

**AGRICULTURAL COOPERATIVES AS STRATEGY  
FOR RURAL DEVELOPMENT IN RWANDA: A CASE  
STUDY OF COVEPAR**

**BY**

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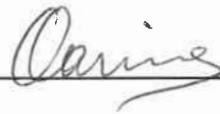
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## DECLARATION

I hereby certify that this dissertation is my original and authentic work that has not yet been accepted for the award of any degree and is not being submitted in application for any other degree. Wherever use of others' work is made in the text, it is duly acknowledged.

Signed

A handwritten signature in cursive script, appearing to read "Carine", written over a horizontal line.

Emma-Carine Uwantege

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## ABSTRACT

When agricultural cooperatives are very well organized and implemented with sufficient means and committed people, then they can help to achieve rural development. COVEPAR - Cooperative for Valorization and Exportation of Rwandan Agricultural Products- created by local people of Butare Province in October 2001, aimed to participate in the process of poverty reduction in rural areas by increasing the value and exportation of Rwandan products.

The main hypothesis of the research was that COVEPAR allows for diversification of individual farmers' income and increases markets for the members. This study was undertaken in order to see the contribution of COVEPAR in achieving solutions for problems of agriculture in general and farmers in particular. Particularly, the focus was on its contribution in poverty reduction in Butare Province. The results of this research showed that in two years of activities (having started its activities in April 2003) COVEPAR has managed to introduce a new cash crop (chilli pepper) in Rwanda in general and in Butare in particular. Also, farmers who used to sell their production at local markets are now selling at international markets through COVEPAR. However, they are still complaining about the price at which COVEPAR buys their production. Cassava, an old food crop in Rwanda, is also one of the two products that COVEPAR is interested in. The experience of COVEPAR showed that it is also revenue generating at international market (European market). This is real when cassava is transformed into good quality cassava flour or starch.

The research also showed that COVEPAR participates in agriculture intensification. It is the second source of modern inputs for its members not taking into consideration household residues. It also sensitises its members to use modern inputs and agricultural techniques through PEARL Project agronomists, one of its main supporter projects. About the addition of value, COVEPAR processed cassava roots into cassava flour and obtained 12 tons that in turn were sold on the European market. However, this cassava had not come from associations. COVEPAR had bought it at short notice from any producer who was selling, because it was an urgent situation of exploring the European market's response to their product. Fortunately, the European

buyers approved the product and guaranteed the market. At present, COVEPAR is constructing a modern transformation unit that will help to obtain good quality cassava flour, ready for export, in Butare Province. It is also in the stage of sensitising its members to cultivate improved seedlings of cassava in order to obtain high production. So, as the market is already identified, the additional value process will continue. In future production the focus will be mainly on cassava roots obtained from its members.

For chilli pepper, COVEPAR sells a non-finished product. The chilli pepper is only put into packages after it is thoroughly dried and sorted. However, members of the chilli pepper associations have improved their lives more than that of the cassava associations. Apart from buying food and clothes like cassava associations, they have also covered other important needs like buying livestock, bicycles, new farms, new house, etc. COVEPAR has also contributed to job creation in Butare Province.

Although the achievements have been many in the relatively short period of two years, COVEPAR is also facing many problems. It is inadequately organized with some very important institutions such as general assembly, board of management and auditors still being absent from its managerial structure. Also, it has lack of financial capital that puts it in the unfortunate situation of bringing about misunderstanding with members because of delays in payments. The other problems are poor communication and collaboration with members. In addition, COVEPAR works with a lot of associations that are more than its financial and technical means can afford. Therefore, if these shortcomings are not corrected as soon as possible, COVEPAR objectives will not be reached and it will inevitably share the same fate as other cooperatives that have existed and failed in Rwanda.

## LIST OF ABBREVIATIONS AND ACRONYMS

ACBF	African Capacity Building Funds
ACDI/VOCA	Agricultural Cooperative Development International/ Volunteers Overseas Cooperative Assistance
ARMDP	Agricultural and Rural Markets Development Project
BNR	Banque Nationale du Rwanda
CERAI	Centre d'Enseignement Rural et Agricole Intégré
CFJ	Centre de Formation des Jeunes
CIRAD/AMIS	Centre de Coopération Internationale en Recherche Agronomique pour le Développement/Amélioration des Méthodes pour l'Innovation Scientifique
COVEPAR	Cooperative for Valorization and Exportation of Rwandan Agricultural Products (Coopérative pour la Valorisation et l'Exportation des Produits Agricoles Rwandais)
f.o.b	freight on board
FACAGRO	Faculty of Agriculture
FAO	Food and Agriculture Organization
FAOSTAT	Food and Agriculture Organization/ Statistics
G.S	Groupe Scolaire
GDP	Gross Domestic Product
Ha	Hectare
ICA	International Cooperative Alliance
ISAR	Institut des Sciences Agronomiques du Rwanda
Kg	Kilogram
MINAGRI	Ministry of Agriculture, Animal Resources and Forestry
MINALOC	Ministry of Local Government and Social Affairs
MINECOFIN	Ministry of Economic Planning and Finance
MINEDUC	Ministry of Education
MINICOM	Ministry of Commerce Tourism and Cooperatives
MININFRA	Ministry of Infrastructures
NBR	National Bank of Rwanda

NGOs	Non Governmental Organizations
OCIR	Office des Cultures Industrielles du Rwanda
PEARL	Partnership for Enhancing Agriculture in Rwanda through Linkages
PIP	Public Investments Program
PMB	Pietermaritzburg
PRSP	Poverty Reduction Strategy Progress
RAVAC	Regroupement des Associations pour la Valorisation des Cultures (Reassembly of Associations for Valorization of Products).
Rwf	Rwandan franc
S.A.	South Africa
SPSS	Statistical Package for the Social Sciences
UK	United Kingdom
UKZN	University of KwaZulu-Natal
USA	United States of America
USAID	United States of America for International Development
USD	United States Dollar
US\$	United States Dollar
€	Euro



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# CHAPTER 1

## GENERAL INTRODUCTION

### MAP OF RWANDA



Source: <http://www.ictj.org/gifs/Rwanda.pdf>.

Note: The word "Prefecture" is now changed and replaced by "Province".

## 1.1 Problem Statement

According to Sumberg et al. (2004:131) “Agriculture (including livestock production and other natural resource management activities) is central to the well being of African populations and African economies”. This applies especially to Rwanda. It is one of the central African countries bounded by Uganda in the North, the Democratic Republic of Congo in the West, Tanzania in East and Burundi in South. Rwanda is an underdeveloped and landlocked country of 26 338 km<sup>2</sup> with a population of 8 128 553 inhabitants, according to data provided by the national census done in 2002. Of that population, 83 percent live in rural areas (MINECOFIN, 2004). While Africa’s overall population growth rate is 2.8 percent a year (African Development Bank, 2000), the Rwandan population growth rate is over 3 percent per year (MINECOFIN, 2000). As a result, Rwanda is classified among the more populated countries, not only in Africa, but also globally, as highlighted by Stewart et al. (1992:100) “its population density approaches that of India”.

The Rwandan economy is dominated by agriculture, which “holds more than 90 percent of the population and contributes to about 90 percent of export revenue” (MINECOFIN, 2000:6). However, Rwandan agriculture is mainly subsistence, characterized by smallholdings and low soil productivity due to over-cultivation and low use of modern inputs (MINECOFIN, 2003a). In fact, Rwandan farmers have been slaves of tradition, devoting their time and energies on the food crops of their ancestors, such as beans, sweet potatoes, cassava, bananas, etc. and have only produced coffee and tea as industrial crops since the country was colonised. They have been unaware of modern cultivation techniques and transformation technology of agricultural products, which would increase their marketable value. Besides the small production obtained, it is not easy for farmers to market their produce because of the long distances to the nearest markets and the very low prices paid by the commercial tradesmen and intermediaries.

Around half (49.6 percent of households stay in more than one hour from a food market. Only 14.8 percent of the Rwandan “cellules<sup>1</sup>” have a market daily or

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<sup>1</sup> Administrative entity under the control of a sector comprising of many groups of 10 houses each.

weekly and the average distance to reach the market is about 4.6 km. 38.4 percent of the rural communities are within more than 5 km of distance from the nearest market (more than 45 percent in Kibungo, Umutara and Kibuye) and 12.8 percent are within more than 10 km of distance (20 percent or more in Cyangugu and Gikongoro) (MINECOFIN, 2002a:37).

All these factors make Rwandan agriculture that of subsistence farming, rather than marketable farming, which in turn results in a chronic situation of poverty because of the low income generated. The problem of poverty remains alarming for all levels concerned. There is a constant and ongoing need to improve the socio-economic conditions of the rural areas, as they are the principle starting points where the development of the whole country has to begin.

Therefore, the Rwandan Poverty Reduction Strategy Progress' (PRSP) objective is to raise half of population presently living below the poverty line out of poverty by 2015 (MINICOFIN, 2003a). According to MINICOFIN (2002b) the population living below the poverty line in Rwanda is currently estimated at 60 percent.

The emphasis on agriculture has been the creation and strengthening of associations and cooperatives as channels for marketing and extension of services (MINECOFIN, 2003a). The strategies adopted until now sought to improve agriculture for a better productivity that can increase the food security of the country. However, many farmers remain unaware of modern production techniques, food processing and economic strategies that can not only increase the quantity and quality of harvests, but also increase the farmers' negotiation capacity. To correct this situation, a collective effort of the government and the population is needed to rectify the situation as a matter of urgent priority. As the contributions of the individual farmers remain insignificant, the agricultural population favours the option of working in groups and forming associations or cooperatives where each member contributes his or her skills, aptitudes and capacities.

The socio-economic fulfilment of the rural population in particular and the country in general will be reached only if the members of these cooperatives or associations become conscious of the problems that persist in the rural areas, be involved in the elaboration of priority actions to be undertaken, and their implementation. This is

essential because the critical components of success in agriculture and rural development result from effective participation of members who are at the grassroots of the organizations (Dhanakumar, 2001).

Cooperatives and associations have existed in Rwanda since the colonial period but did not bring about substantial changes. The very centralized government policy did not let the population become totally involved or realise their potential. The political leaders imposed the authority for various reasons, and the population had little if any understanding of the cooperatives' objectives and the socio-economic realities of the country. That is why most of them failed.

After the war and genocide of April 1994 that destroyed social, economic and human infrastructures, a lot of NGOs and other donors came to Rwanda with humanitarian aid to help to rebuild the country. The privileged people were those who were members of associations or cooperatives. As a result, many other associations and cooperatives were organized. However, after the period of assistance (1998) most of them dissolved or existed only in name and not as functioning bodies. A fundamental shortcoming is that they had not been established because of a need to further the development of the members themselves, but because of foreign aid. Also, the centralized government policy did not let the population become fully involved in development activities.

In May 2000 the Rwandan government was changed from centralization to decentralization of decision-making and planning. The new objective was to empower the Rwandan people at all levels to actively participate in the political, economic and social transformation of their country (MINALOC, 2001). Identification and implementation of priority actions have to be done at a local level by the local population themselves. The agricultural sector always remains the pillar of the priorities for a socio-economic development of the rural areas. Accordingly, the population identified agricultural cooperatives and associations as the best solutions to deal with their problems. It is with these objectives and ideas that the Cooperative for Valorization<sup>2</sup> and Exportation of the Rwandan Agricultural Products commonly

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<sup>2</sup> Addition of value.



called Ethnic food (COVEPAR) was started. It is a collective enterprise of businessmen, some elite officials of Butare Province and the representatives of various agricultural associations of Butare Province.

This study is undertaken in order to examine the agricultural cooperatives, such as COVEPAR, which were conceived by the local population according to the real problems they encountered daily, rather than those that had been conceived and established by external influences. Also, to see whether these cooperatives are making any contribution to the socio-economic development of the rural areas.

Final recommendations are formulated based on the research results and may indicate a good starting point for the improvement of Rwandan agriculture in general and cooperatives in particular.

## **1.2 Objectives of the study**

The main objective of this study is to show the importance and contribution of agricultural cooperatives in improving agriculture in order to reach rural development in general and in Rwanda in particular. Particularly, the contribution of COVEPAR in achieving solutions for problems of agriculture in general and farmers in particular. Therefore, its contribution in poverty reduction in Butare Province. The specific objectives are as follows:

1. Evaluation of agricultural cooperatives in general.
2. Evaluation of socio-economic impact of the COVEPAR in its action area.
3. To know the strengths and the weaknesses of the cooperatives in general and COVEPAR in particular.
4. Come up with policy recommendation for a better organization and operation of cooperatives for sustainability of rural development.

### **1.3 Research questions**

In order to reach these objectives four research questions were formulated:

1. What is the current situation of Rwandan Agriculture?
2. What is the importance of COVEPAR to its members?
3. What is the role of COVEPAR in adding of value to agricultural products?
4. What is the role of COVEPAR in the marketing system of the agricultural products for its members?

The answers to these questions helped us know the current situation of Rwandan agriculture and major problems were identified. Also, they helped to know exactly what COVEPAR is and its contribution in looking for solutions to the problems of agriculture that were identified.

### **1.4 Hypotheses**

1. COVEPAR allows diversification of farmers' income by introducing new crops in Rwandan agriculture.
2. COVEPAR increases the added value of Rwandan agricultural products.
3. COVEPAR increases the market for its members.

### **1.5 Methodology of the Research**

A survey conducted with a standardized questionnaire helped to collect primary data. A sampling system was of relevance because of the large number of associations working with COVEPAR. Other methods like personal interviews and observations were also used to complete the answers that had been obtained by using a questionnaire. The documentation method was also used for secondary data. The written materials available in the library of UKZN PMB, in Rwanda's libraries, ministries' archives, etc. regarding especially agriculture and cooperatives were consulted. Other books regarding economics and development were of great

importance. The written documents talking about COVEPAR were also used. More details about the survey, questionnaire, data analysis and limitations of this research are developed in Chapter 4.

## **1.6 Implementation of the study**

The Rwandan population prefers using cooperatives as instruments of change and this is supported by the Rwandan government in looking for solutions to the agricultural problems. Therefore, they give particular attention in their formation, operation and in the way of honouring their objectives. This study will be of great significance in showing how farmers themselves, through cooperatives, can contribute to the development of their local areas in particular and the nation as a whole. This will serve as an instrument to farmers, businessmen (agribusinessmen) and the government in making strategies regarding agricultural cooperatives in particular and agriculture in general.

# CHAPTER 2

## AGRICULTURAL COOPERATIVES REVIEW

### 2.1 Definition of cooperative

The term cooperative is old as man himself (Van Niekerk, 1988) but the formal cooperatives started in 19<sup>th</sup> century. Many authors have written a lot on cooperatives since that time and most of them, for example Surridge and Digby (1958), Glynn (1986), Van Niekerk (1988) and Hoyt (1996) agreed that the first formal cooperative known as the Rochdale society was started in England in 1844. Research on cooperative movements have been undertaken over time in different ways with different objectives, but in some ways they have all arrived at some convergences about some features and principles of cooperatives.

A cooperative can take many definitions because of the many features that characterise it and because of the objective pursued by the writer. This means that, to date, there is no universally accepted definition of cooperative (Frederick, 1997), but some are clearer, more comprehensible and encompass different features than others, such as the one given by the Statement of the Cooperative Identity and accepted by the International Cooperative Alliance (ICA) in 1995. This stipulates that a cooperative is:

An autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise (Hoyt, 1996).

To make it more complete we can add that the benefits earned are distributed equitably to the members on the basis of use of cooperative (Frederick, 1997). This definition includes many features summarised below by Laidlaw (1962) and Hoyt (1996).

1. Association of persons: 'Person' in this context refers to any legal definition of person that can stand for companies or individuals who decide to work together in order to do something in a better way than an individual could do.
2. Voluntary or open membership: Members have the freedom to join the cooperative without any discrimination of sex, religion, etc. if they appreciate its objectives or exit if they are not interested.
3. To respond to members' needs: The main purpose of a cooperative is to satisfy its members' needs, which can be economic, social, cultural or educational.
4. Self-help: People in a cooperative are characterised by self-help as a group in searching for solutions of their problems.
5. Autonomy of management: A cooperative works independently with a minimum external intervention from the government or other private enterprise.
6. Joint ownership and democratic control: The cooperative is a property right of all members who take decisions democratically by means of votes.
7. Business enterprise: A cooperative operates in a market place with the aim of providing goods and services in a context of services not for the purpose of making profit. The following Table gives some comparisons between a cooperative's business objectives and other business corporations.

**Table 2.1 Comparisons between business objectives of a cooperative and other business corporations.**

<b>Cooperatives</b>	<b>Other business corporations</b>
Provide goods and services essentially to their member patrons. Their first preoccupation is the welfare of their members.	Provide goods and services generally to the non-owner customers.
More interaction between members because cooperative activities are undertaken more by members themselves rather than external persons.	Less interaction between stockholders because their activities are done by external employees rather than stockholders.
Non-profit oriented i.e. more emphasis is on meeting members' needs economically and efficiently.	Profit oriented i.e. more emphasis is on profitability of the capital invested.
Earnings are distributed equitably on the basis of the individual member's use of cooperative.	Earnings are distributed to stockholders on the basis of their respective shares of stock owned or used to expand the business.
The cooperative stock or equity is not marketable i.e. is not used to raise capital or investment.	Their stocks are marketable

*Source: adapted from Roy (1964), Abrahamsen (1976), McBride (1986) and Lerman and Parliament (November 1992).*

## **2.2 Types and objectives of cooperatives**

### **2.2.1 Types of cooperatives**

Cooperatives are of diversified types depending on what people decide to do jointly in an organised manner to provide themselves goods and services that were hard or impossible to get as individuals. Laidlaw (1962) stated that there is no useful business in the world that cannot be done cooperatively. Van Niekerk (1988) added that there is no country or sphere of economic activity where the cooperative form of enterprise

cannot be applied in some form or other. Also, Abrahamsen (1976) argued that cooperatives are organized to meet any legitimate needs. From these statements we can confirm that cooperatives are diversified as economic activities. So, farmers, entrepreneurs, consumers, etc. each group can form a cooperative to overcome its socio-economic problems.

Many authors have classified cooperatives differently like Abrahamsen (1976) who stipulated that cooperatives are classified according to the groups served (farmers, consumers, workers, fishers, independent business people, and other groups), size (volume of business, number of members or monetary assets), areas served, functions performed (marketing, purchasing and the provisions of services), and types of membership, legal status and financial structure. Frederick (1997) argued that the main ways to categorise cooperatives are to consider the geographical territory served (local, super local, regional, national and international), the governance system (membership structure, as centralised, federated or mixed) and the functions performed (marketing products, purchasing suppliers and providing services).

In this research however, the focus is on the group served by cooperatives especially on farmer cooperatives or agricultural cooperatives. An agricultural cooperative as Iyera (2003) stated is a cooperative whose members work jointly with the objective of producing agricultural products. Farmers use both economic and technical means in order to facilitate their agricultural production and contribute to added-value process of their yields. Abrahamsen (1976) added that farmers organise cooperatives to market all types of crops and livestock products, to buy their production supplies and to obtain the services they need to carry on their farm operations. Therefore, agricultural cooperatives can be divided into many types according to their different functions such as marketing cooperatives, production cooperatives, purchasing or supply cooperatives, and service cooperatives. Laidlaw (1962) and Abrahamsen (1976) have defined these types as follows:

- **Marketing cooperatives:** Can assemble, pack, process and sell agricultural, fisheries or forest products in both domestic and foreign markets. The level of service provided depends on their member needs and the product.
- **Production cooperatives:** Are cooperatives for the production of food or goods.
- **Purchasing or supply cooperatives:** There are cooperatives committed to buy all kinds of products that the members need in their farm activities. These products may be fertilizers, seeds, pesticides, building materials, farm machinery and equipment, etc.
- **Service cooperatives:** Provide members with specialised services, such as hospitals and medical care, schools, savings and credit, etc. impossible or hard to obtain as individuals.

As agricultural cooperatives are diversified, their objectives are also different depending on the initial farmers' needs – i.e. what kind of cooperative is organised. The following section gives idea about the objectives that are found in almost all types of cooperatives.

### **2.2.2 Objectives of cooperatives**

Depending on the initial purpose of the establishment of the cooperative, the objectives may be different from one cooperative to another. However, a cooperative may follow one or more of the following objectives (Roy, 1964 and USA Department of Agriculture, 1995). These are:

1. Improvement of bargaining power.
2. Preserving the small entrepreneurs in agriculture, business and industry.
3. Getting economies of scale in buying, selling, processing and servicing.
4. Obtaining products or services otherwise unavailable.
5. Expansion of new and existing market opportunities.
6. Improvement of quality of products and services.



7. Increase income as highlighted by Laidlaw (1962) eliminating the unnecessary profits of middlemen in trade and commerce.

### **2.3 Agricultural cooperative background**

Agricultural cooperatives like other types of cooperatives are widely found in all countries in the world under different types and formed under different circumstances. However, writers record differently about the country in which the first agricultural cooperative was born, what one would call its 'birthday'.

In Europe, Sargent (1982) stated that the first agricultural cooperative was formed in the United Kingdom 23 years after the foundation of the Rochdale Pioneers, i.e. in 1867 with the establishment of the agricultural and horticultural association. Edward Greening was its leader and its function was the purchasing of agricultural products on behalf of the market gardeners. Van Niekerk (1988: 5) stated that:

The first agricultural cooperative was formed in UK in 1870 with the objectives of providing the farmers with the farming requisites, receiving, storing, packaging and undertaking the marketing of members' products.

Later, the cooperatives supplied their members with other services like tillage, spraying, harvesting, threshing, application of fertilizers, drying, manufacture of feed concentrate and guidance. From these two authors even though they had slight differences of the agricultural cooperative's birthday they however had convergence about the country of origin in Europe – the United Kingdom.

In the United States of America, as Sargent stated (1982) the first agricultural cooperative - a cheese marketing cooperative - was organized in New York in 1851 but the main impetus for its development appeared in the 1870s. The cooperative operated on the model of Rochdale principles and its idea came from general

dissatisfactions with prices. The cooperatives of 1870s focused on two main objectives:

1. Reduction of costs and gain important services.
2. Stabilisation of food and agricultural systems, in particular for the status of the farmer.

Conversely, Van Niekerk (1988) dates the first USA's agricultural cooperative to 1867 while Roy (1964) stated that two dairy cooperatives seen as the first formal farmers' association in the USA were formed in 1810. On the other hand, French et al. (1980) argued that the first organized agricultural cooperative began in 1858 when a group of Illinois farmers that were dissatisfied with economic conditions, especially monopolistic control by middlemen and decided to form a cooperative in order to gain power in the price determination. Nonetheless, what is interesting in this research is not the date of birth of agricultural cooperatives but the reasons of their being.

In Africa, formal agricultural cooperatives as highlighted by Iyera (2003) have been introduced by colonial governments in order to increase and control cash crops and obtain more taxes. Braverman et al. added that:

In Asia and Africa, colonial governments or trading companies promoted rural cooperatives in order to speed monetization of the rural economy and to control peasant production. Membership was based to a few privileged cash crop producers or white settlers. Promotion of European models was often based on the notion that indigenous organizations could not drive economic development.

Hence, cooperatives in the colonial times were not based on self-help and member initiatives, but on the colonizers' interests. However, in some parts of Sub-Saharan and East Africa, essentially where cash crops are very developed, agricultural cooperatives were developed to break up the monopolies of Asian traders and middlemen (Braverman et al., 1991).

After independence, many African governments considered agricultural cooperatives as suitable instruments for agricultural development and socio-political change. As highlighted by Braverman et al. (1991:8) "The emphasis was for many governments on marketing export crops in order to have effective control on production". Iyera (2003) added that cooperatives in Africa are government controlled, ineffective and not serving the members' needs. Again, Braverman et al. (1991) and Gisaro (2003) added that cooperatives in many developing countries, Africa included, are government-founded and semi-public institutions - organised from the top-down. Many donors also believed that cooperative activities had to be externally regulated, at least until the cooperative became mature enough to control themselves (Braverman et al. 1991). Hence they lost their independence and instead of doing things with their entrepreneurial spirit they find themselves labouring under constraints. These are some of the factors that influenced the failure of most agricultural cooperatives.

Netherlands can serve as a good example where cooperative activities succeeded because they were undertaken and initiated by members only. Government recommended cooperative organizations in response to monopolistic agricultural markets and lack of rural credit but was not directly involved. It intervened by providing capital, rural education, research and extension services and by ratifying legislation favourable to the cooperative members and their trading partners. Thereafter, agricultural cooperatives became strong and have transformed Dutch agriculture from subsistence to market-oriented (Braverman et al. 1991).

Rwanda, as one of the African countries, is ranked in the African agricultural cooperatives history. Informal cooperatives were found in Rwanda before the colonial period. Its first formal agricultural cooperative, the dairy cooperative of Nyanza was formed during the colonial period in 1947 (Iyera, 2003) and is still working today. Before the Rwandan independence, the agricultural cooperatives were mainly limited to cash crops (coffee and tea) but after the independence other economic sectors were also concerned. As highlighted by Munyankusi (2001) eight cooperatives were found in Rwanda at the period of its independence: three

cooperatives of assemblage and processing of coffee cherries, three of consumption, one of the craft industry and one of tea plantations. And Iyera (2003) added that in 1970s-1980s cooperatives became pre-eminent with great government intervention in both their foundation and management.

From this background, we note that agricultural cooperatives were not created in the same circumstances and by the same economic agents in Europe, USA and Africa. In Europe and America, the creation of agricultural cooperatives is the consequence of market failure and farmers were the primary focus of concern. The cooperatives are self-organised and administrated by the farmers themselves who know the reason why the cooperative is really needed in their economic and social lives.

By contrast in Africa in general and Rwanda in particular, cooperatives are government founded and farmers are implementers. As Braverman et al. (1991) stated, this is the reason why rural population consider cooperatives as government affairs. As Lanming (1980:43) argued “without the farmers there would be no cooperative, and without their involvement there would be no cooperative activities”. This statement shows how the farmers’ participation is of crucial relevance in the creation and development of agricultural cooperatives. Government, instead of being involved in all cooperative activities, should be the facilitator and somehow the coordinator of cooperative activities. Laidlaw (1962:7) argued that:

The role of the government in the relation to cooperative societies should be one of active helpfulness, intended to stimulate cooperative enterprise, to guide it and keep it on sound lines without either attempting to compel or to replace local initiative or self-help. Government should in addition promote conditions under which cooperatives will thrive and develop.

The following section gives an idea about Rwanda’s cooperatives. Why and how they were created and why they didn’t bring remarkable fruits.

### 2.3.1 General Characteristics of Cooperatives in Rwanda

Cooperatives have been considered a pillar of rural development in Rwanda. This can be confirmed by their rapid creation since the period before independence up to 2003 as the available data below show.

**Table 2.2 Number of cooperatives in Rwanda from the colonial period up to 2003**

	<b>Before 1962</b>	<b>1962-1966</b>	<b>1967-1973</b>	<b>1974-1980</b>	<b>1981-1985</b>	<b>1987</b>	<b>1996</b>	<b>2003</b>
<b>The Whole Rwanda</b>	4	36	423	1203	1528	3238	6199	More than 8000

*Source: Data from Munyankusi (2001) and Iyera (2003)*

Table 2.2 shows how cooperatives were always increasing during the stated period. More than 71 percent are found in agriculture sector (Iyera, 2003). The main reason may not be the spirit of cooperation of the founders but it can be the consequence of government intervention. In fact, government has taken various strategies in order to stimulate cooperative creation especially agricultural cooperatives. These strategies, according to Musabimana (1990) cited by Munyankusi (2001) were:

1. Prohibition in 1976 of the individual exploitation of the marshlands.
2. Giving firstly credits to associations and cooperatives for the reinforcement of their creation.
3. Granting freely agricultural inputs like fertilisers.
4. Granting of improved seeds.
5. Granting of livestock (small ruminants).
6. Granting of agricultural material.

These incentives have increased the creation of associations and cooperatives in the agriculture sector but people did not really have a complete understanding of the interest of cooperatives in rural areas. They were only attracted by what they were getting when becoming members. Once they had been given their membership portions, their interest faded and the cooperatives dissolve. This is a fundamental reason explaining why many cooperatives in Rwanda failed. More than stimulating

cooperative creation, the Rwandan government has also often intervened in cooperative organisation by assigning them directives and objectives. In fact, in its five-year plan of development (1977-1981) the government assigned cooperatives six main objectives as mentioned by Munyankusi (2001). These were:

1. Organization of rural economy.
2. Modernization of the rural area.
3. Job creation.
4. Regulation and stabilization of prices.
5. Storage of local production.
6. Fight against rural migration and its consequences.

It is clear that there were external influences in the creation and organisation of Rwanda's cooperatives rather than proper members' initiatives. Consequently, members did not feel responsible for the success of cooperatives. Therefore, in many cases the assigned objectives were not achieved. Normally, the role of the Government should be to provide the legal framework, the necessary guidelines and convenient environment for the development of cooperatives without interfering with the internal affairs.

In May 2000, the Rwandan government decided to transfer the responsibility to Rwandans by decentralising their power. Local people identified priority and actions to be undertaken. One of the objectives was to make people more responsible of their future. Development of their respective regions becomes their responsibility. The government intervenes only to support the local effort financially and technically. Actually, the Rwandan government has special objectives towards cooperatives. These consist of organising cooperatives at national level as the director in charge of cooperatives in the ministry of commerce, tourism and cooperatives stated in a meeting held with some representatives of cooperatives and stakeholders organised by National University of Rwanda in collaboration with USAID/PEARL Project in January 2005. This organisation will be as follows:

- Primary cooperatives at district level.

- Unions or second level of cooperatives at province level.
- Federations at national level.

This is still a draft proposal in the ministry but if applied it will help in controlling and coordinating cooperative activities and will facilitate members to work efficiently as they can obtain legal status and supervisors easily.

## **2.4 Theory of cooperatives**

As highlighted by Laidlaw (1962), cooperatives are an internationally widespread form of business organisation. Many other authors (Zusman cited by Lerman and Parliament, 1992; Abrahamsen, 1976; Turtiainen and Pischke, 1986 and McBride, 1986) added that people with similar problems and objectives should join together their capacities and capabilities to correct or solve efficiently a problem that was impossible or too costly for an individual. No pressure is put on people to form a cooperative but they themselves place importance on cooperatives in order to respond collectively to their common need. Harper stated that:

Cooperation implies people doing things together, not because they are forced to, or because they have no other alternative, but because they believe that this is the best way to organize themselves for a given purpose.

This means that if there is pressure behind people to organise a cooperative, the objectives of it are dictated and this is sometimes more to the advantage of the initiators than the executants. Thereafter, people do not have incentive to work in order to attain the objectives assigned and the result would be the cooperative dissolution.

Cooperatives have to be voluntarily organized. As highlighted by Joshi (2001), they would be problem-oriented and as such they create a favourable situation to the development of potentialities of individuals, groups and communities to find solutions to their problems, as well as ways and means necessary to attain their ultimate

objectives. Cooperatives are seen as a property right for all their member-patrons and their main goal is to provide services to their member-owners rather than making a profit on an investment (Roy, 1964; Downey and Trocke, 1981 and Lerman and Parliament, 1992). They are theoretically called non-profit organisations because they return all earnings gained in their business to their member-users according to their respective use of the cooperative (Downey and Trocke, 1981). Turtiainen and Pischke (1986) argued that cooperatives are more vehicles for distribution than for accumulation. However, as the business belongs to all the members they can decide to leave the surplus income for financing further investment (Roy, 1964).

A cooperative works under certain principles that characterise and differentiate it from a non-cooperative organization. The Rochdale principles have served as a guide for cooperative development since their first years of existence. Nowadays however, many writers agree on only three principles as widely recognized and constitute a cornerstone of a cooperative. The terminology of principles used in this research is given by Frederick (1997):

1. **The User-Benefits Principle:** McBride (1986:105) stated “A cooperative is not needed unless its members will receive benefits from it which they cannot otherwise receive”. As such, through invisible hands the whole society gains. The collective action allows members to get more and better goods and services in a fair manner, to improve the quality of their work and get direct access to markets. Besides these advantages, members also gain three broad advantages: economies of scale in buying, selling, processing, servicing and other eventual activity; Preserving the small entrepreneurs in agriculture, business and industry (Roy, 1964: 562) and improvement of their bargaining power by eliminating middlemen (Braverman et al.1991). Therefore, what was usually gained by intermediaries or middlemen is shared by members as earnings from their business in proportion to their use of cooperative services (Laidlaw, 1962; Frederick, 1997). In addition, due to the cooperative value of self-help, any operational risk or loss incurred is shared equitably by all members in proportion to their response in the cooperative’s services (Abrahamsen, 1976).



2. **The User-Owner Principle:** A cooperative is the property right of all its user-members. They are member-owners and the first beneficiaries of cooperative activities; therefore they must be the first concerned in financing cooperative activities and to make their objectives realistic.
3. **The User-Control Principle:** As owner-patrons, members have the power to control cooperative activities. This is done directly through members voting at annual or other membership meetings or indirectly through the elections of the members of the board of the directors (Roy, 1964 and Frederick, 1997). Usually, each member is allowed one vote regardless of the volume of shares or other form of capital held (Laidlaw, 1962; Downey and Trocke, 1981 and Frederick, 1997). The board of the directors is the main defender of the interests of all members. It elaborates policies that allow the cooperative to attain its objectives. In addition, it hires a manager who designs programs and actions necessary to achieve the policy established (Downey and Trocke, 1981 and McBride, 1986). With this principle members of a cooperative have the authority to keep a constant watch over the cooperative's activities and see if it is focusing on the initial objectives. It also means that if the majority of members need, through voting, the cooperative to promote or undertake a certain activity this can be done without any other procedure.

Farmers form cooperatives for different economic purposes such as producing and selling their farm products or buying what will be important for their farm activities at a fair price. As argued by Abbott (1987:134) "farmers like cooperatives because they believe that they will obtain fair treatment from them". A cooperative is seen as a coordinator of farmers' activities and a suitable instrument for 'improving farmers' welfare in the sense that it seeks to substitute middlemen's operations and put farmers in more direct contact with the consumers (Roy, 1964 and French et al. 1980). Hence, it increases farmers' bargaining power in terms of negotiation of price and other terms of trade.

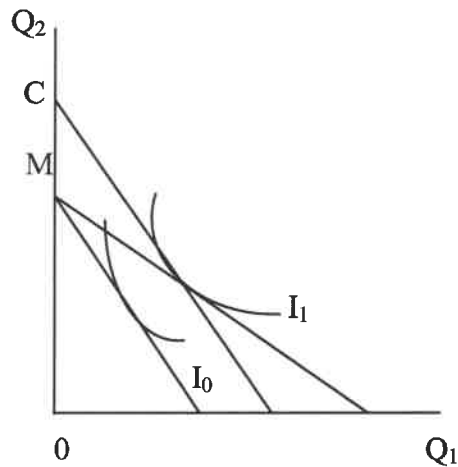
A cooperative seeks the highest price in any activity undertaken and the farmers gain the price that was supposed to be taken by the middlemen. Also, as stated by Lanming (1980: 1):

Cooperatives provide an organisational set up which enables farmers to assume a responsible share in determining, as well as carrying out, measures to raise production and productivity.

Barker (1989) added that with farmers' cooperation, there is pooling of resources in management and marketing competence and know-how. This means that cooperatives allow farmers to gain from economies of scale where doing activities together help them to produce more at a lower cost. The strong farmers pool their resources with the weaker ones and together both gain. In addition, farmers can gain "free goods and services" from the cooperative. This reduces their direct costs of production. Also, cooperative organizations can gain "free various benefits" from the government, NGOs and other benefactors (Gupta and Gaikwad, 1986). All of these grants make members better off than before.

On the basis of microeconomic theory, this situation can be illustrated graphically. Compare two situations where individual farmer works alone without cooperative intervention and where the individual farmer has decided to join the cooperative. Suppose a farmer who used to pay  $(P_0, P'_0)$  prices per unit of fertilizers and other inputs respectively each season. At these prices he is able to buy  $(Q_0, Q'_0)$  quantity to increase the productivity of his farm. After joining the cooperative, he obtains fertilizers at a lower price  $P_1$  because the cooperative has covered some costs (transport costs for example) that were supposed to be covered by the farmer himself.

**Figure 2.1 Utility for farmer joining a cooperative**



Referring to Fig 2.1, M represents his income;  $I_0$  &  $I_1$  represent respectively his initial indifference curve and his indifference curve after the price has decreased. At  $P_1$  he is able to buy more quantity of fertilizers ( $Q_1$ ) and increase the productivity of his farm. He is, in addition, able to save  $(P_0 - P_1)$  amount of money on each unit of fertilizer bought. Therefore, he gains twice:  $(Q_1 - Q_0)$  quantity of fertilizers and  $(P_0 - P_1)$  money. This is shown by the shift up of his budget line and indifference curve  $I_1$ . Hence, he is happier than before because its revenue has increased due to reduction of costs.

It is also easy to obtain credits as a cooperative rather than a single person, with the result that all the members would benefit. With all of these advantages, farmers get a high producer surplus, which increases their income. All the rural areas become monetized and many other non-farming activities may take place.

## 2.5 Role of cooperatives in the economy

Most governments and/ or farmers, as seen previously, have used cooperatives as suitable instrument for rural development in general and farmers in particular. Most of the importance of cooperatives in the economy in particular and in society in general has already been seen in the previous sections. This section gives only the supplementary points.

As business organizations, cooperatives arise because of the existence of some imperfections in the business, i.e. marketplace, that need to be corrected by putting forces and means together. As stated by Milchtaich (2002) only coalition of many individuals can affect the utility of external individuals. Roy (1964) added that cooperatives have the opportunity to rectify some economic imperfections, especially the potential to solve the problem of price fixing. Further, Sargent (1982) highlighted that cooperatives help producers to coordinate their power and provide them the potential to work efficiently to match their production with the market needs. Thus, the whole society gains through the efficiency in the use of resources and consumers in particular through price stabilisation and increase of standards of quality. Lerman and Parliament (1992) added that producers and consumers form cooperatives when they become dissatisfied with the conduct of investor-owned firms and as Nourse (cited by Lerman and Parliament, 1992) argued that cooperatives should exist to eliminate monopolistic excesses of profit-oriented firms. From all these writers and others, cooperatives may be relevant to correct market failure and stabilize the economy.

Since the initial goal of a cooperative is to provide services to their members rather than making their own profit, they are not interested in monopolistic system where the need of excess profit guides the business operations. Cooperatives have the advantage of providing to society goods and services otherwise unavailable or available in small quantity. Gupta and Gaikwad (1986) added that cooperatives make available products for mass consumption rather than luxury products and are able to provide goods or services of high quality rather than that available elsewhere, but at a competitive

price. This competitive price stipulated by these two authors is a fair price to the quality of goods or services provided. We know from the economic theory that when the supply of any economic goods or service becomes high, its price falls. Therefore, consumers gain their consumer surplus. Also, by working together, producers and/or sellers minimize their production and other eventual costs and are in direct contact with the buyers by eliminating middlemen. They gain their producer surplus as well. Hence both consumers and producers gain from cooperative operations. But cooperatives are in competition with other business organizations in the marketplace. Thus, they have to operate correctly i.e. producing better quality of goods and services that enable them to compete with other similar goods and services found in the market. Otherwise they are eliminated from the marketplace by the forces of their competitors.

Cooperatives have also the advantage of reducing the rate of unemployment by creating jobs to local citizens starting with their immediate members (family and neighbours) and are able to offer this employment over a long period of time. As such, they participate directly in local development. Frederick (1997) argued that as many local own the cooperative, nobody or company can move it from the area or easily close it except the members by consensus or a majority vote. Cooperatives also increase public finance by paying taxes, and in this way they contribute to their respective countries' development. However, as there is no perfect instrument of development, cooperatives also have their strengths and limitations - weaknesses in how they proceed to reach development and this is shown in the following section.

## 2.6 Potential strengths and weaknesses of cooperatives

Cooperatives have many strengths mentioned in one manner or another in the previous sections. Through their initial aim cooperatives offer to farmers means of working together to help themselves economically and socially (French et al. 1980). Therefore, they develop a self-help and mutual spirit and as stated by Surridge and Digby:

Cooperatives help to make their members good citizens. Through participation in a society's affairs, the ordinary man learns very quickly about what may be called the business side of his daily life, whether as a producer or a consumer or both.

Roy (1964:573) has also identified two broad advantages that a cooperative offers that cannot be offered by any other business organization. These are:

1. Cooperatives offer an opportunity for all people, rich and poor to help themselves by cooperating with others.
2. Cooperatives develop and strengthen the individual citizen in acquiring and controlling private property and preserve individual freedom, dignity and responsibility.

With cooperatives, strong people pool their resources with weaker ones and together they make significant improvements. As highlighted by Barker (1989), since the influence of a single person on the market is limited by the relative smallness of his or her scale of operations compared to his or her competitors, cooperatives reduce the inherent weakness of farmer who operates individually in the market. Lanming (1980) added that with cooperative system, incomes are more widely distributed and social betterment promoted. Also, as mentioned in the previous sections, cooperatives help to obtain economies of scale and improve the bargaining power of their members. Therefore, they make available goods and services of high quality at a realistic price. Thus, both consumers and producers gain, i.e. the society as a whole.

Apart from these advantages, cooperatives may also show some weaknesses. As highlighted by Roy (1964:573), “a successful cooperative requires good people with a good spirit, who are unselfish and dedicated and who have the desire to improve themselves, their fellowmen and their community”. A cooperative may have in its composition one or more members who are selfish and dishonest, who instead of looking for the promotion of the whole cooperative, look to further their individual interests. Therefore, these individuals reap the benefits of their action while the whole cooperative bears the cost due to the common property right feature (Braverman et al. 1991). Also, some controversies arise when all member-users have to bear the costs of the cooperative activities, but in sharing the output (benefits or losses) they use the proportionality system where each member-owner receives his or her share depending on his or her use of the cooperative (Abrahamsen, 1976; Downey and Trocke, 1981 and Braverman et al. 1991). This procedure becomes unfair in the sense that the system used to bear the costs of cooperative activities is not the same as the one used to share the output. Therefore, members who use few cooperative services are disadvantaged.

In Rwanda, agricultural cooperatives have many weaknesses. From the study realized by Iyera (2003) and Jose (2003) the main weaknesses which can be stated are as follows:

1. Dysfunctional cooperative institutions due to incompetence of personal in charge and unskilled members who do not know and exercise their power. In fact, cooperative members are the final decision-makers. They are the user-owner and user-control. They are the ones supposed to correct cooperative imperfections. However, in Rwanda most agricultural cooperatives' members are illiterates or have only basic levels of education. As such, they have limited knowledge in organization systems.
2. Poor management and/or mismanagement due to incompetence of the board of management. Election of this group should be based on the ability, level of honesty and dignity of the persons appointed, but not on friendship as is common practice in Rwanda.

3. Lack of appropriate facilities like buildings and equipment. Many cooperatives' infrastructures were destroyed by the genocide of April 1994. However, the ones created after 1994 also have similar problems (inadequate infrastructures). The source of this problem is the poverty of members.
4. Shortage of initial capital: Most of Rwanda's agricultural cooperatives start their activities with a small volume of business with the hope that they will get external financial help from the government, NGOs, etc. However, it is known that if the members cannot cover at least 20 percent of the initial capital needed (especially physical capital) there are few banks or other financial institutions (if none) in Rwanda that can provide credit. Also, if the members do not show their willingness to build a viable cooperative using their proper means, it is unlikely to get external support. So, no capital equals no activity.
5. Poor supervision and communication. There is an insufficient number of cooperative supervisors from the ministry in charge of cooperatives (MINICOM) and the ones who are there are not efficient (professional).
6. Use of outdated technology and lack of addition of value that do not allow members to produce better quality, thus hindering the first requirement for increasing their income.

It is evident that these problems are crucial for development of cooperatives. Without effort to correct them, there is no hope for Rwanda to build viable cooperatives that can really help to solve rural problems.

After this detailed assessment of cooperatives in general and agricultural cooperatives in particular, it is now important to turn our discussion to Rwandan agriculture in order to know its problems, and in what way and how agricultural cooperatives can contribute to resolving those problems. This will be handled in the following chapter.



# CHAPTER 3

## RWANDAN AGRICULTURE

### 3.1 Brief presentation of Rwandan Economy

Rwanda is among the poor countries in the World. It has insignificant natural resources and minimal industry. Three major sectors are found in Rwandan economy. They are, primary sector (agriculture), secondary (industry and manufactures) and tertiary sector (retail and services). Agriculture is still the major contributor. "In 2000, agriculture represented 44 percent of GDP, services accounted for 35 percent while industry represented only 21 percent" (World Bank, 2004:3). However, in 2003, agriculture growth alone contributed 46 percent to the total GDP growth according to MINECOFIN (2003b). These data show how agriculture sector is crucial in Rwandan economy. It contributes alone almost the half of the total GDP.

As the World Bank (2004) stated, Rwanda was considered a star economy from the 1960s through 1970s with growth rates above the average for Sub-Saharan Africa. However, things changed so that in 2001 GDP per capita became US\$ 220, below the sub-Saharan average of US\$ 470 and the US\$ 430 average for low-income countries. These indicators illustrate Rwanda's poverty. The main reason for the regression of Rwandan economy is political instability. Since 1973, during the time of the late President Juvenal Habyarimana, to April 1994 and the genocide, Rwanda's social, economic and human infrastructures were destroyed. Rwanda is now making significant improvement in stabilization and rehabilitation of its economy. The Table 3.1 summarises the Rwandan economic improvement from 1994 to 2002.

Table 3.1 Major Rwandan economic and financial indicators

Indicators	1994	1995	1996	1997	1998	1999	2000	2001	2002
Annual GDP growth (%)	-50.2	34.4	15.8	12.8	9.5	5.0	5.0	6.0	6.6
Consumer price Index (end of the period)	64.4	38.3	9.2	16.6	-6.0	2.5	3.0	3.0	--
Exports f.o.b (in US\$)	-52.5	56.8	22.9	50.0	-32.9	13.6	5.2	4.3	5.4
Imports f.o.b (in US \$)	37.2	-47.2	9.9	30.1	-7.8	-5.4	14.3	5.7	8.2
Interest rate (one year savings deposits, in % end of period)	9.0	12.0	11.0	11.4	10.3	9.8	--	--	--
Real effective exchange rates (end of period)	51.8	-39.7	8.6	27.1	-18.2	7.6	--	--	--
Overall balance of payments	-44.1	51.2	-0.9	11.7	-25.6	-112.5	-131.6	-142.4	-150.2
Budget deficit (% of DGP)	--	--	--	-9.2	-8.3	-9.7	-8.9	-9.5	--
Total debt service (% exports goods and services)	13.0	20.4	19.9	14.1	17	25.9	27.5	11.4	--

Note: -- Means: data not available

Source: Information From: [http://www.afrol.com/Countries/Rwanda/backgr\\_economic\\_performance.html](http://www.afrol.com/Countries/Rwanda/backgr_economic_performance.html) and World Bank, 2004

It is shown by Table 3.1 that Rwanda has a chronic budget and balance of payments deficit and is in chronic debt to finance that deficit. The Rwandan GDP growth rate was largely negative in 1994 because of the genocide that destroyed many social, economic and human infrastructures. Since 1995, Rwanda has received many aids as humanitarian assistance to help it to rebuild the country. After 1998, when most of the NGOs started stopping their donations, Rwanda itself has taken on the responsibility of stabilising its economy even though problems of balance of payments and Budget deficits remain very crucial.

### 3.2 Characteristics of Rwandan agriculture

Rwandan agriculture is of subsistence dominated by food crops. The main crops by season are summarized in the Table below.

**Table 3. 2 Rwanda's main crops by season in 1999**

Crop	Proportion (%)		
	Season A (September -January)	Season B (February -July)	Differences
Banana	22.1	19.1	3
Cassava	6.9	7.4	-0.5
Coffee	6.9	5.8	1.1
Green Pea	1.7	2.9	-1.2
Groundnut	0.6	0.5	0.1
Haricot	35.6	19.6	16
Irish Potato	2.9	0.9	2
Maize	7.9	4.4	3.5
Sorghum	5.4	23.7	-18.3
Soybean	0.1	0.1	0
Wheat	0.1	0.4	-0.3
Sweet Potato	--	8.3	n/a
Others	6.1	6.9	-0.8
Total	100	100	n/a

*Source: Adapted from Takeuchi S. and Marara J., March 2000:2*

Table 3.2 illustrates that in Season A, the dominant crops are haricot and banana, which alone have a proportion of 57.7 percent while in Season B the dominant crops are sorghum, haricot and banana with a proportion of 62.4 percent. These proportions confirm that Rwanda's farmers are more interested in the cultivation of haricot, banana and sorghum. The differences of proportions between seasons are also meaningful. Where the difference is negative, it means that the proportion of the crop in Season B is higher than in Season A. With that comparison, we can see that sorghum is cultivated more in Season B with a 18.3 percent difference, while haricot is cultivated more in Season A with a 16 percent difference.

As with other developing countries, agriculture is the most important activity in Rwanda in terms of labour force and being the main contributor in capital inflows. While the better off combine food agriculture with rising livestock holdings and widespread engagement in non-farm self-employment activities (World Development Report, 2003) the Rwandan farmers concentrate their labour mainly on food crops. However, food crops generate insignificant seasonal revenue because of their low-income elasticities of demand (World Development Report, 1996). This means that their increase of demand is not proportional to their increase of income. Moreover, the high population growth rate (more than 3 percent per year) on a fixed land use causes its fragmentation and overuse. Thereafter, it reduces the productivity because of the decrease of soil fertility. This is a case of the law of diminishing return. The Table below shows the current situation of the land distribution in Rwanda.

**Table 3.3 Farm size and land distribution from 1984 to 2002**

Farm size classification by area owned	Households		Total Land Owned	
	% in 1984	% in 2002	% in 1984	% in 2002
Less than 0.25 ha	7.4	16.8	1.0	3.3
0.25 - 0.50ha	19.0	26.4	5.9	11.8
0.50 - 1.0 ha	30.4	29.7	18.4	25.4
1.0 - 2.0 ha	26.8	19.5	31.8	31.7
Greater than 2.0 ha	16.4	7.6	42.9	27.8
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

*Source: Kelly et al. 2001*

Table 3.3 reveals that while in 1984, 56.8 percent of households were in possession of one or less than a hectare of land, in 2002, the proportion of households in possession

of that area had increased to 72.9 percent. This confirms the serious continued fragmentation of the cultivated land in Rwanda and the resulting consequences such as low productivity, low income and poverty in rural areas. Also, in 1984, 16.4 percent of households held more than 2ha i.e. 42.9 percent of the land owned, but in 2002, the proportion of households in possession of that area decreased to 7.6 percent. The land owned fell also to 27.8 percent. This is the consequence of high population pressure on the invariable land, which decreased progressively the pasture, fallow part and woodlot as shown in the following table. The dramatic decrease of woodlot in 2002 may also be explained by a large number of displaced people after the 1994 genocide and their marked impact on the natural environment. The examples are deforestation for rehabilitating and/ or construction their houses, cutting trees for coal or firewood, etc.

**Table 3.4 Land use and rural population from 1984-2002**

Land Use	1984	1989	1990	2002
Cultivated land (ha)	701 500	776 000	782 500	899 133
Pasture & Fallow (ha)	261 500	233 000	274 500	174 225
Woodlot (ha)	104 000	115 000	129 000	79 629
Other (ha)	44 500	62 000	38 500	60 583
Total (ha)	1 111 500	1 186 500	1 224 500	1 213 571
Rural population	5 552 309	6 582 169	6 793 208	7 089 429

*Source: Kelly et al. 2001*

This Table shows that as the rural population continued to increase the cultivated land did the same. The consequence is the reduction of the reserves land like natural parks, pasture and fallow. Rwanda's land will continue to be scarce unless some people create non-farming activities, which can absorb the surplus of labour.

### 3.3 Contribution of Agriculture in Rwandan Economy

Agriculture, even if it is traditional, remains the major contributor in Rwandan economy in terms of use of the labour force, food supply and foreign earnings as shown in the Table below.

**Table 3. 5 Food and agriculture indicators in Rwanda from 1989 to 2001**

Indicators	Unit	1989-1991	1998	1999	2000	2001
<b>Agriculture labour force</b>						
Rural/total population	%	95	92	93	94	95
Agriculture labour force/ Total labour force	%	92	91	90	90	90
<b>Lands and inputs</b>						
Total land	1000ha	2467	2467	2467	2467	2467
Arable land	"	870	820	866	900	-
Irrigated land	"	4	4	5	5	-
Fertiliser use/arable land	Kg/ha	2	0	0	0	-
Tractors/arable land						
<b>Foreign trade-exports</b>						
Total	m US\$	108.5	62.0	61.1	53.0	85.0
Agricultural	"	97.4	49.2	47.5	41.8	33.1
<b>Major exports (share in agriculture)</b>						
Tea	%	21.7	38.6	29.7	49.1	49.8
Coffee, green	%	71.8	52.6	63.1	41.6	45.1
Crude organic material NES	%	3.1	1.7	1.8	2.0	3.0
<b>Foreign trade-Imports</b>						
Total	m US\$	308.7	215.0	228.5	213.0	250.0
Agricultural	"	45.6	96.8	84.4	63.4	65.9
<b>Major imports (share in agriculture)</b>						
Pulses NES	%	0.0	1.9	0.2	3.6	9.9
Rice, milled	%	4.9	7.4	3.8	0.7	10.0
Sugar, raw centrifugal	%	0.0	1.9	0.2	3.6	9.9
Agriculture Trade balance	m US\$	51.6	-47.6	-36.8	-21.5	-32.8
<b>Food supply</b>		<b>1979-1981</b>	<b>1989-1991</b>	<b>1999-2000</b>		
Per capita output dietary energy supply	Kcal/day	2290	1960	2000		
Per capita dietary protein supply	g/day	54	47	46		

**N.B:** m: Million; g: Gram; Ha: Hectare

Source: Data from FAOSTAT, World Development Indicators, 2002

Table 3.5 confirms that Rwandan agriculture is still traditional with insignificant use of modern techniques (fertilizers, irrigation and tractors). Rwandan agriculture depends essentially on rainwater although the country has many lakes and rivers. However, it remains the most important sector in terms of labour force (90.6 percent on average from 1989 to 2001) and the major earnings of capital inflows (94.9 percent on average from 1989 to 2001). Coffee and tea are the main contributors. As shown its trade balance still is negative. This indicates that the food security had not yet been achieved. One of the reasons is that agriculture sector remains negligible in terms of public investments while it is the most important sector in Rwandan economy as shown in the following Table.

**Table 3.6 Distribution of Public Investments Program (PIP) by sector from 1997-1999 (in million of Rwandan francs)**

Sector	1997		1998		1999		Total	
	Amount	Proportion	Amount	Proportion	Amount	Proportion	Amount	Proportion
<b>1. Production Sector</b>	<b>16 560.29</b>	<b>15.28%</b>	<b>20 003.16</b>	<b>18.14%</b>	<b>23 927.74</b>	<b>21.19%</b>	<b>60 491.19</b>	<b>18.25%</b>
<b>1.1 Agricultural development Sector</b>	<b>14 247.13</b>	<b>13.15%</b>	<b>16 309.85</b>	<b>14.79%</b>	<b>18 595.87</b>	<b>16.47%</b>	<b>49 152.85</b>	<b>14.83%</b>
Food Crop Production	10 027.07	9.25%	10 928.04	9.91%	11 357.32	10.06%	32 312.44	9.75%
Cash Crop Production	2 006.83	1.85%	877.43	0.80%	1 939.12	1.72%	4 823.38	1.45%
Others	2 213.23	2.04%	4 504.38	4.08%	5 299.42	4.69%	12 017.03	3.62%
1.2 Industrial Mining and Commercial Sector	2 313.16	2.14%	3 693.31	3.35%	5 331.87	4.72%	11 338.34	3.42%
<b>2. Infrastructure Sector</b>	<b>38 635.62</b>	<b>35.66%</b>	<b>42 280.35</b>	<b>38.34%</b>	<b>43 605.03</b>	<b>38.62%</b>	<b>124 521.00</b>	<b>37.56%</b>
2.1 Public works sector	26 958.25	24.88%	28 697.25	26.02%	26 804.26	23.74%	82 459.76	24.87%
2.2 Water & Energy sector	9 233.49	8.51%	10 369.39	9.40%	14 865.59	13.17%	34 458.47	10.39%
2.3 Communication sector	2 453.88	2.26%	3 213.71	2.91%	1 935.18	1.71%	7 602.77	2.29%
<b>3. Human Resources &amp; Social development sector</b>	<b>35 498.30</b>	<b>32.76%</b>	<b>25 347.39</b>	<b>22.98%</b>	<b>22 908.80</b>	<b>20.29%</b>	<b>83 754.49</b>	<b>25.26%</b>
3.1 Education Formation Science & Culture Sector	16 640.31	15.36%	10 674.80	9.68%	10 985.63	9.73%	38 300.74	11.55%
3.2 Public Health & Population Sector	11 705.23	10.80%	10 332.46	9.37%	4 927.61	4.36%	26 965.30	8.13%
3.3 Social Affairs Sector	7 152.76	6.60%	4 340.13	3.94%	6 995.56	6.20%	18 488.45	5.58%
<b>4. Administration &amp; Finance Sector</b>	<b>17 649.40</b>	<b>16.29%</b>	<b>22 654.73</b>	<b>20.54%</b>	<b>22 471.50</b>	<b>19.90%</b>	<b>62 775.64</b>	<b>18.93%</b>
4.1 Administration Sector	7 735.31	7.14%	13 780.56	12.50%	17 115.98	15.16%	38 631.85	11.65%
4.2 Planning & Finance Sector	9 914.09	9.15%	8 874.17	8.05%	5 355.52	4.74%	24 143.74	7.28%
<b>Total</b>	<b>108 343.61</b>	<b>100%</b>	<b>110 285.63</b>	<b>100%</b>	<b>112 913.07</b>	<b>100%</b>	<b>331 542.32</b>	<b>100%</b>

*Source: Data from Takeuchi and Marara, March 2000: 12*

Table 3.6 above shows that the Public Investments Program oriented in production sector (agriculture sector included) remains low compared to other sectors of the economy. It has got an average proportion of 18.2 percent while the infrastructure,



human resources and social development and administration and finance Sectors have got respectively 37.54 percent, 25.34 percent and 18.91 percent. This suggests that investments in agriculture remain desirable if Rwanda wants to attain agricultural development and permanent food security.

### **3.4 Rwanda's Agriculture Policy**

Although agriculture is one of the most important economic sectors, it is characterised by smallholdings and low income farming because of soil infertility due to over-cultivation. Therefore, it has to be revised and improved by using intensification and other modern technologies in order to increase its productivity and allow it to play a bigger role in socio-economic development. The sections below give a summary of agricultural policies, their applicability and their implications.

#### **3.4.1 Agricultural intensification**

The intensification implies the use of modern cultivation techniques and modern inputs such as fertilizers and pesticides, selected seeds, soil conservation by using anti-erosion barriers, etc. However, as argued by FAO (2001/2) and Mpysi et al. (2003) fertilizers (organic and chemical) are the most important resource needed to increase agricultural production and eliminate problems of hunger. In order to increase productivity of their small arable land, Rwandan farmers use organic and little quantity of chemical fertilizers and conservation investments such as terraces, grass trips, and diversionary ditches to prevent erosion on fields (Mpysi et al. 2003). This is shown by the following Table.

**Table 3.7 Inputs use and conservation investments on cultivated land in 1991 and 2000 season A (1991 A and 2000 A).**

Type of Input/Investment	% of farmers using specified input		% of cultivated area covered	
	1991A	2000A	1991A	2000A
Chemical fertilizers or lime	7	5	5	3
Pesticides	NA	9	NA	5
Organic inputs	95	69	70	59
Conservation of investments	93	65	76	65

Source: Mpysi et al. 2003

“NA”: Means data not available

Table 3.7 shows that Rwandan farmers are more interested in the use of organic fertilizers than in chemical fertilizers and pesticides. The main reason is that the latter requires more money than the farmers can afford, while the former is within their means. Farmers use mainly organic fertilizers because they can get them easily from their household residues or livestock. Nevertheless, as it can be seen the pre-genocide percentage of farmers using organic fertilizers has not yet been achieved.

In order to create incentives in use of inorganic fertilizers, and thus participate in resolution of soil productivity, the World Bank through Agricultural and Rural Markets Development Project (ARMDP) offers credit at 9 percent interest rate for the importation of agricultural inputs, while the commercial interest rate is 16-18 percent (Mpysi et al. 2003). However, the importations of fertilizers have lamentably decreased in value and volume respectively of 91.7 percent and 95.4 percent in 2003 (BNR, 2003).

### 3.4.2 Government intervention

Governments have to play a major role in order to achieve a real national growth and development. They have to be the main actors in facilitating whatever is needed to improve farmers' welfare. In that way, Rwandan government and other Policy makers are preoccupied with the problem of poverty in rural areas where 60 percent of the population are estimated to live below the poverty line, earning less than one US dollar

a day (MINECOFIN, 2003a). The Rwandan government has established priorities in food production, especially cereals such as maize, rice and beans and it motivates people to specialise in them because they are found to be more profitable than other crops. On the other hand, coffee and tea public owned utilities are privatised to improve the rate of return from them (MINECOFIN, 2003a). The table below shows the remarkable improvements of priority crops' production.

**Table 3.8 Trends of production of priority crops**

<b>Crop</b>	<b>Rice (Tons)</b>	<b>Maize (Tons)</b>	<b>Soya (Tons)</b>	<b>Potatoes (Tons)</b>	<b>Beans (Tons)</b>	<b>Coffee (Tons)</b>	<b>Dried Tea (Tons)</b>
<b>1995</b>	2 001	55 600	0	137 700	126 300	21 952	5 414
<b>1996</b>	6 596	66 595	0	195 381	178 697	15 285	9 057
<b>1997</b>	9 805	83 427	4 279	229 625	141 815	14 830	13 239
<b>1998</b>	7 935	58 618	9 831	181 138	153 917	14 268	14 874
<b>1999</b>	8 921	54 912	4 707	175 889	140 425	18 817	12 669
<b>2000</b>	11 363	62 502	7 034	954 418	215 347	16 098	14 481
<b>2001</b>	17 697	92 129	17 140	988 982	289 983	18 268	17 817
<b>2002</b>	24 539	78 465	19 216	1 097 503	244 623	-	-

*Source: MINAGRI, viewed from MINECOFIN, 2003a*

Moreover the government has intervened in agriculture intensification by subsidising inputs especially fertilizers to farmers and by eliminating import duty on agricultural inputs (Mpysi et. al. 2003). Although importers continue to be at risk and that implies that chemical fertilizers continued to be expensive to farmers and their use remains very low. Furthermore, lack of an extension system has an important influence on non-utilization of inorganic fertilizers essentially in Gitarama, Cyangugu, Kibungo and Ruhengeri provinces. 53 percent of farmers in the whole of Rwanda do not know the importance of inorganic fertilizers (Mpysi et al. 2003). This result implies that Rwanda has to make improvement in extension services. As long as the extension services are not improved, Rwandan farmers will continue to be unaware of the modern agricultural techniques and thus Rwandan agriculture will remain traditional. The great cause of non-dynamic extension system is the consequence of national budget constraint. In 1999, the budget allocated to the Ministry of Agriculture, Animal Resources and Forestry (MINAGRI) was approximately 2 percent of the national budget (Mpysi et al. 2003).

### 3.4.3 Research program

Research constitutes a pillar in economic growth and development. It can lead to improvement in all sectors of the economy. In agriculture, research helps to identify high yield crops, disease, crops' adaptability, fertilizer dosage, environment problems, etc. The 'Institute of Agricultural Research in Rwanda' (ISAR) is in charge of the promotion of the agricultural sector and the well being of farmers (<http://www.isar.cgiar.org/about/aboutisar.htm>) even though, as mentioned previously extension services remain desirable in Rwanda. Without extension system, these researches are of little value.

### 3.4.4 Agricultural credits

Agricultural development in Rwanda is also hampered by low use of credits. Whereas it is most important in Rwandan economy as highlighted in previous sections, credits received in agriculture is very limited compared to other sectors. The following Table gives an idea of bank lending by sector.

**Table 3.9 Credits given by activity in million Rwandan Francs**

Design	Fourth quarter 2001		Fourth quarter 2002		First quarter 2003	
	Amount	% of the total	Amount	% of the Total	Amount	% the Total
<b>Agriculture, Livestock, Sylviculture and Fishing</b>	142.9	1.3	340.1	2.1	161.2	1.24
<b>Mining</b>	0.0	0.0	0.0	0.0	0.0	0.0
<b>Manufacturing Industries</b>	780.6	7.3	3 357.8	23.7	1 972.5	15.19
<b>Energy and Water</b>	221.0	2.1	5.0	0.0	0.0	0.0
<b>Public works and Buildings</b>	1 520.9	14.1	3 328.0	23.5	2 415.7	18.88
<b>Commerce, Restaurants &amp; Hotels</b>	4 736.2	44.4	2 723.0	19.2	4 122.7	31.75
<b>Transport, Warehouses &amp; Communications</b>	1 121.7	10.4	1 751.2	12.4	2 250.3	17.33
<b>AIF, Insurances&amp; Real businesses</b>	372.7	3.5	385.9	4.1	128.2	0.99
<b>Services provided to the community</b>	1 479.5	13.7	1 866.4	13.2	1 353.4	11.83
<b>Activities not classified</b>	390.4	3.6	219.9	1.6	361.2	2.78
<b>Total</b>	<b>10 765.8</b>	<b>100</b>	<b>14 177.1</b>	<b>100</b>	<b>12 983.2</b>	<b>100</b>

*Source: Data from BNR, Note de conjoncture no 3, Juin 2003 (English translation: NBR, Note of Economic situation no3, June 2003)*

Table 3.9 reveals that apart from mining, which did not benefit credit, agriculture sector is the one that has benefited a small percentage of credits. The main reasons can be the lack of guarantees required by the banks but also sometimes farmers are risk averse about credits.

### **3.4.5 Human capital development**

Human capital formation is essential in any development model. According to Robert Owen cited by Abrahamsen (1976:61) “through education, it would be possible to achieve an ideal society - a society that would contribute much to human happiness”. Therefore, Rwanda has to make improvements in education. According to MINECOFIN (2002a), the estimated rate of literacy in Rwanda is 47.8 percent for women and 58.1 percent for men. Also, 3.3 percent of the Rwandans of 15 years old and above are not educated and 60 percent have only primary education. This situation shows that Rwanda has a lack of educated human resource. Another factor that can be taken into account in human capital formation is educational infrastructures. Their absence or existence in small numbers is one of the barriers in human capital formation process.

In fact, in Rwanda’s rural areas, the average distance to the nearest primary school is 2.5 km, but in Kibungo province, that distance increases to 3.7 km (MINECOFIN, 2002a). This distance remains very long for a child. Nevertheless, the Rwandan government has increased the primary educational enrolment by removing school fees (MINECOFIN, 2003b) in what they called “education for all” so that every child can have access to at least primary education. On the other hand, trainings about fertilizer use and other techniques of agricultural intensification have been given to farmers. However, only 4 500 farmers (30 per district) have been trained (Kelly et al. 2001).

These data show that Rwanda has still a lot of hard work to do in order to attain significant human capital development. An increase in human capital formation will lead to a reduction of people living in agriculture and moving to other sectors of the

economy. Therefore, it helps to create an automatic adjustment, a production mix and a diversification of exports whose Rwanda needs. Human capital formation helps also to conceive projects and plans necessary to improve agricultural sector in particular and other sectors in general. Moreover, educated people are the main actors in research and development that a country may need.

### **3.4.6 Socio-economic infrastructure**

Investments in socio-economic infrastructure is vital for agriculture development and thus for economic growth of the whole country. Rwanda is in shortage of many essential infrastructure for agricultural development such as roads, water infrastructure, market infrastructure, and storage facilities. In fact, according to an 'imidugudu' (agglomeration of people) survey, the average distance from the main road is 4.1 km but that overall it ranged from between 0 to 20 km. Moreover, roads are classified into 1 101 km of international importance, 2 086km of national importance and 2 163km of local importance. Also, there are 110km of other urban roads and 6 650km of rural roads and tracks. In all of the road networks, only 1 069km are bituminised and 400 km of these are considered to be bad repair (MINECOFIN, 2002b).

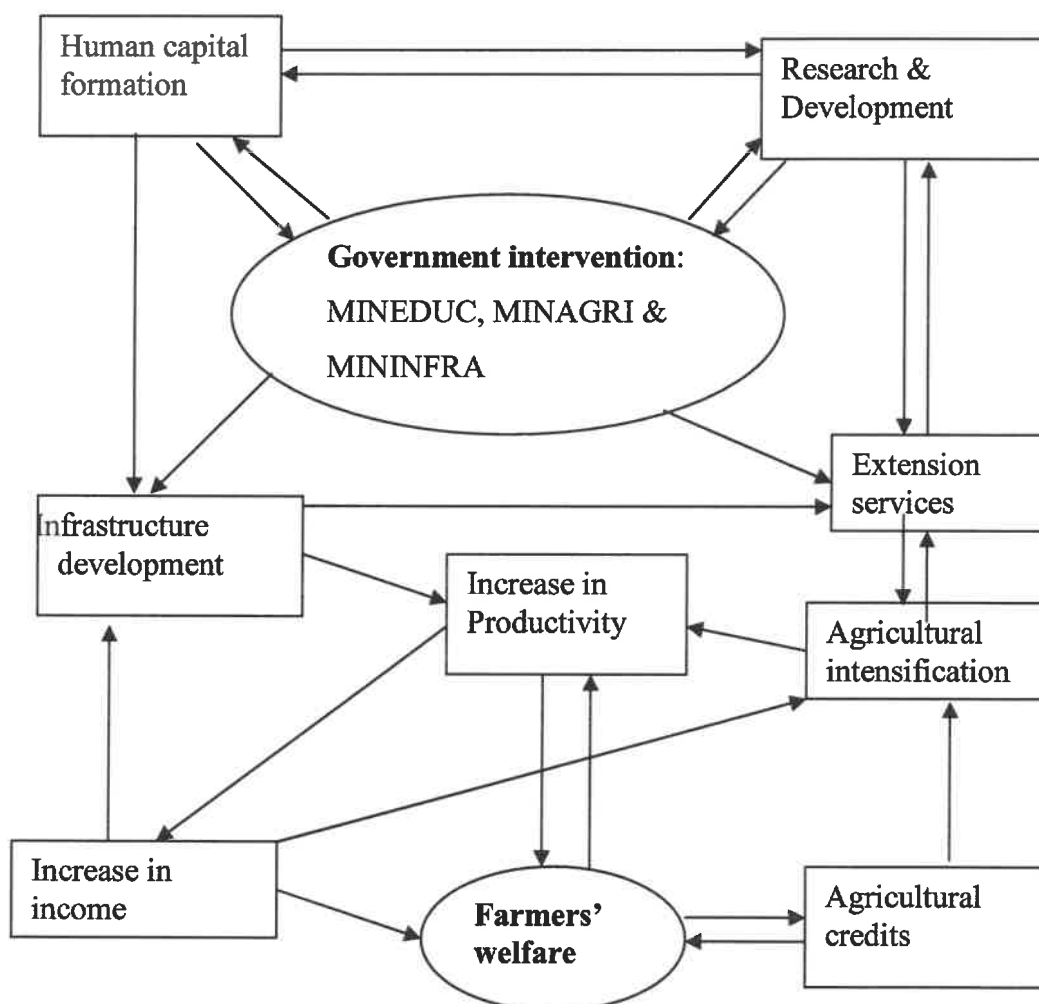
This situation shows the high degree of Rwanda's need of investment in roads in order to facilitate an input and output market channel. The absence or low level of roads increases transportation and production costs and therefore, increases the price of agricultural output. This situation discourages the farmers who instead of producing for the market prefer to produce for self-subsistence. Cost of transport becomes the main reason advanced by traders and/or intermediaries when they purchase agricultural products from farmers. Finding by Ahmed (1987) mentioned by African Development Report (1995) showed that African farmers receive only 30 percent or 50 percent of the prices paid by final consumer of agricultural products while in Asia, farmers receive between 75 percent and 80 percent.

Also, water remains scarce in Rwanda and in some provinces such as Byumba and Cyangugu, families have to walk between 20 and 25 km to get water (MINECOFIN, 2002b). As collection of water is a traditional responsibility of women and girls, this

reduces their productivity in agriculture and the welfare of the whole family. Market infrastructure is also relevant in facilitating market transactions. Its shortage can reduce the agriculture production incentives because farmers will invest time and capital in increased agricultural production when they are sure that surpluses will be transported and sold in distant markets at reasonable costs (African Development Report, 1995). Using of all these agricultural policies, a conceptualisation of how they can interact to improve farmers' welfare in Rwanda is made as follows.

After analysing these policies, an interacted channel of them necessary for farmers' welfare can be conceptualised as Fig 3.1 illustrates.

**Figure 3.1 Conceptualisation of how different policies can work to improve the welfare of farmers in Rwanda.**



*Source: Conceived by the author*

After the evaluation of Rwandan agriculture that showed its contribution in the economy and problems it is experiencing, it is time to assess the contribution of COVEPAR as a newly formed agricultural cooperative. However, before this analysis that is our proper findings from primary data (survey), it is important to mention the methodology followed. This is the topic of the next chapter.



# CHAPTER 4

## METHODOLOGY

### 4.1 Questionnaire construction

The questionnaire was constructed in such a manner that it will be adequate for all members of COVEPAR (members of associations, individuals and institutions) i.e. same questionnaire for all members. There was a mixture of closed-ended, dichotomous, multiple choice and open-ended questions. The questionnaire consisted of six sections. The first section highlights the respondent's identification, the second gives information related to activities that members of COVEPAR concentrate on, the third one gives information about production, the fourth presents information related to markets and prices, the fifth one presents information related to revenue and its allocation and the last section provides information about problems.

Questions were constructed so that they would provide adequate answers to the objectives and hypotheses of the research. Concerning closed-ended and dichotomous questions, a list of potential answers were provided in a table of two columns where the respondents were supposed to choose appropriate answers to the questions asked by indicating with a tick or a cross in front of the right answer. Only one choice is applicable for this kind of questions. However, for multiple-choice questions, the possibility of choosing more than one answer was allowed. Also the possibility of giving their answer was allowed if anyone felt that the list was not adequate for them. The open-ended questions gave respondents the opportunity to expand the range of the responses.

## 4.2 Sample design

As highlighted by Warwick and Lininger (1975:18), “sampling is the process of choosing certain elements in the population to represent the whole”. For this research, fourteen associations working on cassava made the sample frame. They are all located in Gikonko district. Further, there are twelve associations, one individual and four institutions working on chilli pepper scattered in six districts of Butare Province. For chilli pepper, the researcher was interested in those which started the activities in phase one – First phase of COVEPAR on chilli pepper because they are the ones which have produced and sold at least once. In order to reduce this population to small groups, which may be representative and provide more reliable results, sampling procedures were used. Though, as highlighted by Burns and Bush (2000:422-423):

There is no relationship between sample size and representativeness - a sample does not have to be big to be representative. Representativeness is determined by the sample plan, which specify who is included in the sample.

In this research, the sample plan was to take 30 percent of each group of associations. This gave four associations per group. In cassava's associations the four were chosen according to the area cultivated while for chilli pepper they were chosen according to the number of seedlings planted because the researcher was convinced that the area cultivated or the number of seedlings explains the output obtained, given everything else remaining the same. The following step was to select the respondents from selected associations. Ten members of each association surveyed constituted the respondents. The probability method was used so that all members of the association were assumed to have the same chance of being selected. This method helped to assure the representativeness of the sample because as stated by Warwick and Lininger (1975:70), “the most reliable way to assure a representative sample is to use chance procedures for choosing the units studied”. Weisberg et al. (1996:70) added that, “when the sampling fraction is above 30 percent, enough of the population has been sampled so that public attitudes are likely to be similar to those of the sample”. The simple random sample that is without replacement was used to select the respondents among other members of the associations to be surveyed (Ader and

Mellenbergh, 1999). The assumption was that all members in the association have the same knowledge about the information needed in this research.

With regard to the individual person, questionnaire was given to the unique person. About institutions, three of them (FACAGRO/PEARL, ISAR/ Rubona and G.S Kansi) are not of lucrative goal, so not interesting in this research. However the remaining one had relevance to this research. The questionnaire was distributed to the agronomist who is in charge of production and commercialisation.

In summary, forty questionnaires were distributed to members of the chilli pepper associations, one to an individual and one to an institution, which make it forty-two questionnaires in chilli pepper in total. With regards to the cassava associations, forty questionnaires were distributed to the members. Consequently, eighty-two questionnaires were used in this research.

### **4.3 Interview**

In order to complete data from the field and to make the results of this research more reliable interviews with guidelines were also done with COVEPAR authorities like general manager and secretary-accountant. Other information was provided by the director of PEARL outreach centre because PEARL project is among the main supporter of that cooperative. Also, PEARL agronomists who accompanied the researcher to the field provided some information. They are the ones who help COVEPAR in supervision and provision of advices to its members.

### **4.4 Observation**

Observation was used as one of the research methods to help to see what is going on in the field. It helped to enhance the understanding about some problems that members of COVEPAR in particular and COVEPAR in general are facing in addition to that told by them.

## **4.5 Data collection**

Data collection started on 10<sup>th</sup> January 2005 and took two weeks. In order to maximize the chance of obtaining the maximum number of respondents required, the researcher was obliged to visit the association selected on the day of its farm activities. The purpose of the study was explained to them before distributing the questionnaires or starting interviews and any eventual question was answered correctly. After that, questionnaires were distributed to respondents who were able to complete them themselves (those who can read and write) and the researcher waited for them to finish answering and then collected the completed questionnaires. For the respondents who were not educated, the researcher was obliged to complete their questionnaires herself, using face-to-face interviews and recording on the questionnaires the given answers.

With regards to the institution selected, the procedure was different. The questionnaire was given to and left with the right person and in three days it was completed and submitted. However, the person working alone was not available to fill in the questionnaire. The researcher tried to leave the questionnaire where he has a small restaurant in the hope that he could get time to fill in it, but unfortunately he didn't. Also, contact by telephone could be used but his cell phone was not working.

## **4.6 Data Analysis**

On completion of data collection, the data was captured and analysed using Microsoft Excel and SPSS (Statistical Package for the Social Sciences). Because most of the questions were closed-ended, dichotomous and of multiple-choice type, coding schemes helped the researcher to computerize the responses obtained. Each possible answer was given a code and no answer could fit more than once. The responses of the open-ended questions where the respondents have no limit on the range of replies are not easy to be coded and were analysed in Microsoft excel where main points were written down for each respondent. After editing and entering the data the researcher analysed it using appropriate software packages.

## 4.7 Limitations of the research

During this research, the limitations were that the final number of respondents was less than that planned. This resulted from some respondents who did not answer or submit questionnaires but the response rate was still sufficient. So, the researcher believes that the results of this research are consistent. Also because of a large number of illiterate respondents, the researcher was obliged to stay in the field to help them to complete the questionnaires by doing interviews face-to-face. This method was time-consuming because the researcher was obliged to spend approximately thirty minutes with each respondent.

The selected associations were also dispersed so that it was also time-consuming to move from one association to another and sometimes the researcher arrived at their farm when they had already left. So, the researcher was obliged to make another appointment with them. Also, sometimes, the researcher arrived at their farm when the desired total number of respondents from that association was not complete. Consequently, she was required to leave the questionnaires for the absent number with one member, especially the president or another one who has some responsibility in that association, and arranged for the collection of them.

The questionnaire was conceived in English, but because many people could not understand that language, the researcher was obliged to translate it into Kinyarwanda (the mother tongue for all Rwandans) in order to facilitate communication, but it is also time-consuming (see Appendices 1 & 2). Furthermore, some documents used in this research were written in French, so it was required to translate the ideas or data needed into English.

## CHAPTER 5

### FINDINGS AND DISCUSSION OF THE RESULTS

#### 5.1 Description of COVEPAR

##### 5.1.1 COVEPAR background

COVEPAR stands for Cooperative for Valorization (addition of value) and Exportation of Rwandan Agricultural Products. It was created in October 2001 in accordance with the Rwanda's law No 31/1988 of 12 October 1988 governing the creation of the cooperative companies. As Uwimana (2003) highlighted, COVEPAR was created after several meetings of the steering committee of PEARL project on the raising of the standard of living in rural areas where it was decided to set up a project of development of the rural community in partnership with PEARL project. At these meetings, it was advised to explore the European market of the ethnic food. The aim was to take part in the reduction of poverty in the Rwandan rural areas by the valorization and exportation of the Rwandan agricultural products.

Therefore, an exploration mission of the European markets was organized in February 2002 under the coordination of PEARL project including three agents of PEARL project (the researcher was one of them), one representing the private sector, the representatives of rural areas and cooperatives. The outcome of the mission was that there is possibility of exporting Rwandan agricultural products.

COVEPAR started its activities in April 2003 with the transformation of cassava into flour and starch in the unit of demonstration of ISAR/Rubona. The objective was to determine the quality and the cost price and compare these with that of other exporting countries of the same products. So, the cost price was calculated and the quality of the flour was tested by the laboratories of CIRAD-AMIS and Société Racines S.A. (the Company Roots S.A.) of Montpellier in France. All these societies were satisfied with the quality of the sample produced compared to that of the large

exporters which are Cameroon and Gabon and promised COVEPAR to buy its products.

In general, COVEPAR focuses on local and European markets. Its strong competitors in the European market of cassava flour are primarily Cameroon, Gabon as well as the Democratic Republic of Congo. The registered office of the COVEPAR is at Karubanda, in Butare Municipality but with the possibility of settling later in the Gisenyi cellule, Mugogwe sector, Gikonko district. At this place, COVEPAR is constructing an industrial unit that will transform cassava into flour and starch. It has a very significant support from the USAID/PEARL project promoting the rural development.

### **5.1.2 Objectives of COVEPAR**

According to the information provided by its statute, COVEPAR has the following main objectives:

1. To promote the value of Rwandan agricultural products.
2. To market Rwandan agricultural products inside and outside the country.
3. To promote the agricultural production in rural areas.
4. To promote the Rwandan livestock products.
5. To promote the entrepreneurial skills in rural area.

In the beginning, COVEPAR focused its interest on two agricultural products which are cassava and chilli pepper. The former is widely found in almost all regions of the country in different quantities with top production in Gitarama and Butare while the latter was not familiar to many farmers. Nonetheless, it can adapt easily in many of Rwanda's regions. Other crops will be added later to that list according to the impact that the first two will have brought to the rural population in particular and the country in general.

### **5.1.3 COVEPAR's Institutions**

As specified in its statute, COVEPAR is organized as follows:

#### **1. General assembly**

It is the highest body of the cooperative and all the authority comes from it. It delegates part of its authority to the board of directors but reserves those stipulated in Article 18 of its statute.

#### **2. Board of directors**

The board of directors is elected by the general assembly and is composed of five to ten members elected using a secret poll. It has a role of replacing the general assembly in the administration of the cooperative by representing the whole of the opinions of the co-operators.

#### **3. The Manager**

The manager is appointed by the board of directors under the conditions specified by Article 18 of the statute of COVEPAR. He is in charge of daily management of the cooperative and engages the cooperative except for the fields reserved to the general assembly by Article 18 of COVEPAR's statute.

#### **4. The Board of Management**

The board of management is composed of the manager and the directors of services and has the role of helping and advising the manager in his work as director and manager in order to achieve the cooperative's goal.

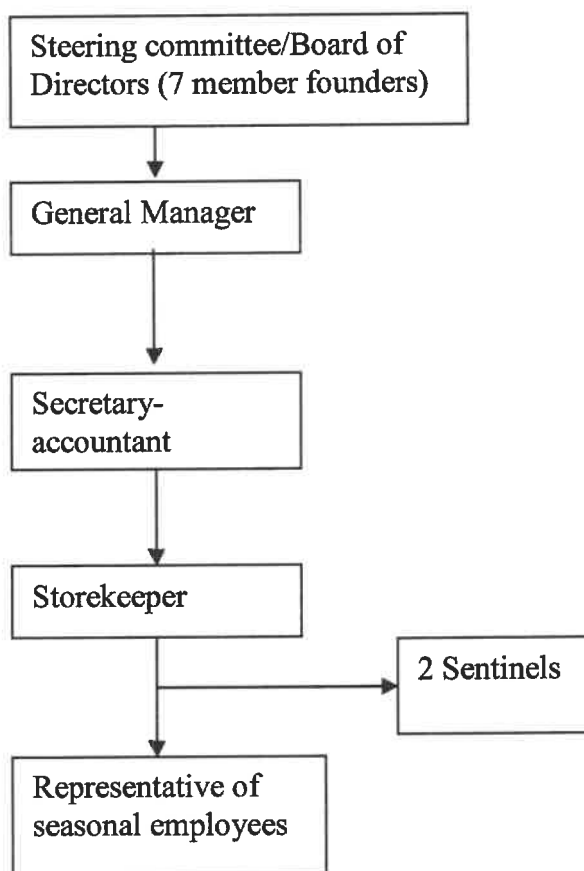


## 5. Auditors

The general assembly elects one or more auditors who have the responsibility of defending the interests of the cooperative by instituting strict accounting and auditing procedures.

It is unfortunate that these institutions are written in the COVEPAR's statute but do not really exist. This creates some blockage in its organization and plans for its evolution in the future. The Figure 5.1 shows how COVEPAR is actually organized as the director of PEARL outreach centre and the secretary-accountant of COVEPAR have stipulated.

**Figure 5.1 Current organisational chart of COVEPAR**



*Source: Designed from information provided by the director of outreach centre and the secretary-accountant of COVEPAR*

The board of directors is composed of seven founder members of COVEPAR. The surprise is that the manager is among them. As it can be seen, many institutions like the general assembly, board of management and auditors are missing. Normally, the board of directors is elected by the general assembly while the board of directors appoints the manager. So, COVEPAR is organised contrary to the norm. The representatives of various associations, institutions and individuals working with COVEPAR are supposed to be in its general assembly but it is clear that in COVEPAR organization this institution is absent. Therefore, members of these associations, institutions or individuals do not participate in the cooperative's decision making. The principles of cooperatives are violated. In addition, as Figure 5.1 shows, the board of management and auditors do not exist. This is a very serious problem as the management of the cooperative is transferred to one person. The probability of mismanagement is very high as the control committee is missing. Furthermore, all the founders are off-farmers (non-farmers) and most of them have hard political responsibilities towards the whole Nation. Hence, the time to think about cooperative activities is very limited and their meetings rarely occur.

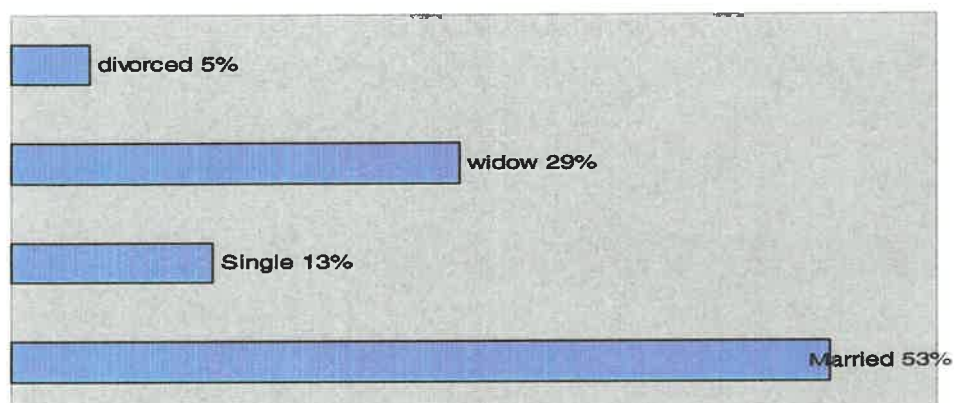
## **5.2 Discussion of the results**

### **5.2.1 Response rate**

On a total of 82 questionnaires distributed, 77 questionnaires were returned. This translates into a 93.9 percent response rate.

## 5.2.2 Identification of respondents

**Figure 5.2 Distribution of the respondents according to marital status**



From Figure 5.2 it is clearly seen that the majority of the members of associations working with COVEPAR consist of married persons (53 percent) and widows (29 percent) who alone make a total of 82 percent. As we know these categories have many responsibilities towards their families, so they have to be very serious and responsible in their activities in order to support their families.

Among all the respondents 82 percent are women and 18 percent are men. This is an obvious point showing how women are committed to participate in the rural development. Because, the experience showed that women and youth participation in development activities is historically under-represented in Rwanda (Iyera, 2003). Also, the majority of respondents (95 percent) are farmers while only 5 percent are off-farmers (non-farmers).

**Table 5.1 Distribution of the respondents according to age group**

Age group	Frequency	Percentage (%)
≤ 20 years	3	4
21-30 years	21	28
31-40 years	20	26
41-50 years	20	26
51-60 years	9	12
Older than 60 years	3	4
<b>Total</b>	<b>76</b>	<b>100</b>

The age structure shown by Table 5.1 shows that the majority of the respondents (80 percent) are ranked between 21-50 years old. This implies that the majority of members of associations working with COVEPAR are in the range of high productive people. This is no surprise, as Vegard (2003) stated, in general, it has been demonstrated that productivity tends to follow an inverted U-shaped profile where significant decreases take place from around 50 years old.

**Table 5.2 Distribution of the respondents according to the level of education and Sex**

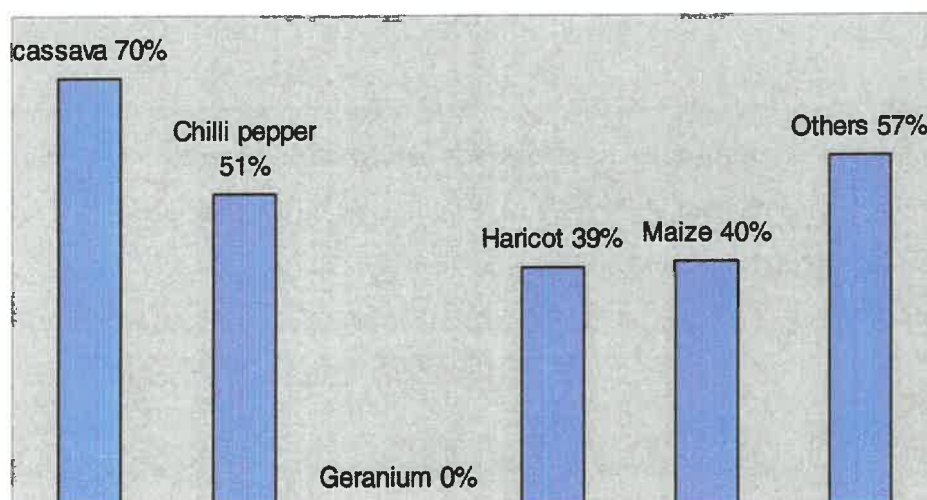
Level of education	Sex				Total (%)
	Female	%	Male	%	
Non educated	25	34	0	0	34
Primary	27	36	9	12	48
CERAI or CFJ	7	9	1	1	10
Secondary	2	3	2	3	6
University/higher institute	0	0	1	1	1
<b>Total</b>	<b>61</b>	<b>82</b>	<b>13</b>	<b>17</b>	<b>99</b>

It is observed from Table 5.2 that among 17 percent of men responded to the question concerning the formal level of education, no one is uneducated while 34 percent of women are uneducated. This confirms that men who responded to the questionnaires have at least the basic level of education. As stated by Pillai and Shannon (1995:252), "education is a profound agent of change. It prepares a society for a fundamental change in social and economic institutions and alternative lifestyles". This statement suggests that there is perhaps a slow social and economic development in the society of illiterate people. So, it is important to concentrate on education in Rwanda, especially in the rural areas where the majority of the Rwandans live and where arable land is scarce. This can make people to be more innovative and the problem of concentration on small land could be resolved.

Among 61 women who indicated their level of education, 56 percent have a basic level of education i.e. primary and CERAI/CFJ while the percentage of men who have the same level of education is 77 percent. These results confirm the figures for the rest of Rwanda which showed that the rate of literacy of men is higher than that of women as was discussed in Section 3.4.5.

### 5.2.3 Information related to activities

**Figure 5.3 Main crops cultivated by COVEPAR members**



From Figure 5.3 it is evident that 70 percent of members of COVEPAR concentrate on cassava, 51 percent on chilli pepper, 39 percent cultivate haricot, 40 percent cultivate maize and 57 percent concentrate on other crops while anybody cultivate geranium. We were told that geranium is a new crop that COVEPAR would like to try and introduce among its members. It is actually in seedbed for further multiplication before distributing to COVEPAR's members.

The other crops enumerated are sweet potatoes, cabbages, carrots, sorghum, soya beans, groundnuts, arish potatoes and coffee. The results from the survey showed that there is no association that concentrates on cultivation of one crop. Only bigger institutions do that. So, with regards to the problem of the smallness of the arable land, comes the fragmentation of it by associating various products in a very small

area. This explains why there is no professional agriculture in Rwanda. Every Rwandan wants to cultivate a lot of crops in his or her field because of the small size. Associations supposed to supply COVEPAR with cassava cultivate other crops such as haricot, sorghum, sweet potatoes, groundnuts, rice, etc. It is the same for those that supply chilli pepper.

To the question about why they prefer the listed main crops, respondents provided many reasons as shown by the Table below.

**Table 5.3 Reasons why respondents prefer crops identified as main**

N=76 <sup>1</sup>	Frequency	Percentage (%)
They generate more revenue	63	83
They are more adapted to our region	36	47
They are for our ancestors	8	11
We are forced to cultivate them	0	0
Other reasons	11	14

It is apparent from Table 5.3 that the majority of the respondents (83 percent) prefer to concentrate on the identified crops because they generate more revenue. 47 percent argued that they are more adapted to their regions, 11 percent said that they are for their ancestors while 14 percent gave other reasons. The list of other reasons identified is as follows:

1. They are their main food at home.
2. It is easy to cultivate them.
3. They had a large market when they started cultivating them.
4. They have been sensitised to cultivate them (specifically chilli pepper and coffee).
5. One of them stated that he was trying the market especially for chilli pepper.

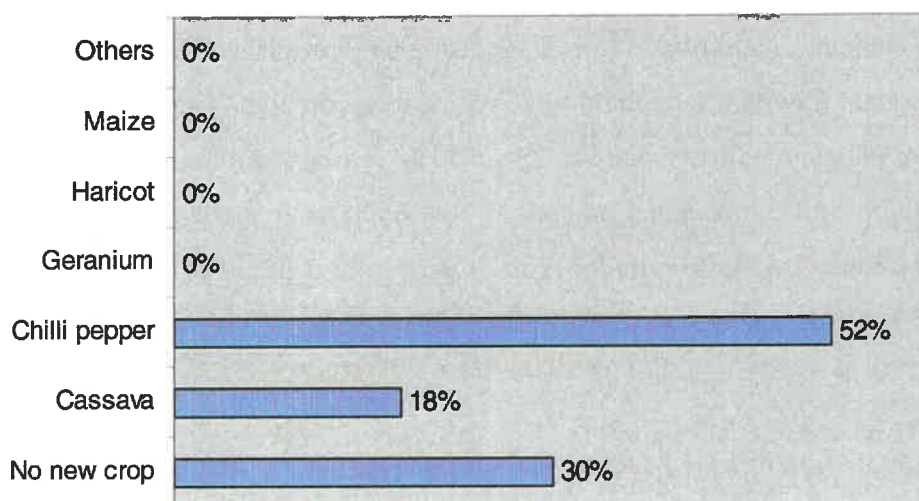
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<sup>1</sup> N refers to the total number of respondents of a given question.

The associations committed for chilli pepper cultivation concentrate more on it than that of cassava because, as they argued, chilli pepper requires more attention such as watering, harvesting, drying and sorting. However, although members are spending much time on growing chilli pepper, they still combined that with other crops such as maize, sweet potatoes, cassava, soya beans, cabbage, coffee, etc. The reasons stated are that chilli pepper is a spice that cannot be eaten alone like other agricultural products, but also because they have to do a rotation after two years when the chilli pepper plants are supposed to be old.

To the question of identifying new crops introduced by COVEPAR, the Figure 5.4 shows the results.

**Figure 5.4 New crops introduced by COVEPAR**



Only two crops are introduced by COVEPAR. 52 percent of the respondents maintained that chilli pepper was a new crop introduced by COVEPAR while 18 percent affirmed that cassava was a new crop. However, cassava is not a new crop as it was introduced earlier. Members have been only sensitised by COVEPAR to cultivate it using improved inputs and modern cultivation techniques (improved seedlings, pesticides in case of disease and implementing the modern norms of planting) that farmers were not used to in order to get high production, therefore more revenue. So, due to the fact that some COVEPAR members were not accustomed to the use of these techniques and inputs, they consider cassava to be a new crop that

COVEPAR introduced. Chilli pepper is the only new crop introduced by COVEPAR to the farmers.

Regarding the motives why the respondents accepted to cultivate the new crops, the Table below illustrates the different answers from 54 respondents who identified new crops.

**Table 5.4 Motives of cultivating new crops introduced by COVEPAR**

N=54	Frequency	Percentage (%)
They generate more revenue	38	70
Their consumer demand is high	33	61
We are subsidized when we cultivate them	1	2
Other reasons	0	0

From Table 5.4 it is evident that the main reasons explaining why members of COVEPAR accepted to cultivate new crops are because they generate more revenue (70 percent) and their consumer demand is high (61 percent). Respondents revealed that they have been sensitised on these advantages by COVEPAR authorities before introducing these crops in their regions. Only 2 percent accepted to cultivate them because they are subsidized when they cultivate them.

In order to evaluate which level COVEPAR members concentrate on farm activities, respondents were asked the question about what other activities they exercise. The following Figure illustrates their answers.



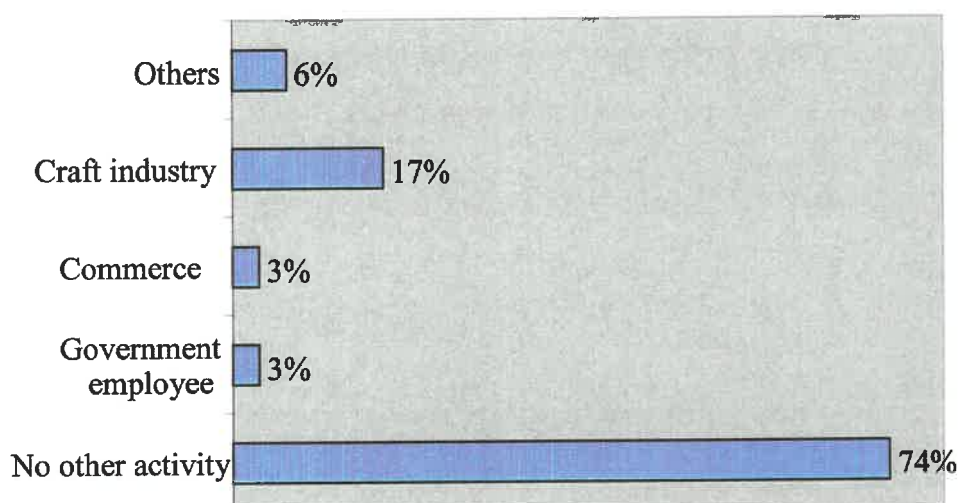
**Figure 5.5 Other activities apart from farm activities**

Figure 5.5 shows that the majority of the respondents (74 percent) do not exercise any other activity apart from farm activities. So, agriculture is their main activity. However, 17 percent of respondents exercise craft industry, 3 percent are government employees, 3 percent exercise commerce activities and 6 percent exercise other activities. Among those who said other activities, we found a general secretary of the Rwandan Association of Athletism, a mechanic, a mason and an employee of the Methodist church.

## 5.2.4 Information related to production

**Table 5.5 Use of agricultural inputs and modern techniques**

N=77	Frequency	Percentage (%)
<b>Agricultural inputs</b>		
Organic fertilisers	64	83
Non organic fertilisers	29	38
Pesticides	45	58
Improved seeds	35	45
<b>Modern agricultural techniques</b>		
Planting in lines	62	81
Using enough space between	56	73

seeds in lines		
Using enough space between seedlings in lines	56	73
Others	0	0

The majority of the respondents (83 percent) use organic fertilizers in their farm activities while only 38 percent use non-organic fertilizers (see Table 5.5). The reason is that to get non-organic fertilizers requires a lot of money while organic fertilizers can be easily obtained without any payment from household residues or livestock. Again, 58 percent and 45 percent respectively use pesticides and improved seeds. In general, it is remarkable that most farmers working with COVEPAR prefer to use organic fertilisers and pesticides. There are very few that prefer to use non-organic fertilizers and improved seeds. These results are the same as that found by Mpysi et al. (2003) in the whole of Rwanda. Nonetheless, the majority of respondents use modern agricultural techniques. For example, 81 percent plant in lines, 73 percent use enough space between seeds in lines and 73 percent use enough space between seedlings in lines. COVEPAR through PEARL agronomists sensitise and teach its members the importance of these inputs and agricultural techniques and how to use them. If these inputs and modern cultivation techniques are used efficiently, they will yield high production and thereafter farmers' income will increase.

Concerning the question about how respondents get the stated inputs, the Table below summarizes their answers.

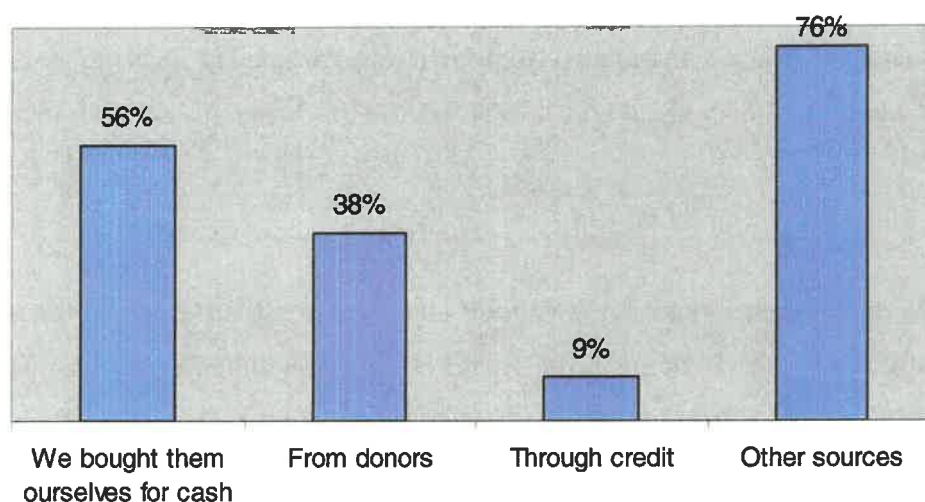
**Table 5.6 How do you get the inputs used in your farm activities?**

N=77	Frequency	Percentage (%)
You buy them yourselves for cash	25	32
From COVEPAR	48	62
From donors	7	9
Through credit	5	6
Other sources	52	68

32 percent buy inputs themselves using cash, 62 percent get them from COVEPAR, 9 percent from donors, 6 percent get them through credit and 68 percent get them from other sources. Among other sources, the overwhelming majority of respondents (90 percent) stated that they get inputs from household residues or from their livestock. Other 10 percent said that they get inputs from OCIR/Café because they are among coffee growers. Therefore, the two most important financial sources for inputs, leaving out cash, are COVEPAR on the one hand and household residues and livestock sales on the other hand.

Those who said that they get inputs from COVEPAR (48 respondents) were asked if they used these inputs before COVEPAR intervention. 71 percent of them said 'yes' but 29 percent said 'no'. Again, those who accepted that they used inputs before COVEPAR intervention were asked how they got them. The following Figure shows the results.

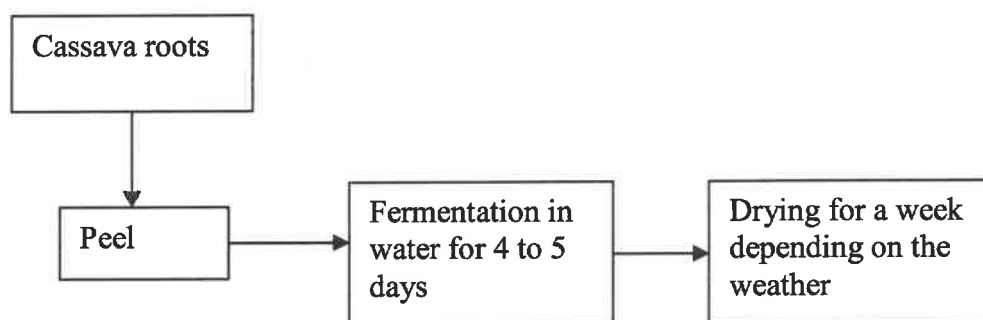
**Figure 5.6 Sources of inputs before COVEPAR intervention**



From Figure 5.6, it is observed that the majority of respondents who were using inputs before COVEPAR intervention obtained them from other sources (76 percent) and 56 percent bought them from their own cash. 38 percent got them from donors which are OCIR/Café and Red Cross while 9 percent obtained inputs through credits. As specified by the respondents, other source of inputs is their respective household residues.

On the question about food processing, 82 percent answered that they do not process products before selling them while 18 percent argued that they do change. These 18 percent are only the ones who cultivate cassava. However, the procedures and methods for changing products remain traditional because they use their local material (big pots or barrel) and the process does not result in a finished product being ready for consumption. The following chain illustrates:

**Figure 5.7 Transformation of cassava roots into cassava meal**



After cassava is dried, producers sell it as cassava meal to their nearest markets. They said that they do this at their own initiative, nobody helps them to do so. The researcher was told that since COVEPAR was created, growers didn't sell their cassava at COVEPAR. When the researcher asked COVEPAR authorities where cassava bought and transformed into cassava flour and sold at the European market (France) came from, they stated that COVEPAR was in an urgent phase where it was asked to deliver one container of cassava flour at that market. In order to maintain its credibility, COVEPAR authorities bought cassava from whoever has and sells it because it could take too much time for COVEPAR to identify and sensitise associations that have cassava. But afterwards, as COVEPAR is convinced that the European clients appreciated its products, it wants to extend the market. COVEPAR adopted the system of working with associations because they are the ones that have large fields for economies of scale or which can get it easier from government authorities than from individuals.

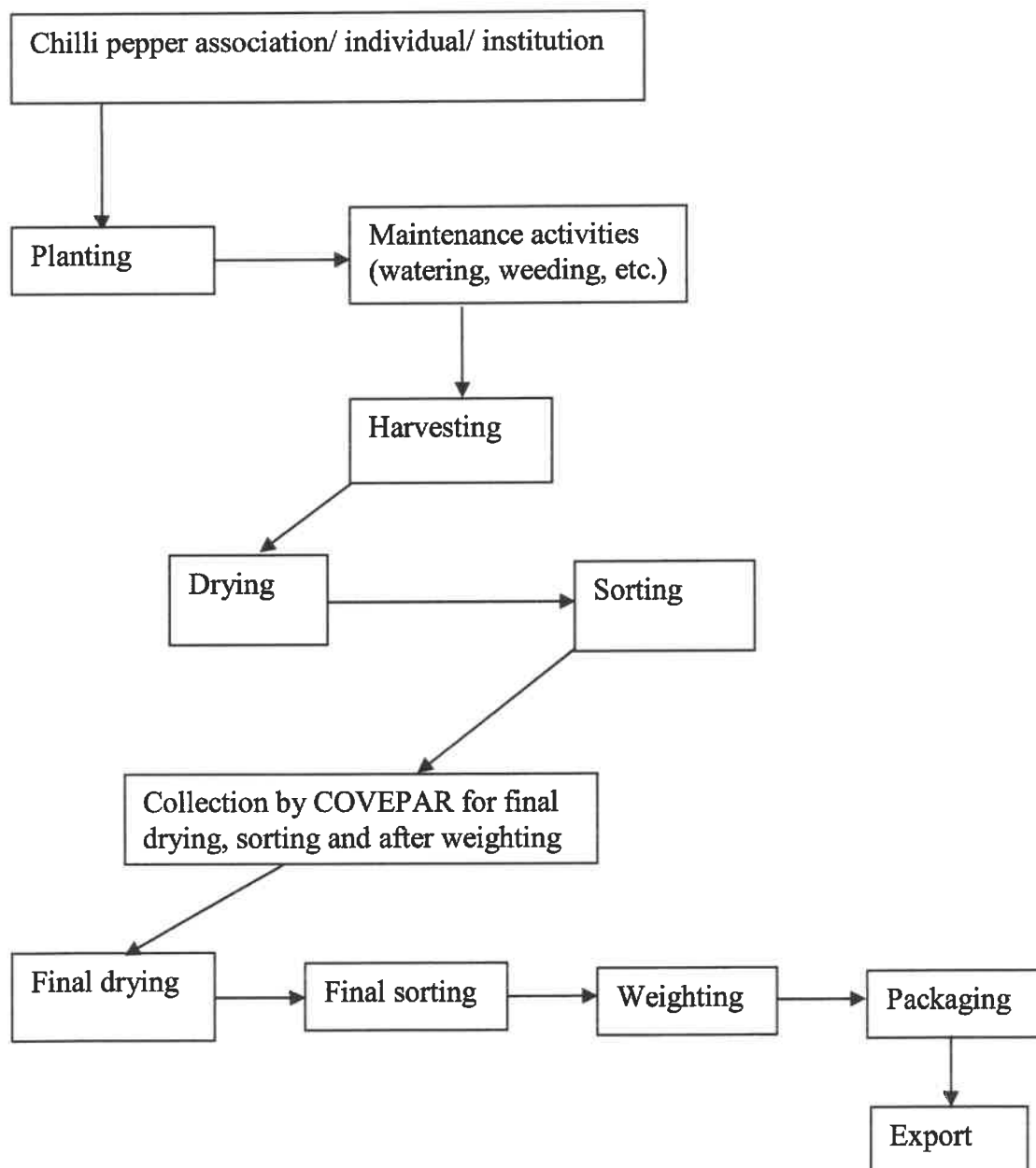
However, the surprise is that some associations found on the list of COVEPAR do not know it even by name. These are associations cultivating cassava (Abakesharugo for instance). Only the president and the vice-president know a little bit about COVEPAR because they benefited from a study trip to Gitarama Province to see how other similar associations work. No general meeting was held with all members to explain what COVEPAR is, its objectives and how it would like to work with associations, etc. The other problem is that those who at least know it didn't communicate the information to their fellows. So, it is evident that COVEPAR expanded the list of associations working with it while it is difficult for it to supervise and coordinate all of them. While, as highlighted by De Beer and Swanepoel (1998:63), "coordination is absolutely essential if one thinks of community development as a total transformation". In addition, there is poor communication not only between COVEPAR and members of associations but also between members themselves.

COVEPAR is seen as a community-based organisation with the aim of participating in poverty reduction in rural areas. However, it will take many years to achieve that goal because of the stated problems. In fact, as mentioned by De Beer and Swanepoel (1998:41), "community-based organisations provide a basis for development as they are building an organisation and bringing the community together around mutual concerns and needs". COVEPAR is at its starting stage of activities, a stage that is always difficult especially when it comes to deal with many illiterate people or with primary education. So, communication, supervision and coordination are among the most important instruments that COVEPAR should develop.

In order to solve that problem, COVEPAR authorities stated that they created a reassembly of all cassava's associations named RAVAC (Reassembly of Associations for Valorization of products) in hope that communication and coordination will be easy. However, this re-assembly has done little, because the problem was identified during the survey, while RAVAC was already established. Some members do not neither know COVEPAR nor RAVAC. COVEPAR did also the same for chilli pepper associations but the name of that reassembly is not yet clear.

Concerning chilli pepper, members cultivating it do not change it. After it has been dried and sorted they sell it at COVEPAR that, in turn, controls the drying and sorting. If it has not been properly done COVEPAR uses its occasional (seasonal) employees to finish the operation. The number of employees engaged for these activities vary between ten and thirty. It is high during the top time of harvesting, especially of chilli pepper. All of them are women because they show more efficiency than men, especially in sorting. After this stage, the final quantity is weighed. Therefore, the suppliers are paid according to the final weight obtained by COVEPAR. The process is as follows.

**Figure 5.8 Steps of chilli pepper from the grower to the importer**

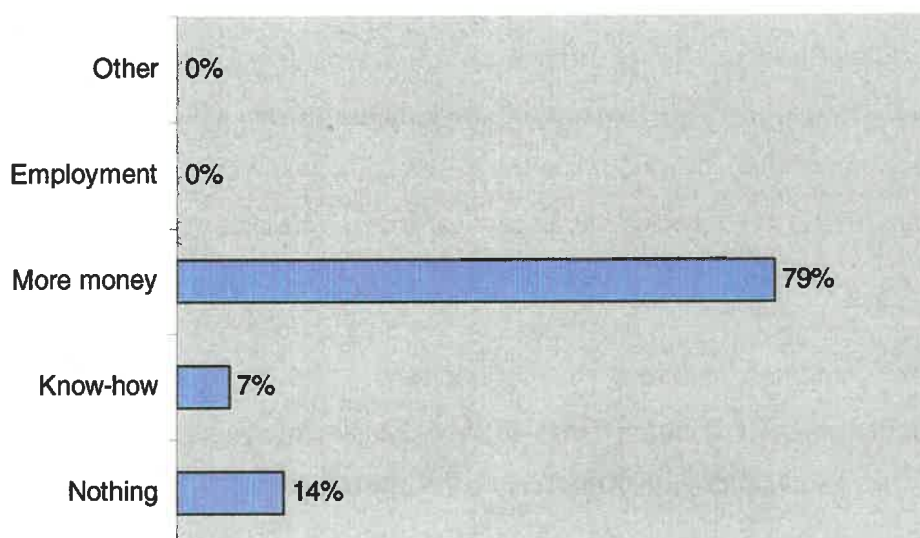


*Source: Conceived by the author using information received from COVEPAR authorities and its members*

It is seen from Figure 5.8 that COVEPAR assures transport of chilli pepper from growers to COVEPAR. It is also apparent that it does not trust its suppliers to do the drying and sorting. It has to restart doing it with its trained workers in order to ensure that the remaining chilli reserved for export is of the best quality. After final weighing, suppliers are informed about the quantity of chilli pepper supplied and the final step is the payment. They also collect the chilli that is not accepted. After making sure that the chilli is very well dried and sorted, COVEPAR starts packaging it into packets agreed with external purchasers.

Concerning the question related to gains from products transformation, the Figure below illustrates the results from members cultivating cassava as they are the ones who do it.

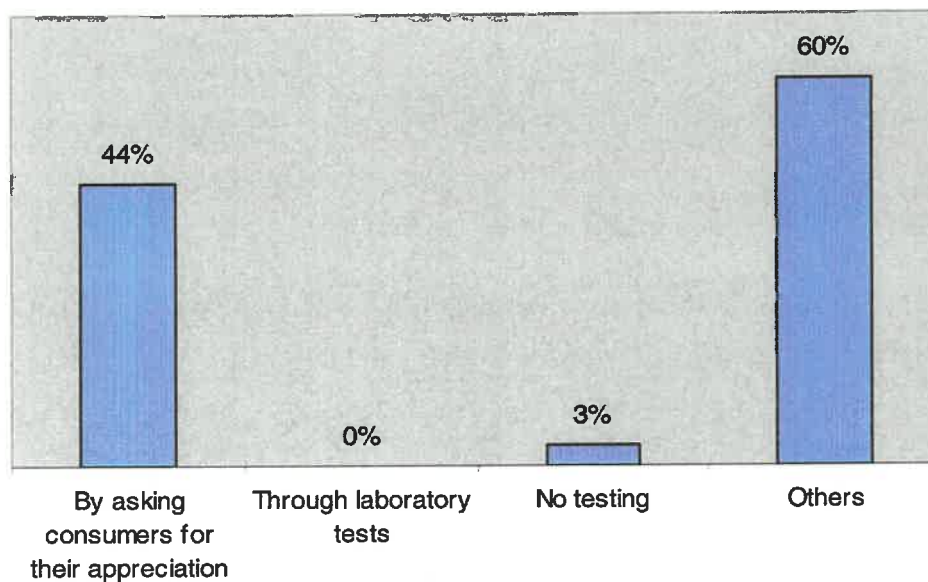
**Figure 5.9 Gain from products transformation**



It is evident that most of the respondents (79 percent) change their products in order to add value. 7 percent said that they gain know-how while 14 percent stated that they gain nothing.

About the question related to test of quality of their products, the following Figure shows the answers received.

**Figure 5.10 Test of quality of products**



It is apparent from Figure 5.10 that 60 percent of the respondents use other methods of testing the quality of their products, 44 percent of the respondents test the quality by asking the consumers for their appreciation while 3 percent proceed to any test. It is also evident that no test is done through laboratory tests. The researcher was told by members cultivating chilli pepper that their product passes through laboratory tests before selling it at international markets. This statement was confirmed by COVEPAR authorities. According to the latter, it is not only chilli pepper that passes through laboratory testing but also cassava flour and the quality is appreciated by buyers. This procedure confirms the desire of looking for the best quality. Other methods of testing the quality of the products stated by the respondents is eating one part of their production (food products) and appreciating it themselves before selling. For chilli pepper they proceed to sorting and removing the ones that are not red or that have been destroyed by the insects.

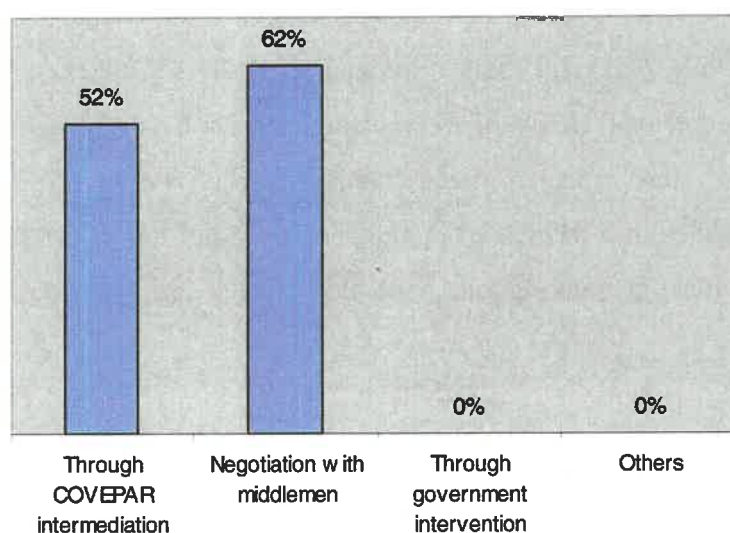


### 5.2.5 Markets and Prices

On the question related to markets, most of respondents (95 percent) stated that they sell their products at local markets. However, there is 30 percent of respondents who stated that they sell them at international markets (These percentages are more than 100 percent because chilli pepper associations deal also with food products). Even though 30 percent of the respondents stated that they sell their products at international markets, it's not themselves who do it. The products are bought by COVEPAR (especially chilli pepper) that in turn sells them abroad after transformation or only doing the packaging. Those who said so wanted to express that their own products are sold abroad even though they are not responsible of the exportation.

Concerning the question about who helps COVEPAR members to find the market, the Figure below illustrates the responses received.

**Figure 5.11 How to find the markets**



It is apparent from Fig 5.11 that only two channels are used in finding markets for COVEPAR members. The most used channel is negotiation with middlemen that was

stated by 62 percent. 52 percent of the respondents said that they find the market through COVEPAR intermediation. The former way concerns food products that are not on the list of products that COVEPAR is actually concerned with. Cassava is also on this list because COVEPAR didn't buy it from associations up to now. The latter way concerns chilli pepper that is bought by COVEPAR and it is identified as the only buyer in the region. The government does not intervene in finding markets for COVEPAR members. However, it facilitates COVEPAR in export process by providing required documents for export.

Before COVEPAR intervention, all the respondents (100 percent) stated that they were used to sell their products at local markets. This is because even the chilli pepper which members identified as the product sold at international markets was unknown before COVEPAR.

On the question related to selling prices of their products before and after COVEPAR intervention, the following Table summarizes the results.

**Table 5.7 Selling price before and after COVEPAR intervention**

Products	Price before COVEPAR intervention		Prices with COVEPAR intervention	
	Price in the local market (Rwf/Kg)	Price in the international market (USD/Kg)	Price in the local market (Rwf/Kg)	Price in the international market (USD or € /Kg)
<b>Cassava</b>				
Flour	162	-	-	1.26€ (f.o.b Le Havre)
Roots <sup>2</sup>	50	-	35	-
Cassava meal	94	-	-	-
<b>Chilli pepper (2003&amp;2004)</b>	-	-	1000	3.5\$( f.o.b Mombassa)
<b>Geranium</b>	-	-	-	-
<b>Haricot</b>				
In 2003	65	-	-	-
In 2004	140	-	-	-
<b>Maize</b>	150	-	-	-
<b>Others</b>				
Coffee	420	-	-	-
Cabbages	25	-	-	-
Sorghum	100	-	-	-
Soya beans	250	-	-	-

N.B. “- ” Means no selling price identified

It is observed from Table 5.7 that cassava and chilli peppers are the only products that COVEPAR is actually interested in. The reasons can be as mentioned in 5.1.2 because the former is widely produced in almost all regions of Rwanda and the latter can adapt

<sup>2</sup> Cassava roots that COVEPAR members sell at local markets are fresh cassava different from that bought by COVEPAR that cannot be eaten directly (they contain cyanidric acid). The first step is detoxification and after drying they become cassava meal that in turn can be processed into cassava flour.

easily in many regions. Further, their consumer demand is higher than other products found in the region at international markets. Also, their transportation is easy compared to fresh products like avocados (Butare Province is the first producer of avocados).

COVEPAR buys chilli pepper at Rwf 1000/Kg and sells it at \$3.5/Kgs f.o.b Mombassa port. For cassava, COVEPAR bought cassava roots at Rwf 35/Kg. It proceeded to changes into flour using modern techniques and improved unit of transformation of ISAR/Rubona and then after packed for export. It has got 12 tons of cassava flour which were sold at 1.26€/Kg f.o.b Le Havre port in France. It is a lot of money as at local market (Butare for instance), the ordinary cassava flour costs currently Rwf 250/Kg. So, adjusting for exchange rate the selling price at European market is four times the price at local market. So, if this market persists, cassava growers will be better off than before because adjusting for all exportation costs, this is still much better. Unfortunately, COVEPAR members do not know the selling prices of both products at international markets. The information related to these prices was collected from COVEPAR authorities because none of its suppliers knows them. This creates a situation where COVEPAR suppliers do not trust the COVEPAR authorities and consider them as middlemen who only seek to further their own interests. This also shows a poor communication between COVEPAR and its members. As highlighted by Pillai and Shannon:

Rural development programmes, if they are to succeed, must be cooperative ventures between rural people and the development agency or authorities. There must be a full and constant exchange of information between both parties, from the day that their first plans are drawn up to the day when the development agency can phase itself.

Abrahamsen (1976) added that in order to achieve a maximum cooperative effectiveness, there should be a well-planned communication program. So, as COVEPAR does not inform its suppliers about selling prices and their connexions (exportation costs for example), people will end up stop supplying it and consequently, it will dissolve.

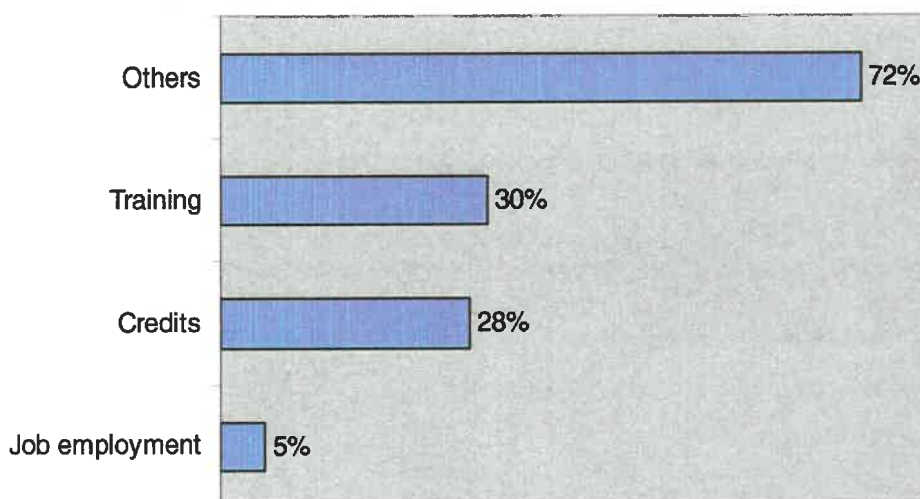
It is also seen that apart from cassava and chilli pepper no other product is sold abroad. The most expensive at the local market is coffee (parched coffee) that was sold at Rwf 420/Kg. However, it is time and energy consuming to arrive at that step. The second is soya beans that is sold at Rwf 250/Kg followed by cassava flour sold at Rwf 162/Kg. All of these prices are for 2004 except where it is specified.

Respondents were also asked their attitudes about the selling prices (if they are happy or not). 68 percent of the respondents replied 'no' and only 32 percent said 'yes'. The most stated reason of their unhappiness is low price paid by COVEPAR compared to cost of production required especially for chilli pepper. 95 percent of unhappy growers are because of the low price of chilli pepper. Another reason is the lack of reliable markets especially for other food products. As producers are unable to change their production for relatively long life conservation, they are forced to accept low price for the surplus otherwise it is perishable.

Even though most of people are complaining about low price of chilli pepper, COVEPAR authorities said contrary. They argued that a fair price is provided to members as COVEPAR provides seedlings, pays sentinels who look after shelves where chilli is dried before is being collected by COVEPAR itself and some times gives fertilizers. Furthermore, it is expensive for COVEPAR to ensure transport up to the buyers and to buy packets. This problem arises because of poor communication between COVEPAR and its members. If COVEPAR authorities were usually communicating information related to prices and other activities of the cooperative, there could be few problems. Normally, the price is high compared to that of other agricultural products. There is any other agricultural product in Rwanda which is sold at Rwf 1000/Kg; even coffee and tea, principal industrial products in the country.

Concerning the question related to other advantages they get from COVEPAR, the following Figure illustrates different answers.

**Figure 5.12 Other advantages received from COVEPAR**



From Figure 5.12, it is clearly seen that the option of other advantages gained from COVEPAR dominate with 72 percent of the respondents. 30 percent gained trainings, 28 percent received credits and 5 percent have got jobs. As stated by respondents these other advantages are seedlings of chilli pepper and cassava for some associations. All people cultivating chilli pepper benefit seedlings and supervision of USAID/PEARL agronomists. This is one of the ways USAID/PEARL project helps cooperatives committed for rural development. Other advantages are payment of sentinels who look after shelves where chilli pepper is dried. It is clear that these are kinds of motivations COVEPAR is distributing in order to stimulate people to like chilli (contribute to reduction of production cost), then cultivate it as it is new in the region.

Those who cultivate chilli pepper have more advantages from COVEPAR than cassava ones. The main reason is that it is new product for farmers and COVEPAR cannot get any production elsewhere apart from that coming from the initiated growers while cassava is a common product. However, some cassava's associations advantaged performed seedlings from ISAR through COVEPAR's command, study trip in Gitarama Province of some representatives of cassava's associations where they went to see how other similar associations work. They benefit also advisers from COVEPAR authorities and PEARL agronomists.

## 5.2.6 Revenue and its allocation

This section provides information related to revenue that members of COVEPAR receive from their different farm activities and how this revenue is used.

**Table 5.8 Average revenue per season before and after COVEPAR intervention**

Product	Period	Average revenue per season (Rwf) and per association	
		Before COVEPAR intervention	After COVEPAR intervention
Cassava	Season	91 000 <sup>3</sup>	208 000 <sup>4</sup>
Chilli pepper	Season	-	537 379
Geranium	Season	-	-
Haricot	Season A	10 000	-
	Season B	10 000	-
Maize	Season A	200 000	-
	Season B	11 314	-
<b>Others like:</b>	Season		
Coffee		44 275	-
Cabbage		26 391	-
Sweet potatoes		12 000	-
Tomatoes		35 000	-

**N.B: These revenues are for 2004.**

From Table 5.8, it is evident that chilli pepper is the top crop which brought much money to its growers (Rwf 537 379). Maize followed with Rwf 211 314/year. Tomatoes brought Rwf 35 000/ season (three months) i.e. Rwf 105 000/year and cassava is the last with Rwf 91 000/year. Cassava is ranked the last in income

<sup>3</sup> This revenue is an average revenue from cassava without any consideration about the nature of the cassava (fresh cassava, cassava meal and cassava flour).

<sup>4</sup> This revenue is only for one association named ABAKESHARUGO that sold cassava seedlings at COVEPAR in reason of Rwf 10/ 30cm of cassava seedling. Others didn't get any revenue from cassava from COVEPAR.

generating because the big part of its production is consumed at home by growers themselves. So, they bring to the market the small surplus just to help them to buy other needed products at home. However, if the selling price was high and market always available, they can produce more for the market. The allocation of that revenue per member is shown in the Table below.

**Table 5.9 Revenue allocation per member**

N =7 6 <sup>5</sup>	Frequency	Percentage (%)
Food	63	83
Clothes	46	61
Building a new house	1	1
Improving my house	6	8
Payment of children school fees	16	21
Buying medical insurance	34	45
Covering health expenditure	13	17
Buying livestock	23	30
Buying a new farm	7	9
Saving	14	18
others	21	28

From Table 5.9 it is evident that the majority of the respondents spend their revenue in buying food (83 percent) and clothes (61 percent) which are among human essential needs. Other needs at least covered are medical aid (45 percent), buying livestock (30 percent), and other options (28 percent). 21 percent of the respondents managed to pay school fees of their children, 18 percent of the respondents saved some money. Also, 17 percent covered health expenditures for them or their relatives, 9 percent bought new farms, 8 percent improved their houses while only 1 percent built new house. Other options of revenue allocation stated by respondents are buying

<sup>5</sup> N=76 because the 77<sup>th</sup> is an institution and we suppose that its needs may be different from that of individuals. This is the reason why the details of its revenue allocation are given separately.



stocks of food products in order to sell them when their demand becomes high, rent of farms, and payment of labour force who helped them in their farm activities. In addition, two respondents bought bicycles, four bought hoes, one bought a radio (very important for information-communication) and another one managed to repay her credit.

Concerning livestock, five bought cows and another eighteen have managed to buy small ruminants like goats, pigs, chickens and rabbits that help them to get easily organic fertilizers used to increase productivity of their farms. It is important to note that the needs covered by cassava's associations are mostly limited to food and clothes. However, those of chilli pepper have greatly improved their lives by covering other human needs such as buying livestock, bicycles, medical insurance, new farms, new houses and payment of their labour force as the results revealed.

The institution surveyed (National Museum of Rwanda), used the revenue generated (Rwf 1 020 000) from chilli pepper, its main crop, in payment of workers and buying materials of its students who are learning their craft industry.

### 5.2.7 Problem analysis

This section provides main problems that members of COVEPAR are facing in their farm activities. They were identified by members themselves.

**Table 5.10 Main problems experienced by members of COVEPAR**

N=75	Frequency	Percentage (%)
Low price compared to cost of production	51	68
Lack of market for our products	15	20
Absence of advertisement	6	8
Lack of appropriate knowledge	28	37
Low use of inputs (fertilizers and pesticides, improved seeds/seedlings)	20	27
Lack of credits	18	24
Misunderstanding with COVEPAR authorities	11	15
Government interference in our activities	0	0
Dispute between members	15	20
Others	30	40

Table 5.10 reveals that the main problem that members of COVEPAR are experiencing is low price compared to cost of production. However, this problem may be the result of low use of inputs, consequently, low revenue at the end of the day. This problem was expressed by 68 percent of the respondents. 37 percent stated inappropriate knowledge, 27 percent expressed low use of inputs, and 20 percent stated lack of markets for their products and dispute between members. Also, 15 percent argued misunderstanding between COVEPAR authorities, 8 percent said absence of advertisement while 40 percent identified other problems.

Even though COVEPAR is intervening in subsidising inputs, the quantity is still insufficient as 27 percent stated the low use of inputs. In addition, there is still a lack of markets as 20 percent of the respondents expressed the problem. This is because COVEPAR up to now has not succeeded in finding reliable markets for chilli pepper and cassava.

The option of other problems identified are mixture of seedlings of chilli pepper obtained from COVEPAR, no fixed price of their products, absence of trainings, soil infertility, miss of advisers, lack of information and formation about chilli pepper, delay in the payment by COVEPAR and absence of study trips. Another great problem is divergent information provided to members by the COVEPAR manager and PEARL agronomists who support the cooperative on the field activities. This situation confuses the members. They do not know who is right, or what and how to run their cooperative. They consider COVEPAR as not being a serious cooperative. This situation also creates a misunderstanding between the COVEPAR manager and the agronomists in particular, and the PEARL Project in general.

Problems are more frequently identified in associations cultivating chilli pepper than that of cassava. In fact, the chilli pepper associations are more in direct relations with COVEPAR than that of cassava because chilli pepper is a new crop introduced by COVEPAR. Thus, it ensures distribution of seedlings in these associations and with the help of its technicians (agronomists), it ensures the supervisions of activities from the plantation to the sorting time. While cassava is among the oldest food crop in Rwanda known in some regions before the Belgian colonial administration (before 1919). As highlighted by Uwimana (2003) cassava occupies the second place in Rwanda among the tubers after sweet potatoes. So, many Rwandans are more informed about it than chilli pepper.

The problem of low price is more pronounced in chilli pepper associations than that of cassava. As they argued, chilli pepper requires many activities so that they cannot have much time to concentrate on other activities at home or they cannot have much time to grow other crops as they desire. Members complain also about delays in

payment of what they supplied. They can spend many months without being paid. This becomes a serious problem for members as they cannot plan for that money because they are not sure when they will receive it. In fact, COVEPAR, as is the case with many other Rwanda's cooperatives, suffers from a shortage of capital. We have been told that the money that is used to cover fixed and variable costs comes from outside, especially from the ACDI/VOCA and PEARL projects. As its financial contribution is very limited, there is no guarantee that its suppliers will continue to provide them with produce. Farmers will end up selling their products outside the cooperative where they can receive cash instead of waiting. Therefore, it will be very hard to achieve its objectives.

# CHAPTER 6

## CONCLUSION AND RECOMMENDATIONS

### 6.1 Conclusion

Cooperatives are a sort of business organisation guided in their activities by self-help and democratic control principles. These are initiated by persons united voluntarily to meet their common economic, social and cultural needs. Cooperatives are of diversified types and pursue different objectives depending on the initial purpose of the founders. Agricultural cooperatives, like other types of cooperatives, are common throughout the world and are founded under different circumstances. In Europe and the USA, the first agricultural cooperatives resulted from market failure and were mainly initiated and implemented by the farmers themselves with respect to their common economic and social needs.

In Africa in general and in Rwanda in particular, the origin of agricultural cooperatives can be traced back to colonizers. They organised agricultural cooperatives for their self-interest rather than that of the farmers. Their objective was to increase cash crop production in the rural areas and consequently get more taxes. Agricultural cooperatives were not based on members (farmers) initiative and self-help. They were formed and organised from the top-down. Farmers were only implementers of decisions made by the colonizers. Nevertheless, cooperatives are of relevance if socio-economic development is to be successful. In fact, cooperatives seek to correct some market imperfections such as monopolistic situations and unfair prices. They also help to achieve economies of scale, create jobs, develop know-how and a sense of participation of the members in socio-economic activities. In addition, they develop a sense of self-help and unity between members who pool their resources and knowledge and together make significant socio-economic improvements. Their contribution to income distribution in a fair manner is also significant.

After the independence, these cooperative values were known by many African governments. They considered agricultural cooperatives as suitable instruments for rural development and socio-political change. Thus, governments actively promoted and stimulated agricultural cooperatives. However, the manner in which these cooperatives had been organized in the colonial period remained applicable. In Rwanda particularly, the government adopted many strategies to stimulate agricultural cooperatives. Some of them were providing grants like agricultural inputs, improved seeds, livestock, etc. to associated people. Hence, proliferation of agricultural cooperatives appeared due to the perceived financial advantages of these grants. Unfortunately, the co-operators' understanding of cooperative interests was very limited. Their objective was to gain the grants rather than to solve rural problems. This is one of the main reasons why most of the agricultural cooperatives in Rwanda didn't succeed.

Apart from granting, objectives were formulated at the top (government) and farmers were required to follow and put them into practice. Consequently, cooperative members did not feel responsible for the success of cooperatives. They considered cooperatives to be government affairs and in many cases the assigned objectives were not achieved. The agriculture sector, the most important sector in Rwandan economy in general and in rural areas in particular, didn't change. It remained that of subsistence farming, dominated by food crops with the low use of inputs and modern agricultural techniques. In addition, the weak surplus obtained was hard to market because of the long distances to the nearest markets and intermediaries who wanted more profits than the farmers themselves. Consequently, farmers in many cooperatives are currently in chronic situations of poverty.

In an effort to counter the problems, the Rwandan government embarked on decentralisation whose objective was to make Rwandans aware and take control of their future. Identification of problems and their solutions have to be done mainly by the local people rather than the government. The government only intervenes to complete local efforts. COVEPAR - Cooperative for Valorization and Exportation of Rwandan Agricultural Products is one of the agricultural cooperatives created after the decentralization program. It was created in October 2001 by the local people of Butare Province. Its aim is to participate in the process of poverty reduction in rural areas by adding value to agricultural produce and promoting the exportation of Rwandan agricultural products. Therefore, the objective of this study was to show the importance and contribution of agricultural cooperatives in the improvement of agriculture in order to reach a real rural development in general and in Rwanda in particular.

The focus here is on the contribution of COVEPAR in achieving solutions for problems of agriculture in general and those facing farmers in particular, and in so doing, to examine its contribution to poverty reduction in Butare Province.

The results of the research showed that agricultural cooperatives - when they are well organized, initiated by committed people and have the essential means and implements - are suitable instruments for rural development in general and agriculture in particular. They bring efficiency and economies of scale because of the self-help value and united effort in solving a specific problem. This happens especially when people are motivated by the desire of improving their lives. Netherlands is one of the examples where agricultural cooperatives have transformed agriculture from subsistence to market-oriented.

COVEPAR, a production and marketing cooperative, has had some positive results in the Butare rural areas (which has in turn had a positive impact on the country's agriculture). Since April 2003, the date of its first activities, COVEPAR introduced a new cash crop -chilli pepper in Rwandan agriculture.

In this study, 51 percent of the respondents concentrate on this new crop. Also, 70 percent of the respondents stated that chilli pepper generates more revenue than their traditional crops, while 61 percent argued that their consumer demand is high. These two statements show how chilli pepper is important for both the farmers and the consumers. Cassava is a second crop that COVEPAR is interested in. However, it is not new to Rwandan agriculture, but members have been sensitised, by COVEPAR, to cultivate it using improved inputs and modern cultivation techniques (improved seedlings, pesticides to counter diseases and implementing the modern norms of planting). Previously farmers were not accustomed to making use of any of these in order to obtain high production, and therefore more revenue. Due to the fact that some COVEPAR members were not accustomed to the use of these techniques and inputs, they consider cassava to be a new crop that COVEPAR introduced. This is shown by 18 percent of the respondents who argued that cassava is a new crop that COVEPAR had introduced.

With regards to the inputs, 62 percent of the respondents get them from COVEPAR. It is the most important financial source for inputs. Before COVEPAR intervention, 29 percent of the respondents were not using inputs. This shows that even although this percentage is not very

high, still, COVEPAR has also contributed by introducing inputs. In addition, COVEPAR has, by providing inputs, contributed to poverty reduction because the members who were using inputs before COVEPAR intervention (56 percent used their own cash to get them) now use this cash to attend to other needs. COVEPAR has also take part in extension services. In fact, COVEPAR, through PEARL agronomists, sensitises and teaches its members the importance of these inputs and agricultural techniques and how to use them. Therefore, the majority of respondents use modern agricultural techniques. For example, 81 percent plant in lines, 73 percent use enough space between seeds in lines and 73 percent use enough space between seedlings in lines.

With regards to the addition of value, COVEPAR didn't do as much, because members are still using their traditional method to change cassava roots into cassava meal. However, it did explore the possibility of an external market (European) and it has received positive response for the quality of its cassava flour. In fact, it is constructing an industrial unit of transformation. This will facilitate modern processing of cassava into cassava flour of all the members.

With regards to chilli, COVEPAR only dries and sorts. It sells a non-finished product after packaging. However, 79 percent of the respondents know that if they change their product, they add to its value; consequently, they get more money.

With regards to the markets and prices, COVEPAR has managed to gain a European market for both products (cassava flour and chilli pepper). The selling prices are interesting as one kilogram of cassava flour is sold at €1.26 f.o.b Le Havre port in France. This price is four times the price of the ordinary cassava flour on the local Rwandan market. Adjusting for exchange rate and for all exportation costs, this is still much better. COVEPAR buys chilli pepper from members at Rwf 1000/Kg and sells it at \$3.5/Kg f.o.b Mombassa. All of the chilli pepper production is sold abroad. The selling prices are interesting but the problem is that COVEPAR members do not know the selling prices of both products at international markets because of no communication and collaboration between COVEPAR authorities and the members.



COVEPAR offers its members other advantages as the results of the research showed. All chilli pepper growers and some cassava associations get seedlings and supervision from agronomists. Of the respondents, 30 percent have been trained, 28 percent received credits and 5 percent have obtained jobs. It also pays sentinels who look after shelves where the chilli pepper is dried.

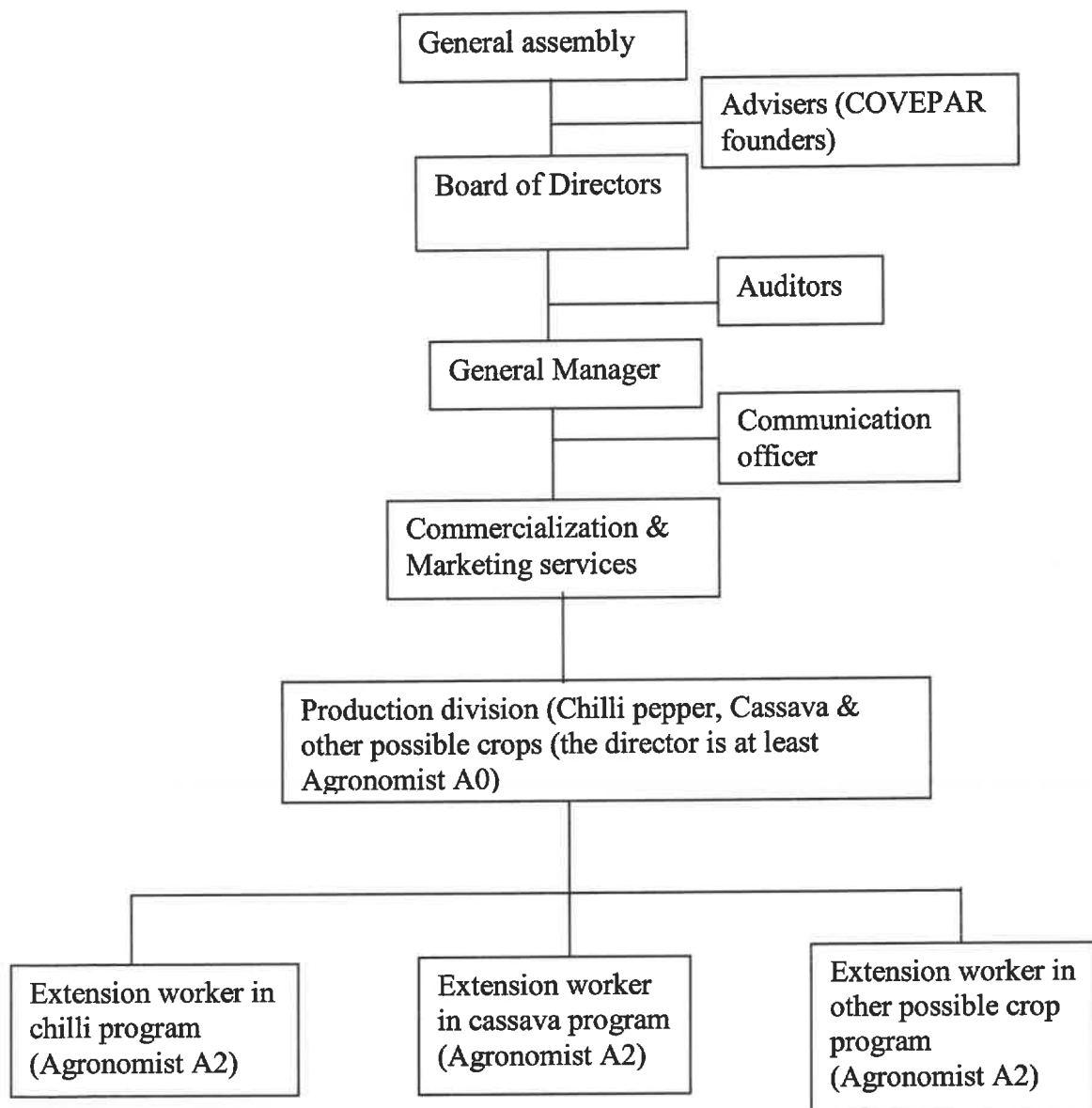
Concerning the members' revenue and its allocation, the research showed that chilli pepper is the top crop as it brought a lot of money to its growers (Rwf 537 379/year on average), followed by maize with Rwf 211 314/year on average. Cassava is ranked the last in income generating because the major portion of its production is consumed at home by growers themselves. They only bring to the market their small surplus and it is just meant to help them to buy other products needed at home. However, if the selling price was high and market always available, they may produce more for the market. The revenue generated by farm activities is mainly spent on buying food and clothes, as the results of the research showed. In fact, 83 percent of respondents stated that they spend their revenue on buying food and 61 percent spend their revenue on buying clothes. The results of the research also showed that the needs covered by the members of cassava associations are mostly limited to food and clothes. However, farmers who produce chilli pepper have greatly improved their lives by covering other human needs such as buying livestock, bicycles, medical insurance, new farms, new houses and payment of their labour force. This is because COVEPAR hasn't bought cassava yet from the associations. The farmers sold their products at their common markets where it is difficult to sell at high prices.

Even although COVEPAR has its merits, there are also many shortcomings in its organisation, communication and collaboration with members and how it works in general – all of which need to be corrected for future improvements. Therefore, some relevant recommendations are presented in the next section.

## 6.2 Recommendations

In order to be more helpful COVEPAR needs an adequate organisation that has all the important components of a successful institution. The suggested organisational chart is as follows:

**Figure 6.1 Suggested organizational chart of COVEPAR**



Because the actual board of directors of COVEPAR is composed of the members who are all non-farmers and who have other demanding political responsibilities towards the nation, it would be better to elect another board of directors with available and competent members. The former could be advisors, rather than the board of directors whose availability for cooperative activities is very limited. With regards to the problem of poor communication and collaboration, it is suggested that COVEPAR authorities have to develop these skills if they want to build a viable cooperative. In fact, members of a cooperative are supposed to be the people who are best informed, because they are the user-patrons and the final decision makers.

In order to reduce misunderstanding, complaints and rumours, COVEPAR authorities have to communicate, at all times, in a manner that is transparent for all its members, especially with regards to the selling prices of the products at local and international markets, possible buyers and their requirements, problems that their cooperative is facing, etc. If this is done then the members themselves will feel involved in cooperative activities and will participate effectively in looking for solutions to any possible problem. Due to the importance of communication in the cooperative activities it is better for COVEPAR to have a communication officer who will be in charge of the information and communication technology. He or she will help to access recent and updated information and this will contribute to establishing a competitive business. However, communication is not limited to members only, but also to all COVEPAR staff, board of directors and the public as well.

Commercialisation and marketing services is also relevant in COVEPAR organization. The director of these services will have to be in charge of looking for markets and signing contracts with buyers and the selling and advertisement of the products. Another important thing that COVEPAR has to do in order to work efficiently is to reduce the working area – i.e. the number of associations working within it. In fact, COVEPAR is in the pilot phase of its activities with a very limited working capital. In addition, one of the crops it deals with is not familiar to farmers (chilli pepper). Therefore, it is very difficult to efficiently coordinate and supervise many disperse associations, especially because members of these associations are, for the most part, illiterate. COVEPAR can start working with a few associations and later, depending on the success it will have, others can join. Therefore, in its structure, a

director of production services is important with their extension workers. The number of directors of production and extension workers will be increased depending on the future success that COVEPAR will have (maybe there will eventually be a director for each crop production).

The research showed that COVEPAR does not have its proper working capital. All the money it is using comes from ACDI/VOCA and the PEARL Project. In order to be more independent it is advisable for COVEPAR to increase its volume of business. COVEPAR members have to contribute in order to build a confident and viable cooperative. However, this alternative will remain problematic seeing the economic status of the majority of the members. However, the founders can look for subsidy and/or other external financial supporters because there are - most of them are among the important personalities in the country.

Also, in order to gain more money and customers inside and outside the country, COVEPAR should process chilli pepper and sell a finished product rather than selling a non-finished one. This procedure will also permit COVEPAR to process the residual chilli that was not accepted by the cooperative and returned to members. Consequently, members will gain more money than before.

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## **APPENDICES**

## **APPENDIX 1: QUESTIONNAIRE ABOUT THE ROLE OF COVEPAR IN RURAL DEVELOPMENT IN RWANDA.**

The aim of this research survey is to evaluate the role of COVEPAR in rural development of Rwanda. Potential problems during its activities will be identified. This questionnaire will be helpful in collecting related data and we will be very grateful if you could help us to achieve the research objectives.

Please complete the following questionnaire by crossing or ticking the appropriate boxes where it is required to do so or filling in the information requested.

### **Section1: Identification of the respondent**

1.1 Name of the association/ institution.....

1.2 Name of individual.....

1.3 Location:

Province:.....

District:.....

Sector:.....

1.4 Marital status:

Married	<input type="checkbox"/>
Single	<input type="checkbox"/>
Widow	<input type="checkbox"/>
Divorced	<input type="checkbox"/>

1.5 Sex:

Female	<input type="checkbox"/>
Male	<input type="checkbox"/>

## 1.6 Age:

≤ 20 years	
21-30 years	
31-40 years	
41-50 years	
51-60 years	
Older than 60 years	

## 1.7 Level of Education:

Non-educated	
Primary	
CERAI or CFJ	
Secondary	
University/Higher institute	

## 1.8 Profession:

Farmer	
Off-farmer	

**Section 2: Information related to activities**

## 2.1 Indicate your main crop or crops with a cross (X):

Cassava	
Chilli pepper	
Geranium	
Haricot	
Maize	
Others (Specify)	

2.2 Indicate with a cross (X) why you prefer these crops. You may cross more than once.

They generate more revenue	
They more adapted to our region	
They are for our ancestors	
We are forced to cultivate them	
Other reasons (Specify)	

2.3 What are the new crops that are introduced by COVEPAR, the ones that you did not produce before?

None	
Cassava	
Chilli pepper	
Geranium	
Haricot	
Maize	
Others (Specify)	

2.4 From 2.3 above, if there is one or more new crops, what are your motivates for cultivating them?

They generate more revenue	
Their consumer demand is high	
We are subsidized when we cultivate them	
Other reasons (specify)	

2.5 Apart from farm activities what else do you do?

Government employee	
Commerce	
Craft activities (industry)	

Others (specify)	
------------------	--

### Section3: Information related to production

3.1 Which kind of agricultural inputs and/ or modern agricultural techniques do you use?

<b>Agricultural inputs</b>	
Organic fertilizers	
Non-organic fertilisers	
Pesticides	
Improved seeds	
<b>Modern agricultural techniques</b>	
Planting in lines	
Using enough space between seeds in line	
Using enough space between seedlings in lines	
Others (specify)	

3.2 How do you get these inputs?

You buy them yourselves for cash	
From COVEPAR	
From the donors	
Through credits	
Other sources (specify)	

3.3 Before COVEPAR intervention did you use the inputs in 3.2 above?

Yes	
No	

If yes how did you get them?

You bought them yourselves for cash	
From the donors	
Through credit	
Other sources (specify)	

3.4 Do you change products before selling, for example processing food, putting into bottles or packages?

Yes	
No	

If changes to 3.4 above, how do you make these changes?.....

.....

.....

.....

3.5 Who helps you to do so?

None	
COVEPAR	
Government agents	
Donors	
Others (specify)	

3.6 If COVEPAR is among those who help you, have you used to this products transformation mechanism before its intervention?

Yes	
No	



## 3.7 What did you gain from products transformation?

Nothing	
Know-how	
More revenue	
Job employment	
Others (specify)	

## 3.8 How do you test the quality of your products?

By asking consumers for their appreciation	
Through laboratory tests	
No testing	
Others (specify)	

**Section 4: Information related to markets and prices**

## 4.1 Where do you sell your products?

National markets	
International markets	

## 4.2 How do you find the markets?

Through COVEPAR intermediation	
Negotiation with middlemen	
Through government intervention	
Others (specify)	

## 4.3 If COVEPAR intervenes in finding markets for you, at which markets were you selling your products before its intervention?

National markets	
International markets	

4.4 Complete the following table related to the selling prices before and after COVEPAR intervention.

Product	Prices before COVEPAR intervention		Prices with COVEPAR intervention	
	Price in the national markets (Rfw/Kg)	Price in the international markets (USD/Kg)	Price in the national markets (Rfw/Kg)	Price in the international markets (USD/Kg)
Cassava				
Chilli pepper				
Geranium				
Haricot				
Maize				
Others (Specify)				

4.5 Are you happy with the selling prices?

Yes	
No	

If no, motivate your answer:.....  
 .....

4.6 What other advantages do you get from COVEPAR?

Job employment	
Credits	
Training	
Others (specify)	

## Section 5: Information related to revenue and its allocation

5.1 Complete the following table related to the estimated revenue generated by your farm activities before and after COVEPAR intervention.

Product	Period	Revenue per season	
		Before COVEPAR intervention	After COVEPAR intervention
Cassava	Season		
Chilli pepper	Season		
Geranium	Season		
Haricot	Season A		
	Season B		
Maize	Season A		
	Season B		
Others (Specify)	Season		

5.2 On what do you spend this revenue?

Food	
Clothes	
Building a new house	
Improving my house (painting, flooring, cementing, etc)	
Payment of children school fees	
Buying medical insurance	
Covering health expenditure	
Buying livestock	
Buying a new farm	
Savings	
Others (specify)	

**Section 6: Problem identification and analysis**

6.1 Indicate the main problems you are experiencing in your activities (you may tick more than once)?

Low price compared to costs of production	
Lack of markets for our products	
Absence of advertisement	
Lack of appropriate knowledge	
Low use of inputs	
Lack of credits	
Misunderstanding with COVEPAR authorities	
Government interference in our activities	
Dispute between members	
Others (specify)	

6.2 Which solutions could you suggest for each problem specified

.....

.....

.....

**Thanks**

## **APPENDIX 2: GUIDELINES FOR INTERVIEW WITH COVEPAR AUTHORITIES**

1. When COVEPAR was created?
2. What are its objectives and mission?
3. What motivated you to create COVEPAR?
4. Where did you get the working capital?
5. How do you work with agricultural associations, institutions and individuals?
6. How is your organisational structure?
7. How many employees do you have?
8. What is the role of the government in your activities?
9. Are there any government authorities who want to interfere in your activities?
10. What main problems are you facing in your activities?
11. What could be the proposed solutions for them?

### APPENDIX 3: ASSOCIATIONS BELONGING TO RAVAC

Names of Associations	Sector	Number of members	Area cultivated	Area expected to increase to
Twihaze	Mbogo	8	50 ares	2ha
Ubumenyi	Ramba	20	5 ares	1ha
Abunzubumwe	kabumbwe	45	-	3 ha
Duteraninkunga	Cyayi	104	50 ares	5ha
Duterimbere	Mamba	20	1ha	5ha
Hugukamubyeyi	Gafumba	30	2ha	2ha
Abakesharugo	Ramba	55	1ha	2ha
Abatangana	Gikonko	21	-	2ha
Inganzo y'ubumwe	Kimuna	13	2ha	2ha
Ruzibaziba	Mugusa	123	-	10 ha
Abatahajuru	Mugongwe	30	50 ares	2ha
Tuzamurane-isha	Ramba	10	5 ares	1 ha
Tuzamurane-Muzenga	Ramba	10	10 ares	3 ha
Tuzamurane-Kyibumba	Muyaga	12	-	-

- Means: Data not available

**APPENDIX 4: CULTIVATION OF CHILLI PEPPER: DETAILS  
OF CULTIVATORS IN PHASE I**

No	Name of Ass./Indiv./Institution	Sector/District	Number of members		Number of seedlings	Area cultivated
			F	M		
1	Mudatsikira Eustache	Muyogoro	Individual 90 orphans		12 000	1.2 ha
2	Mwanukundwa	Matyazo			5 000	0.5 ha
3	Twiteganirize/ISAR	Kiruhura	5	5	10 000	1 ha
4	Abashakubwiyunge	Kaburemera	35	2	6 000	0.6 ha
5	Abagandurarugo	Gihindamuyaga	17	1	15 000	1.5 ha
6	Abateraninkunga	Kibingo	40	10	6 000	0.6 ha
7	Duterimbere	Runyinya	12	46	10 000	1 ha
8	Twisungane	Kivuru	-	-	8 000	0.8 ha
9	Dukundumurimo	Kigembe	2	9	1 400	0.14 ha
10	Inter-groupement Kibingo	Kibingo	13	87	5 000	0.5 ha
11	Inter-groupement Liba	Liba	15	37	5 000	0.5 ha
12	G.S Kansi	Kansi	Institution		16 000	1.6 ha
13	ISAR/Rubona	Kiruhura	Institution		12 000	1.2 ha
14	Musée	Butare Ville	Institution		10 000	1 ha
15	FACAGRO/PEARL	Matyazo	Institution		20 000	2 ha
16	COGRIPBU	Cyihene	22	12	5 000	0.5 ha
17	Abakunduburezi	Cyarwa	2	5	5 000	0.5 ha

