 \text{ crit} = 16.92 \]

\[ \text{df} = 9 \]

95% level of confidence

Empirical evidence shows that apart from influencing the decision-making power, education level influences technology adoption (Roling, 1988). Those farmers who have at least secondary and tertiary education therefore stood a chance of performing better due to their ability to understand and implement certain agronomic/crop management practices.

The chi-square results show that there is a significant relationship between cooperative performance and the level of education a farmer has. The cooperatives that have farmers with some form of education, most especially secondary and tertiary education stood a better chance of performing well than would be the case with those with no formal education.

The study also revealed that farmers in the cooperatives were either formally employed, housewives, retired or informally employed and engaged in crop production and animal husbandry.
The table below shows the distribution of employment of the farmers in the cooperatives:

Table 5 Employment Status

<table>
<thead>
<tr>
<th>Cooperative</th>
<th>Formal</th>
<th>Housewives</th>
<th>Retired</th>
<th>Farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katuba</td>
<td>11.80%</td>
<td>5.90%</td>
<td>82.30%</td>
<td></td>
</tr>
<tr>
<td>Leobex</td>
<td>-</td>
<td>37.50%</td>
<td>50.00%</td>
<td>12.50%</td>
</tr>
<tr>
<td>Nyemba</td>
<td>-</td>
<td>7.60%</td>
<td>46.20%</td>
<td>46.20%</td>
</tr>
<tr>
<td>Lilayi</td>
<td>25.00%</td>
<td>-</td>
<td>-</td>
<td>75.00%</td>
</tr>
<tr>
<td>% of total</td>
<td>9%</td>
<td>8.70%</td>
<td>23.90%</td>
<td>58.70%</td>
</tr>
</tbody>
</table>

Source: Field Survey Data

\[ X^2 \text{ cal} = 32.94 \quad X^2 \text{ crit} = 25 \]
\[ df = 15 \]

95% level of confidence

The farmers in Nyemba, Lilayi and Katuba are mainly engaged in farming as a form of occupation – they actually make a living out of farming and therefore put in much effort in the programme they are engaged in. The chi-square results show that there is a significant relationship between cooperative performance and employment status. The farmers that have taken up farming as an occupation stood a better chance of doing well compared to those who have not. However this is not the case with Katuba cooperative farmers.

5.14 Household Size

Household size was defined as "a group of people who shared the same cooking pot". Table 6 below shows the relationship between household size and the cooperatives associated with such farmers.
Table 6 Household Size

<table>
<thead>
<tr>
<th>Cooperative</th>
<th>2 to 4</th>
<th>5 to 8</th>
<th>Above 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katuba</td>
<td>11.50%</td>
<td>52.90%</td>
<td>35.30%</td>
</tr>
<tr>
<td>Leobex</td>
<td>-</td>
<td>57.10%</td>
<td>42.90%</td>
</tr>
<tr>
<td>Nyemba</td>
<td>15.30%</td>
<td>38.50%</td>
<td>46.20%</td>
</tr>
<tr>
<td>Lilayi</td>
<td>25.00%</td>
<td>50.00%</td>
<td>25%</td>
</tr>
<tr>
<td>% of total</td>
<td>13%</td>
<td>47.80%</td>
<td>37.00%</td>
</tr>
</tbody>
</table>

Source: Field Survey Data

The majority of the farmers (47.8%) have a household size of between 5 to 8 individuals. The significance of the household size lies on the premise that a larger household will entail more household labour for use on the farm. This is especially the case if the household members are of the productive age group.

Table 7 below shows the distribution of available household labour among the cooperatives.

Table 7 Available Household Labour.

<table>
<thead>
<tr>
<th>Cooperative</th>
<th>1</th>
<th>2</th>
<th>3 Above 3</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katuba</td>
<td>5.90%</td>
<td>17.60%</td>
<td>64.70%</td>
<td>11.80%</td>
</tr>
<tr>
<td>Leobex</td>
<td>25.00%</td>
<td>12.50%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Nyemba</td>
<td>23.10%</td>
<td>46.20%</td>
<td>15.40%</td>
<td>-</td>
</tr>
<tr>
<td>Lilayi</td>
<td>-</td>
<td>50.00%</td>
<td>13%</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Field Survey Data

Katuba farmers availed 100% of their household members for labour use on the farm in all the three different categories outlined - first category (1 household member) 5.9%, second category (2 household members) 17.6%, third category (3 household members) 64.7% and the fourth category (more than 3 household members) 1.8%. Leobex on the other hand avails 37.5% of their household members for labour in the first and second category. Nyemba avails 84.6% and Lilayi 62.5%. The main advantage of family labour is that it does not usually receive cash payments or wages. Therefore, those farmers who do not completely rely on hired labour cut down on their labour costs.
5.2 Farm Related Aspects

5.2.1 Farming Experience and Length of Affiliation in the Scheme.

With increased farming experience, a farmer is expected to perform well. The farmers that are located in the predominantly farming areas of Katuba, Nyemba and Lilayi cooperatives are expected to have more farming experience than those in Leobex cooperative.

The study revealed that 100% of the farmers in Lilayi have over 10 years of farming experience. Eighty four percent (84.7%) of the farmers in Nyemba cooperative have over 10 years of farming experience while 15.3% only have between 1 to 5 years of farming experience. In Leobex cooperative, the majority (87.5%) have less than 5 years of farming experience and the remaining 12.5% have between 5 to 10 years farming experience. Katuba on the other hand has the majority (70.6%) of its farmers with over 10 years of farming experience. Table 8 below shows the farming experience distribution of the farmers in the four cooperatives.

Table 8 Farming Experience

<table>
<thead>
<tr>
<th>Cooperative</th>
<th>1 to 5 years</th>
<th>5 to 10 years</th>
<th>Above 10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katuba</td>
<td>5.90%</td>
<td>23.50%</td>
<td>70.60%</td>
</tr>
<tr>
<td>Leobex</td>
<td>87.50%</td>
<td>12.50%</td>
<td>-</td>
</tr>
<tr>
<td>Nyemba</td>
<td>15.30%</td>
<td>-</td>
<td>84.70%</td>
</tr>
<tr>
<td>Lilayi</td>
<td>-</td>
<td>-</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Field survey data

\[ X^2 \text{ cal} = 32.35 \quad X^2 \text{ crit} = 16.92 \]

df = 9

95% level of confidence

Based on the above results, Katuba, Nyemba and Lilayi cooperative farmers stood a better chance of performing well due to the high rate of farming experience that the
farmers have. The chi-square results confirm that there is a significant relationship between a farmer's farming experience and the performance of their cooperatives.

**Length of affiliation in the Scheme:** The longer the length of time the farmers have been actively involved in the scheme, the more likely they are to perform well. This is complemented with the amount of farming experience a farmer has. The majority of the farmers in the scheme that have been affiliated with Agriflora for over two years are from Nyemba and Lilayi cooperatives while those from Katuba and Leobex cooperatives are in the minority, with the majority having less than 2 years of affiliation with Agriflora. Table 9 below shows the frequencies of the cooperatives and the length of affiliation in the scheme.

<table>
<thead>
<tr>
<th>Cooperative</th>
<th>1 year</th>
<th>1 to 2 years</th>
<th>Above 2 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katuba</td>
<td>12.50%</td>
<td>68.70%</td>
<td>18.80%</td>
</tr>
<tr>
<td>Leobex</td>
<td>12.50%</td>
<td>75%</td>
<td>12.50%</td>
</tr>
<tr>
<td>Nyemba</td>
<td>-</td>
<td>30.80%</td>
<td>69.20%</td>
</tr>
<tr>
<td>Lilayi</td>
<td>-</td>
<td>37.50%</td>
<td>62.50%</td>
</tr>
</tbody>
</table>

\[ X^2 \text{ cal} = 12.77 \quad X^2 \text{ crit} = 12.59 \]
\[ df = 6 \]
95% level of confidence

The chi square results indicate that there is a significant relationship between a farmer's length of affiliation in the scheme and the performance of his/her cooperative. The majority of the farmers in Lilayi and Nyemba cooperative have been involved in the scheme for over 2 years, with 69.2% in Nyemba and 62.5% in Lilayi. However in Katuba and Leobex cooperatives, the minority of the farmers have over 2 years of affiliation in the scheme, with 18.8% in Katuba and 12.5% in Leobex.
5.2.2 Labour and Supervision of work.

Most of the labour employed on the farms was in the form of permanent and casual part-time labour. Twenty percent (20%) of the farmers fully relied on permanent labor while 33.3% relied on both permanent and part-time labour. Only a few of the farmers’ engaged family labour as a way of supplementing the other forms of labour. Labour is hired for weeding, land preparation and harvesting.

The crops grown in the scheme are highly labour intensive most especially in the harvesting period. Much of the crop can be lost during this period if there are delays in harvesting due to inadequate labour or poor harvesting techniques. The farmers need to ensure that they supervise their labour and actively participate in the actual work in their fields.

The study revealed that 78.35% of the farmers actively supervised the work on their farms. Farmers in Lilayi represent 87.5% of the farmers who actively supervise their farm workers, 76.9% from Nyemba and 100% from Katuba. Among the Leobex farmers, only 25% of the farmers supervise their farm workers. A large (75%) proportion of the Leobex farmers simply delegate the work to their farm workers without actually supervising them or actively participating in the farm work.

It is evidenced from the chi-square results, which confirm that there is a relationship between cooperative performance and the farmer’s supervision of farm work.

Table 10 shows the distribution of the type of labour used in the cooperatives and table 11 shows the distribution of work supervision among the farmers in the cooperatives.
Table 10 Type of Labour Used

<table>
<thead>
<tr>
<th>Type of Labour</th>
<th>Katuba</th>
<th>Leobex</th>
<th>Nyemba</th>
<th>Lilayi</th>
<th>% of Cooperative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent</td>
<td>-</td>
<td>62.50%</td>
<td>15.40%</td>
<td>25.00%</td>
<td>20%</td>
</tr>
<tr>
<td>Permanent and Part time</td>
<td>-</td>
<td>37.50%</td>
<td>53.80%</td>
<td>62.50%</td>
<td>33.30%</td>
</tr>
<tr>
<td>Part time and Family</td>
<td>18.80%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6.70%</td>
</tr>
<tr>
<td>Permanent, Part time</td>
<td>81.20%</td>
<td>-</td>
<td>30.80%</td>
<td>12.50%</td>
<td>40%</td>
</tr>
<tr>
<td>And Family</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Field Survey Data

Table 11 Supervision of Farm Work

<table>
<thead>
<tr>
<th>Cooperative</th>
<th>Supervision of farm work</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Katuba</td>
<td>100.00%</td>
</tr>
<tr>
<td>Leobex</td>
<td>25.00%</td>
</tr>
<tr>
<td>Nyemba</td>
<td>76.90%</td>
</tr>
<tr>
<td>Lilayi</td>
<td>87.50%</td>
</tr>
<tr>
<td>% of total</td>
<td>78.30%</td>
</tr>
</tbody>
</table>

Source: Field Survey Data

\[ X^2 \text{ cal} = 18.48 \quad X^2 \text{ crit} = 7.82 \]

\[ \text{df} = 3 \]

95% level of confidence

5.2.3 Record Keeping.

Record keeping is a very important and essential aspect of running a farm business. Physical records concerning the farm and its performance are essential to implement any financial information. The records assist in checking current performance, are an aid for directly controlling the business and its constituent parts, aid in the analysis of past results in attempting to detect weaknesses and strengths of to guide future decisions, and they provide planning data (Barnard and Nix, 1983).
The study revealed that the majority of the sampled farmers who keep any farm production records are from Lilayi (33.3%) and Nyemba (53.3%). The remaining 4.4% of the farmers were from Katuba while none of the sampled farmers in Leobex kept any farm records. However the chi-square results indicate that there is no significant relationship between cooperative performance and record keeping among the farmers. Table 12 below shows the distribution of record keeping in the cooperatives.

Table 12 Record Keeping

<table>
<thead>
<tr>
<th>Cooperative</th>
<th>Record Keeping</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Katuba</td>
<td>12.50%</td>
<td>87.50%</td>
<td></td>
</tr>
<tr>
<td>Leobex</td>
<td>-</td>
<td>100.00%</td>
<td></td>
</tr>
<tr>
<td>Nyemba</td>
<td>61.50%</td>
<td>38.50%</td>
<td></td>
</tr>
<tr>
<td>Lilayi</td>
<td>62.50%</td>
<td>37.50%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Field Survey Data

\[X^2 \text{ cal} = 0.79 \quad X^2 \text{ crit} = 7.82\]

\[\text{df} = 3\]

95% level of confidence

5.2.4 Other Income Generating Activities

The study revealed that those farmers that are engaged in other income generating activities such as chicken rearing for eggs or meat; vegetable production like tomatoes, onions, cabbages and rape; and small grocery stores, had some extra income to spend on wages for permanent and casual workers. Sixty percent (60%) of the sampled farmers who are engaged in other income generating activities are from Nyemba and Lilayi, with 92.3% from Nyemba and 75% from Lilayi. The chi-square results confirm the fact that there is a significant relationship between cooperative performance and the engagement of farmers in other income generating activities.

With this extra income, the Lilayi and Nyemba farmers could also easily outsource cheaper fertilizers from other fertilizer dealers instead of getting it on loan from Agriflora
at an expensive price. With this the farmers also reduce on their indebtedness to Agriflora.

Table 13 below shows a summary of the distribution of farmers engaged in other income generating activities.

Table 13 Other Income Generating Activities

<table>
<thead>
<tr>
<th>Cooperative</th>
<th>Other Income Generating Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Katuba</td>
<td>43.90%</td>
</tr>
<tr>
<td>Leobex</td>
<td>37.50%</td>
</tr>
<tr>
<td>Nyemba</td>
<td>92.30%</td>
</tr>
<tr>
<td>Lilayi</td>
<td>75%</td>
</tr>
</tbody>
</table>

Source: Field Survey Data

\[ \chi^2 \text{ cal} = 8.38 \]  \[ \chi^2 \text{ crit} = 7.82 \]
\[ \text{df} = 3 \]
95% level of confidence

4.3 Extension Service

The extension service provided by Agriflora is in the form of extension visits by extension staff; Farmer field days in the various cooperatives and at the Agriflora demonstration plot; and the provision of growing guides and basic agronomic guides in crop production.

Katuba cooperative does not receive any extension service in the form of farmer field days within the cooperative. This is basically because there was no provision for such due to financial limitations on the part of the contracting firm. Coupled with the low levels of literacy in this cooperative and the very few and irregular extension visits by the extension staff, the farmers in the cooperative are not well informed on the crop production practices that would enable them perform satisfactorily.

About eighty eight percent of the farmers in Leobex attend the field days held in their cooperative, however these farmers do not actively supervise their farm workers or
physically participate in the farm work, thereby making the reason for their attendance fruitless. Nyemba and Lilayi cooperative farmers recorded a 100% response to attendance of the farmer field days in their cooperatives. These farmers therefore stand a good chance of performing well since they are also actively involved in the supervision and physical farm work on their farms.

With regards to extension staff visits, 66.7% of the Katuba farmers felt that the extension visits were not adequate enough (one visit per month). Leobex farmers also had the same complaints with 85.7% of the farmers indicating that the visits were not adequate. About ninety two percent of the Nyemba farmers and 87.5% of the Lilayi farmers expressed satisfaction over the amount of extension visitations they received.

Further investigations revealed that the extension visits were more frequent in Nyemba and Lilayi cooperatives with at least two visitations made to a farmer each month, unlike the Leobex and Katuba farmers who received one or no visitations at all.

The chi-square results confirm that there is a significant relationship between cooperative performance and the number of extension visits made to the farmers in the cooperatives.

Table 14 and 15 below shows statistics on the above findings.

Table 14 Adequacy of extension visits

<table>
<thead>
<tr>
<th>Cooperative</th>
<th>Adequacy of Extension Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Katuba</td>
<td>3.30%</td>
</tr>
<tr>
<td>Leobex</td>
<td>14.30%</td>
</tr>
<tr>
<td>Nyemba</td>
<td>92.30%</td>
</tr>
<tr>
<td>Lilayi</td>
<td>87.50%</td>
</tr>
</tbody>
</table>

Source: Field Survey Data
Table 15 Number of extension visits

<table>
<thead>
<tr>
<th>Cooperative</th>
<th>Once</th>
<th>Twice</th>
<th>3 times</th>
<th>More than 4 times</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katuba</td>
<td>73.30%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>26.70%</td>
</tr>
<tr>
<td>Leobex</td>
<td>71.40%</td>
<td>14.30%</td>
<td>-</td>
<td>-</td>
<td>14.30%</td>
</tr>
<tr>
<td>Nyemba</td>
<td>23.10%</td>
<td>46.20%</td>
<td>23.10%</td>
<td>7.60%</td>
<td>-</td>
</tr>
<tr>
<td>Lilayi</td>
<td>25.00%</td>
<td>62.50%</td>
<td>12.50%</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Field Survey Data

X² cal =14.53
X² crit = 12.59

df = 6

95% level of confidence

4.4 Beneficiary Assessment

The beneficiary Assessment was done to give a chance to the small scale farmers to express their opinion on what they perceived were the strengths and weaknesses of the contract they entered into with Agriflora.

Strengths of Agriflora
- Good marketing arrangement for the produce i.e. assured market for the produce.
- Extension service even for other farm enterprises through the Ministry of Agriculture and Cooperative Extension staff attached to Agriflora.
- Provision of long term Irrigation loan facility through ZATAC.
- Farmer field days that provide training's on good agricultural practices and in business skills.

Weaknesses of Agriflora
- Irregular extension visits
- Late payments to the farmers for produce delivered
- Late delivery of inputs
- Too expensive fertilizer.
4.5 Depot facility - Katuba Cooperative

Katuba cooperative does not have any electricity. The operations of the depot are largely dependent on electricity mainly for the refrigerated container. Since there is no electricity in this cooperative there was no provision for a refrigerated container. As a result much of the crop that was collected in this cooperative did not meet the export standards since it was in most cases dehydrated.

In addition to this, there was irregular collection of the produce from the cooperative depot collection centre. The low levels of production associated with this cooperative were therefore as a result of the poor post harvest support service or provision.
CHAPTER 6

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSION
Following the findings in this study, it can generally be concluded that, the exceptional performance of farmers in Nyemba and Lilayi cooperatives is mainly attributed to the fact that these two cooperatives are located in one of the oldest predominately agriculture/farming communities of Lusaka. The farmers in these cooperatives are active farmers who grow not only the crops prescribed by Agriflora, but also a wide range of other crops such as Maize, Potatoes, Cabbage, Rape, Onions etc. In addition to this these farmers are also engaged in one form of animal husbandry or another.

Given this farming background, the farmers in these two cooperatives have been able to perform well on account of the fact that they have been able to make use of their prior farming experience. As farmers they have taken full charge of their farming activities and made farming a part of their life. Out of all the sample farmers interviewed 78.3% of the farmers actively supervise their farm workers and participate in the field activities on their farms. A large proportion of these farmers are from Nyemba and Lilayi.

Other factors that have contributed to the good performance of these farmers include the following:

- The engagement of the farmers in other income generating activities. Over ninety two percent of the farmers in Nyemba and 75% of the farmers in Lilayi are engaged in other income generating activities. This entails that the farmers will in most cases have cash at hand to pay for their labour and fertilizer inputs before they get their dues from the contracting firm.

- The farmers in these two cooperatives carry out good farm management practices such as record keeping. With proper farm production records the farmers would be able to plan their production well by looking at their input costs, labour costs and
requirements, etc. The records will also assist them in tracking any deviations from scheduled targets or goals.

- Compared to the other two cooperatives that have not performed well, the farmers in Lilayi and Nyemba Cooperatives receive more frequent visits from extension staff and they also attend farmer field day meetings in their cooperatives. Coupled with this, the farmers practice what they are taught in the field day meetings since they are actively involved in the activities that are carried out on their farms.

Despite the fact that Katuba cooperative is also a farming community, the farmers in this cooperative did not perform well mainly due to the large proportion of their produce not meeting the export quality standards. As already alluded to, this cooperative did not have a refrigerated container at its depot collection centre which meant that the level of post harvest care was not in line with what was expected of the quality of the produce. Other factors that have contributed to their poor performance are:

- Inadequate incomes to meet their needs for cheaper sources of fertilizer (Fertilizer obtained from Agriflora attracts a certain amount of interest).

- Inadequate extension services i.e. very few extension staff visits to the farmers. About sixty seven percent of the farmers felt that the once monthly extension visits were not enough.

- The absence of farmer field days in the cooperatives for further farmer training's in the management of the farm as a business.

- The low literacy levels amongst the farmers - This could have resulted in the farmer's inability to implement certain farm management practices.

As a result of the poor performance of Katuba cooperative, it has since been shut down. Agriflora no longer operates in this cooperative since it proved rather costly for the company to stay on.

Leobex cooperative on the other hand performed rather badly mainly due to the following reasons:

- Very limited farming experience among the farmers.
• Lack of commitment in the participation of the farm work. Most of these farmers delegate work to be carried out and do not actively supervise their farm workers.
• The farmer field day attendance is quite good (87.5% of the Leobex farmers attend these meetings) however, these farmers do not put to use what they learn since they are not involved in the actual farm work and supervision of their workers.

6.2 RECOMMENDATIONS

The success of this scheme in bringing about agricultural development, agricultural diversity and most important of all the development of farmers who will run their farms more efficiently lies in the ability of the contracting firm in carrying out the necessary adjustments to the implementation process of the scheme.

The performance disparities among the cooperatives in the scheme will continue to exist until the specific limitations and short falls in the specific cooperatives are addressed. To effectively address those factors that have attributed to the performance disparities, there is need for the contracting firm to do the following:

• Improve on the delivery of extension services to the most affected cooperatives.
• Prepare special agronomic training's for farmers and their farm workers, most especially in Leobex cooperative.
• Consider having locally based extension officers who can be at the call of the farmers whenever they were in need of agronomic advice.
• Embark on training contact farmers within the cooperatives who will in turn act as extension agents among their fellow farmers.
• Carryout farmer exchange visits to enable the poor performing farmers learn a lesson or two from the other farmers in the cooperatives that have done well.

Though Katuba operations with Agriflora is no longer in existence, the main way of improving the performance of the farmers in this cooperative was

• to have either a refrigerated container for storage of the produce as it awaits collection; or
• to have a regular and reliable arrangement for the collection of produce as it is harvested i.e. collection of the produce from the depots should be timely and scheduled.

Overall and above, there is basically the need for the farmers in the cooperatives to show some level of commitment towards the programme that they have embarked on. This coupled with the efficient delivery of the services that Agriflora has to offer its farmers can definitely yield promising results.
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### AGRIFLORA SMALLHOLDER COOPERATIVE OUTGROWER SCHEME

<table>
<thead>
<tr>
<th>Cooperative</th>
<th>Budgeted Kg</th>
<th>Packed Kg</th>
<th>% Of Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katuba</td>
<td>59,698</td>
<td>4,752</td>
<td>8</td>
</tr>
<tr>
<td>Leobex</td>
<td>55,477</td>
<td>26,039</td>
<td>47</td>
</tr>
<tr>
<td>Nyemba</td>
<td>21,709</td>
<td>21,242</td>
<td>98</td>
</tr>
<tr>
<td>Lilayi</td>
<td>23,819</td>
<td>23,384</td>
<td>98</td>
</tr>
</tbody>
</table>

Budgeted Kg - Budgeted export for the 2000/2001 growing season (In US$)
Packed Kg - Exported Quantity (In US$)
Percentage Budget - Performance against budgeted amount
APPENDIX  II

QUESTIONNAIRE

Instructions: Please circle the appropriate answer and write on the provided space.

A. DEMOGRAPHIC CHARACTERISTICS

1. Cooperative Membership:

2. Sex of small-scale farmer: 1. Male  2. Female

3. Age of Small Scale Farmer:
   1. Below 30 years
   2. Between 31 and 40
   3. Between 41 and 50
   4. Above 50

4. What is your marital status?
   1. Married
   2. Single
   3. Divorced
   4. Widowed

5. What is the size of your household (people you live and eat with)?
   1. Between 1 and 4
   2. Between 5 and 8
   3. Above 8
5. Level of Education of Small Scale Farmer:
   1. No formal Education
   2. Primary Education
   3. Secondary Education
   4. Tertiary Education

7. What is your occupation?

8. Are you engaged in any other income generating activities?
   1. Yes  2. No

9. If yes to 8 above, what other activities are they?
   1. Livestock Production
   2. Crop Production
   3. Other activities (Specify)

B. AGRICULTURE / ECONOMIC CHARACTERISTICS

1. For how long have you been farming?
   1. Between 1 and 5 years.
   2. Between 5 and 10 years
   3. Above 10

2. When did you join the Agriflora Out-grower Scheme?
   1. Less than a year ago
   2. Between 1 and 2 years ago
   3. Over 2 years ago
3. Why did you join the Agriflora Out-grower Scheme?
   1. To make money
   2. Peer pressure
   3. Prestige
   4. To receive free inputs
   5. Other (specify)

4. What is the size of your farm?
   1. Between 1 and 2 ha.
   2. Between 2 and 4 ha.
   3. Between 4 and 6 ha
   4. Above 6 ha

5. Are you involved in any other Agriculture crop production activities apart from the Agriflora scheme?
   1. Yes  2.No

6. If Yes to 5 above, what other crops do you grow?
   6. Others (specify)

7. Do you sell some of these other crops or consume them?
   1. Sell all
   2. Sell and consume
   3. Consume all
8. If No to 5 above, why don’t you grow other crops?
   1. Do not have seed and fertilizer inputs for them
   2. Do not have enough land
   3. Do not have enough labour
   4. Others (specify) ____________________________

9. How do you prepare your land?
   1. Tractor hired and Hand Hoe Labour.
   2. Tractor own and Hand Hoe Labour.
   3. Oxcart plough hired and Hand Hoe Labour.
   4. Oxcart plough own and Hand hoe labour.
   5. Hand Hoe Labour.

10. Do you actively participate in the supervision of work on your farm?
    1. Yes   2. No

11. What form of labour is used in the production of the crops you grow?
    1. Permanent hired labour
    2. Part-time casual labour
    3. Family labour
C. **AGRICULTURAL INPUT LOAN FACILITY**

1. Do you get sufficient seeds for your field from Agriflora?

   1. No  
   2. Yes

2. What are your sources of fertilizer?

   1. Agriflora

   2. Others (specify the source) ______________

3. What kind of fertilizer do you use?

   1. Chemical (inorganic)

   2. Manure (organic)

   3. Both 1 and 2 above

4. How do you look at this contract on fertilizer and seed provision?

   1. Very good

   2. Good

   3. Bad

   4. Very bad

   Explain your answer:

   ______________________________________

   ______________________________________

5. Have you procured any irrigation Equipment from the Agriflora Irrigation Loan?

   1. Yes  
   2. No

6. If yes to 5 above, what benefit have you derived from the Agriflora Irrigation System?

7. What problems have you had with the Agriflora Irrigation Equipment?

   ______________________________________
8. Have you started making payments for the irrigation loan?
   1. Yes  2. No

8. If no to 8 above, Give reasons why:

D. SUPPORT SERVICES

1. Do you receive any Agriculture Extension service?
   1. Yes  2. No

2. How many times in a month are you visited?

3. Are these visits enough?  1. Yes  2. No

4. Do you attend extension meeting and field day meetings held in your cooperative?
   1. Yes  2. No

5. Do you benefit from extension visits or field day meetings?  1. Yes  2. No

E. PRODUCTION QUALITY AND QUANTITY

1. Do you keep any farm production records?
   1. Yes  2. No

2. Do you get the correct plant population for the Agriflora crop(s) that you grow?
   1. Yes  2. No
3. Has your crop ever been rejected?  1. Yes  2. No

4. If yes to 4 above, what were the reasons for it been rejected?
   1. Overgrown produce
   2. Under grown produce
   3. Withered produce
   4. Bloused produce
   5. Others reasons (specify) ________________________________

6. What mode of transport do you use to deliver your produce?
   1. Open van
   2. Bicycle and Wheel barrow
   3. Open van and Wheelbarrow
   4. Open van and Car
   5. Oxcart and wheel barrow
   6. Bicycle
   7. Other mode (specify) ________________________________

7. Do you ensure that the produce is kept safely from heat, mechanical damage, etc when transporting it?
   1. Yes  2. No
F. FARMER AND THE CONTRACT

1. Do you understand the pricing mechanism behind the price quoted to you?
   1. Yes   2. No

2. How long does it take for Agriflora to pay you once you have delivered your produce?
   1. Less than 3 weeks
   2. Between 3 and 4 weeks
   3. Between 4 and 6 weeks
   4. Above 6 weeks

3. How has your status changed from the time you became an Agriflora Out-grower?
   Has it,
   1. Improved
   2. Remained the same
   3. Declined

   Explain your answer: ____________________________________________

4. How do you think the contract you have entered into with Agriflora can be improved
   and what are your recommendations?
   ____________________________________________
   ____________________________________________

Thank you.