



Institute of Social Studies

Graduate School of Development Studies

**LAND CONSOLIDATION AND CO-OPERATIVE
FARMING: MANAGING LAND SCARCITY AND
DECLINE OF PRODUCTIVITY IN RWANDA**

A Research Paper presented by:

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(Rwanda)

In partial fulfillment of the requirements for obtaining the degree of
MASTERS OF ARTS IN DEVELOPMENT STUDIES

Specialization:

Rural Livelihood and Global Change (RLGC)

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The Hague, The Netherlands
November, 2007

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DEDICATION

To Almighty God;
My son DUSABE Trésor Divin;
My wife AHISHAKIYE Jeannine; and
All family members.

ACKNOWLEDGEMENTS

This research is a product of many people to whom I take this opportunity to express my high gratitude.

Firstly, my appreciation goes to the Dutch Government for having provided the Scholarship, ISS administrative and academic staff for the valuable knowledge imparted to me. Special thanks to Dr. Anirban Dasgupta, the approach he used to supervise this work was very far beyond what he was supposed to do as a supervisor. His internalization of this research from the first up to the last stage of the process made me feel not like a student to him but rather a brother as he was always ready to listen to me and sacrifice all his other duties giving his insightful comments. The same appreciation goes to Professor Ashwani Saith my second reader for his guidance which enlightened me to keep the focus of the research and adjust it whenever it was necessary. The quality of this final product is due very much to his contribution.

Secondly, I miss the right terms to express how very much indebted I am to my son DUSABE Trésor Divin to whom I deprived the paternal affection when he was hardly three months old by the time I left home for this MA Programme. May my wife AHISHAKIYE Jeannine find innumerable thanks from the bottom of my heart for her unfailing bravura to manage and raise the family at wishful standards.

Thirdly, I cannot bypass the help I benefited from Mr. RWAMASIRABO Serge, by then Consultant at the Ministry of Agriculture and Animal resources as well as the Staff from the National Institute of Statistics of Rwanda when I was doing my field research.

Lastly but not least, I will remember for ever the good times and collaboration I had with my friends and colleagues at the Institute of Social Studies which made my staying morally and academically enjoyable. To all of those who contributed to this research in one way or another, I say thanks.

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LIST OF ACRONYMS

APROSC	: Agricultural Project Services Center
CPI	: Corruption Perception Index
DFID	: British Department for International Development
EICV	: Enquête Intégrale pour les Conditions de Vie des Ménages au Rwanda
EDPRS	: Economic Development and Poverty Reduction Strategy
FAO	: Food and Agriculture Organisation
FSRP	: Food Security Research Project
GDP	: Gross Domestic Product
ICA	: International Co-operative Alliance
IFPRI	: International Food Policy Research Institute
IMF	: International Monetary Fund
MINAGRI	: Ministry of Agriculture and Animal Resources
MINALOC	: Ministry of Local Government, Good Governance, Community Development and Social Affairs
MINECOFIN	: Ministry of Finance and Economic Planning
MINICOM	: Ministry of Commerce, Industry, Investment Promotion, Tourism and Co-operatives
MININFRA	: Ministry of Infrastructure
MINIJUST	: Ministry of Justice
MINITERE	: Ministry of Lands, Environment, Forestry, Water and Mines
MSU	: Michigan State University
NISR	: National Institute of Statistics of Rwanda
PRSP	: Poverty Reduction Strategies Paper
RWF	: Rwandan Francs
UNDP	: United Nations Development Programme
USSR	: Union of Soviet Socialist Republics
WB	: World Bank

Abstract

Land consolidation and co-operative farming constitute two alternatives amongst many others that are very often adopted as viable strategies to increase land productivity through economies of scale. However, this study suggests that the two options should be analysed cautiously not only with an economic feasibility study but also with a social dimension of their implications. Farmers are not homogenous and their interests and even motivation differ accordingly. The success of any collective action depends largely on the way the socio economic implications of land consolidation and co-operative farming are analysed and reflected before their implementation.

Key words: Land fragmentation, land consolidation, co-operative and Collective action.

Chapter One: INTRODUCTION

1.1. Problem Statement

Poverty has been a common enemy to rural livelihood for long time especially in the developing world where a big part of poor people live. This preoccupation engenders various attempts centered on Policies and global institutional arrangements to reduce poverty. These instruments and/or economic strategies culminated to this decade's Millennium Development Goals.

Given the fact that land is a key asset for rural and urban poor (Deninger, 2003) and that agriculture occupies a big part of the economy, a particular emphasis has been put on this sector to try to increase the agricultural production and create a conducive environment for food security and agriculture driven economic growth. It is in this context that many countries have put land reform on their political agenda for development. Some registered successful progress in the past in their experiences with the policy. The most cited examples of success stories of land reforms are situated in East Asia and China ,(Bramall, C.(2004), Griffin K. et al.(2004)) but again some land reforms resulted in failures like the Bolivian case (Ibid).

Considering the endemic poverty which is striking the majority of Rwandans where 56.9% are reported to be below the poverty line (UNDP, 2007) and the leading share of agriculture sector in Rwandan economy which occupies 91.1% of the total Rwandan population contributing up to 42% of the GDP, the Government of Rwanda in its effort to promote economic development and poverty reduction has embarked on an agenda of land tenure reform. Important steps leading to its effective implementation have been made, namely the adoption of the Land Policy in 2005, Organic Law No 08/2005 of 14/07/2005 determining the use and management of land in Rwanda, Presidential Order No 53/01/ of 12/10/2006 determining the structure the powers and functioning of the Office of the Registrar of land titles and many others.

The new land policy and law as integral parts of the land tenure reform process came as a suggested remedy to Rwandan agrarian challenges of increasing land scarcity and inefficiency in land use and management. These problems resulted from among other factors, the rapid demographic explosion with an annual population growth rate of 3.5% between the year 2000-2005, (Dyer: 2007) with also an average population density of 574 people per square-Kilometre of arable land-the highest in Africa (Clay et al., 1995). Additional to that, there is a problem of allocation of land among different categories of Rwandans which has been revealed to be getting very unequal.

The National land Policy and Law focus on increasing land productivity through improved security of tenure and land consolidation. The dominance of customary law governing land right transfer especially through inheritance constitutes a major cause of a high level of land fragmentation. Coupled to

that, there's an unequal distribution of land. According to Mpysi, E. et al.(2003) in 2002, the cultivable land allocation in Rwanda was such that 17% of rural Households were reported to have less than 0.25ha each, accumulated total of 43% of Households were owning less than 0.5ha and accumulated 72% with less than 0.75ha. This is an alarming situation generating food insecurity and hence endangering the people's livelihood.

In 2000, rural families had (sic) to survive with on average only 0.6 hectares of arable land while to be economically sustainable in the long run and nutritionally viable, a household must possess at least 0.90ha, a limit set by FAO (Mosley 2004). Besides that, the demographic pressure follows an exponential growth on the detriment of the arable land size which is rather declining because of its degradation among other things the reason why André and Plateau J.P.(1996) qualified Rwanda as caught in Malthusian Trap. According to FAO, between 1994 and 2004, the rural population of Rwanda grew at the average annual rate of 4.4 percent while the amount of arable land had remained virtually unchanged (FAOSTAT; WB, 2007).

The literature on correlation between farm size, land tenure system and productivity is controversial: some empirical evidence showing an inverse relationship and others assuming a positive relationship between productivity and farm size, thus the link is likely to be country and regional context specific¹. The Rwandan Land Reform seems to argue that low farm productivity is due to its high level of fragmentation and customary tenure; the reason why National Land Policy and Law encourage land consolidation of smallholding with fixed landholding ceilings in range of 1ha minimum allowed size and 50ha the maximum², land titling and registration as the law puts it:

" Embracing market liberalization and privatization, and hoping to make a dent in the country's tradition of subsistence farming, the new Law promotes the creation of a private land market through registered titles. The Law envisages that land registration, combined with a concerted effort to consolidate fragmented plots (Article 20 of the Organic Law No 08/2005 of 14/07/2005), will unlock the country's potential for commercial mono-cropping. Under Article 20 of the Land Law, farmers will need to consolidate their land, but those whose consolidated land remains under 1 ha stand to lose it since it is deemed insufficient for efficient exploitation"(Pottier J.,2006).

¹ For the prominent debate of inverse relationship see Dr Grahaman Dyer Working Paper 101, Department of Economics, School of Oriental and African Studies, University of London WC1H 0XT where he particularly questions Berry and Cline (1979) thesis of inverse relationship. The latter, after testing a number of empirical evidence, they had concluded that there's an inverse relationship between farm size and productivity.

² This maximum has been subject of long controversy since its appearance in the then draft of Land Policy and it might have been dropped completely or being revised currently. The President of the Republic of Rwanda said recently in a press conference that the maximum ceiling must be 25 ha while referring to the urgent need of fighting land grabbing by Senior army officers and Government Officials in Eastern Province of Rwanda

The procedure of land consolidation which has been adopted following the above assumption that land fragmentation causes low productivity has been defined in the Land Law as 'a procedure of putting together small plots of land in order to manage the land and use it in an efficient uniform manner so that the land may give more productivity' (Organic Land Law Article 2).

It is supposed that after consolidating land, farmers will operate under joint production scheme in the form of group farming or co-operative farming as a way of using up the economies of scale and creating a social capital for farmers to get the new inputs. Also this structure could be a preferable way through which the Government may provide the necessary incentives to farmers for agricultural development. This can be done through giving subsidies to farmers' organisations to acquire non taxable inputs for example including machinery and fertilizers for example. It becomes easier to do so if farmers are organized in a group than providing those facilities to individuals.

1.2 Research questions and objective

Against the above background, a number of questions are to be raised in order to know the implications of these major strategies such as land consolidation and co-operative farming in Rwandan agrarian structure. This paper tries to answer the three specific questions below:

- To what extent is land consolidation in Rwanda well grounded to meet the affiliated challenges regarding equity between large and small landholders, the financial and human capacities required for the operation and its level of fairness?
- what are the social-economic implications of the adoption of co-operative farming in relation with the management of the collective property, group and individual decision making and Co-operative production process ?
- How appropriate is the institutional and regulatory framework for the implementation of land consolidation and co-operative farming in Rwanda?

While answering the above questions, this research paper aims at informing the arena in decision making process in Rwanda to know the preconditions to the implementation of land consolidation and co-operative farming as well as their implications to the lives of farmers.

A limited number of studies on land use and productivity in Rwanda have been conducted. Amongst them we can mention papers published by Michigan State University (MSU) in partnership with Rwandan Ministry in Charge of Agriculture in the framework of Food Security Research Project (FSRP) such as Clay et al.(1995), Clay and Lewis, (1996),etc....and Blarel (1992) in his study of Economics of land fragmentation with evidences from Rwanda and Ghana. Their findings had one thing in common: small farms are more productive than larger ones.

Pottier (2006) analysed the future impact of the 2005 Land Law especially in terms of the perpetuation of inequalities in land allocation. No study has been conducted so far particularly on the specific issue of the feasibility of land consolidation and co-operative farming in light of social, economic and cultural context of Rwanda. The present research paper tries to bridge this research gap.

1.3 Limitations of the study

The study's main findings are not based on something which is already and fully implemented because the core of it is related to the ongoing land reform in Rwanda for which only some instruments like the land law and National land policy among others have just been implemented. Thus, the present research is not an impact evaluation of the policy but rather it aims at forecasting the future of the rural farmer once the policy is fully implemented as it is and the review of the policy process in the light of scholarly discourse on land consolidation and co-operative farming.

1.4 Methodology

The study involves both primary and secondary data. Primary data were collected through focus group discussions with selected co-operative farming members and interviews carried out among different privileged resource persons officials in the Ministry in charge of land and other affiliated institutions as well as one officer from DFID as a supporting Organisation. The interviewees were given the possibilities to express their feelings on the important strategies provided in land reform with a special focus on land consolidation.

Primary data were complemented by secondary data made of a review of the literature, reports and policy documents on land consolidation and Co-operatives with a special focus on Rwanda. Rwandan integrated household survey 2006 dataset was also used.

1.5 Organisation of the paper

This Study is organized in five Chapters. The first is introductory and highlights the problematic of land scarcity. It is followed by the Conceptual and Theoretical framework of the study through which the concepts of land fragmentation and consolidation, co-operatives and the affiliated literature are discussed. This Chapter talks also about the Theory of Collective Action as a relevant theory in the study of co-operative farming.

Chapter three gives an overview of Rwandan agriculture sector and strategies for its future development largely expressed in land reform. The same Chapter analyses socio-economic implications of land consolidation in Rwanda whereby it answers part of the research questions.

Chapter four presents and analyses the findings from the selected co-operative farming to see its viability in Rwandan context and finally the last Chapter wraps up the paper with a general conclusion.

Chapter II: CONCEPTUAL AND THEORETICAL FRAMEWORK

2.0 Introduction

This Chapter defines relevant concepts to this study such as land fragmentation and consolidation, Co-operative farming and highlights the affiliated literature by different authors.

2.1 Land fragmentation

Land fragmentation, also known as pulverization, Scattering or ‘‘morcellement and parcellization’’ in the French environment, is the type of land ownership pattern where ‘‘a single farm consists of numerous discrete parcels, often scattered over a wide area’’ (Binn 1950 quoted by Bentley 1987:31). It also means the division of land into small farms.

Blarel et al. (1992) and Bentley (1987) tried to discuss the possible causes of land fragmentation. Blarel and his co-authors’ typology seems to be more elaborated: They distinguished two types of fragmentation which are the supply-side and demand- side explanations of land fragmentation.

Those explained by the supply side are the fragmentation phenomena which occur involuntarily on the part of farmers. These include factors like inheritance (Binn, 1950) where the fragmentation increases with the farmers’ desire to provide each of several heirs with land of similar quality. The second factor on the supply – side is the land scarcity which grows more pronounced due to demographic pressure. In the study conducted by Blarel and others concerning land fragmentation in Rwanda, they calculated and found out that the Simpson index of fragmentation was higher in Ruhengeri than any where else in the sampled Provinces³. This highest level of land fragmentation was due to the fact that this region is the most highly and densely populated in Rwanda as it was established by the 2003 General Population Census and the dominant culture of polygamy.

The Supply-side is always associated with the negative side of fragmentation whereas the demand–side explanations of farm fragmentation assume the higher benefits from fragmentation than its cost.

The demand- side explanations of farm fragmentation are all of factors that are chosen willingly by farmers because of the value addition that they expect from farm fragmentation.

They depart from the premise that land is not homogenous. Parcels differ with respect to soil type, water retention capability, slope, altitude and agro climatic location (Blarel et al., 1992). Hence, the disperse parcels can help farmers to minimize risks that might occur through catastrophes like flood, drought etc..... One parcel may be affected while others are saved. Again, farmers

³ Former Provinces before the administrative restructuring of 31/12/2005

prefer fragmented parcels because they favour the agricultural diversification and food security as they can cope with the seasonality of various crops which differ according to regions.

In Blare's study and others, the conclusion was that land fragmentation in Rwanda is both supply and demand driven.

The most cited disadvantage of land fragmentation is that it is a major obstacle to farm efficiency associated with the increase in costs due to the distance between different parcels and the homestead, the size and shape of the fragmented parcels which are not conducive to the adoption of technologies like the introduction of large scale irrigation and drainage schemes.

Citing the advantages of risk management on fragmented farms, Cornell & Lipton (1977:37) advise that highly fragmented land need not be consolidated (term to be explained later) if land is scarce and there is sufficient local labour to handle seasonal peaks.

2.2 Land Consolidation

Land consolidation is "the process whereby landowners and tenants are persuaded or compelled to surrender their scattered plots in order to receive an equivalent area or value of land in one or a few compact blocks" (King & Burton, 1983 quoted by Bentley, 1987:55).

Land consolidation involves the idea of exchange as Oldenburg put it "the exchange of spatially dispersed fragments of farm land to form new holdings at one place, or at as few places as possible." (Oldenburg, 1990:183).

The Rwandan land law defines it as "a procedure of putting together small plots of land in order to manage the land and use it in an efficient manner so that land may give more productivity" (article 2, 6⁰ of the Organic Law No 08/2005 of 14/07/2005)

Land consolidation may be spontaneous through voluntary consolidation where farmers decide to do it in the form of Co-operatives or personal exchanges. In this case the Government comes in simply by providing assistance to the local initiatives. However, this private enterprise is rarely satisfactorily achieved (Binns 1950:24-25; Zaheer 1975: 92-93; Clout 1984:104 cited in Zhou 1999:5).

Land consolidation may also be compulsory when it is imposed strictly from above whether the population consents or not. It is likely to result in non-cooperation, resentment and resistance on the side of farmers (Zhou 1995:4). Finally, there may be a moderate consolidation which is partly voluntary and partly compulsory (ibid).

When land consolidation is initiated as a policy option by a Government, there is a very high cost associated to its implementation in the whole process, whereby some authors (Burton & King, 1982 cited in Bentley, 1987) criticize its evaluators of overestimating the benefits wrongly because they don't take

into account the cost associated to the process. For that fact, they concluded that it is impossible to say how profitable (or wasteful) land consolidation schemes are, because no cost-benefit analyses had ever been attempted (1983:488). In Eastern Europe where land consolidation has been largely adopted (FAO,2003) however, the private benefit on the side of the farmers have been high because the whole process was subsidized by the Governments and supported by some international Organizations, the favor which at some stage could exonerate farmers from paying some due taxes.

However, the land consolidation should not be taken as a mere development strategy for which the results are to be predicted simply from the technical know how of geographers and agronomists. Land consolidation is undertaken within a social set up involves many factors for its success and acceptability by local farmers. Coelho, Portela and Pinto(1996) in their study of social approach to land consolidation schemes with a Portuguese case study of the Valença Project, they found out that farmers behaviour to adopt or reject the technological innovations brought about by Land Consolidation Scheme varies from one category of farmers to another according to their level of education, gender, access to information etc...., thus , an understanding of these social systems should be incorporated into any agricultural study (Coelho et al. 1996). This brought Portela to argue that "while economic, physical and environmental factors are important in an evaluation of Land Consolidation, sociology offers complementary insights into human behaviour in rural life and farming"(Ibid).

Land consolidation cannot be carried out without challenges. The most critical ones are the determination of exact value of farmland holdings to be exchanged, the family based co-ownership which may result in potential conflict over the value and the ownership of the holdings and these especially in communities like those of Rwanda where inheritance is a dominant mode of acquiring land, high likelihood of corruption and finally the population growth which may bring back a high level of land fragmentation after consolidation (Zhou 1999; Oldenburg, 1990).

The Government of Rwanda while defining land consolidation in its enacted land law art 2, 6⁰, seems to try to bring in the idea of voluntary consolidation as it talks of "encouraging farmers" without using the term "compulsion" even though article 20 makes it clear that the minimum farm size to be owned by an individual/household is 1 hectare below which all the holdings are to be consolidated strictly. Implicitly, some 71 % of rural households are affected as they are reported to own less than 1 hectare (IFPRI, 2007) (table 3.2). The land law stipulates that the owners whose land are consolidated because falling below the required minimum size, will maintain the ownership which is nothing else than de jure but de facto they have been dispossessed because they would lose the right to cultivate through forced distress sales of their properties to the large land owners. There is also a link

between land consolidation and the parallel policies of Co-operatives promotion and Villagisation⁴ also pending in Rwanda.

As noted earlier, one of the parallel policies to Rwandan national land policy is Cooperatives Promotion policy. Through this policy, the farmers are advised to form farming and marketing cooperatives to help maximize the farming profits and minimize the production cost. Cooperative farming is also considered to be an effective instrument through which small fragmented landholdings can be consolidated into economically operational Units. This model of land consolidation through Cooperative farming was used in some Asian countries (India particularly in West Bengal, Nepal) in the years 1970s with the aim of transforming South Asian agrarian economy and overcoming obstructions to efficiency, improved productivity and efficient utilization of labor. However, these expectations were not realized especially because of the tradition mismatch on the side of Bengal and the inefficiency in cooperative leadership, management and conflicting interests among members (Myrdal, 1968; Singh, 1987; APROSC, 1978 cited in Niroula S. and Thapa B., 2005:367). The same fragility and reluctance to farming co-operatives may also be predicted for the Rwandan case.

⁴ Though the population have been reticent to Villagisation process making it practically a failed policy.

2.3 Co-operatives

2.3.1 Definition

There have been different attempts to define the word ‘Co-operative’. Here I shall consider three of them which, according to me, they are not contradicting rather they are complementing one another.

The first classical definition is due from Calvert who put it as “a form of organization wherein persons voluntarily associate together as human beings, on a basis of equality, for the promotion of the economic interests of themselves” Calvert quoted by Cheesman, (1956:47).

From Calvert’s definition I retain 3 main features of a co-operative: The voluntariness of members to join efforts and resources, the equality of all members and the promotion of economic interests. These three fundamentals are among those that help to qualify a co-operative as such and distinguish it from other forms of organization or enterprises.

Cheesman himself defined it in the following terms: “A Cooperative Society is an incorporated association in which persons join together of their own free will to obtain some economic service which would be either too difficult or too costly for each to obtain by working alone. The society is operated by the members according to true democratic principles” Ibid (1956:50). In that perspective, land consolidation and co-operative farming are adopted in order to create solidarity among smallholders so that they may increase productivity through economies of scale.

According to ICA (International Co-operative Alliance) which is the apex Co-operatives organization worldwide, Co-operative means “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” (ICA, 1995).

Traditional Cooperatives and farmer organizations in developing countries have been criticized for not serving the needs of their members especially because of the organizational problems such as free riding, moral hazard, agency problems and bureaucratic inefficiencies. However, with the wake of agricultural market liberalization, their importance re-emerged in development discourse as a way of “reducing transaction costs of accessing inputs and output markets as well as improving the negotiating of smaller farmers vis-à-vis large buyers or sellers” (Kherallah and Kirsten, 2001 :28).

2.3.2 Management of Co-operative organisations

The management of co-operatives is to be analysed in two spheres: First, there is the sphere of Universal Co-operative Principles which guide the daily management of Co-operatives and then the organs among which the powers are allocated by byelaws and other regulations.

A. Universal Co-operative Principles

The Universal Co-operative Principles reflect the original conception of Co-operative pioneers of Rochdale where the name Rochdale Principles originates from. However, Rochdale Principles have been subject to reviews depending on the global social and economic changes occurring over time and the new emerging realities in Co-operative sector in particular.

The latest version of these principles was adopted during the 31st Congress on International Co-operation held in Manchester in 1995. The Congress came up with a "Statement on the Co-operative Identity" (www.ica.coop) where the reviewed Universal Co-operative Principles were put as follow:

Voluntary and open membership

Membership to a Co-operative organization is open to all the individuals willing and able to use its services without any discrimination.

Democratic Member Control

Democratic principle of Co-operative is especially materialized in decision making arena where all members have to participate equally and actively to setting rules, regulations and policies governing their Co-operative. Co-operative members have equal rights to vote (one man/ woman, one vote). Failure to respect this principle leads to the Capture of Co-operative business and decision making power by a group of elite or influential members. Paul Lambert emphasized that "Democracy is the cardinal principle. It distinguishes co-operative business most sharply from capitalist business and it can be applied uniformly to any type of co-operative" Lambert quoted by Dutta (1991:64).

Member Economic Participation

Co-operative members participate in the development of their organization through their physical participation in collective works on co-operative farm (in case of farming or producer Co-operative), through services (service co-operatives) and other financial and material contribution that can increase the co-operative operating capital.

Autonomy and Independence

Co-operative Organisations are supposed to govern themselves in a full autonomy. However, this does not mean that Co-operatives work in isolation from other institutions. They do collaborate and may even engage themselves in a partnership with external organisations and Institutions without affecting their autonomy. In relation with Government, Co-operatives should not cut off all the links with the Government because, although the latter should not get involved in the internal management of the Co-operatives, it plays an important role regarding policies and laws governing Co-operatives and provides incentives to the Co-operatives.

Education, Training and Information

"Co-operative education is a "sine-qua-non" of co-operation" Dutta (1991:65). The essence of this principle correlates with the principle of

democratic control. "Education is necessary to achieve co-operative progress whilst maintaining the essential democratic control. If the business of a society gets beyond the understanding of the members and is controlled by a few astute leaders it may prosper for a time in a material way but it will lose its co-operative character and fail in the long run" Cheesman (1956:540).

Co-operation among Co-operatives

Co-operatives collaborate among them and are linked according to the geographical coverage or focus of activities. Thus, co-operation exists at local, national, regional and international levels (Dutta 1991:65).

Concern for community

Activities of any Co-operative are primarily for the members but they also spill over the community at large.

The above seven Principles are backed by co-operative values summarized in "Self-help, equity, democracy, equity among members, and solidarity" Birchall (2003).

B. The organs of management and decision making within a Co-operative⁵

The management structure of Co-operatives (general to all types of Co-operatives) is mainly exercised by 2 organs: The general assembly which is the supreme body of decision making, Board of Directors also called management committee. Other committees may be determined depending on the nature and sizes of Co-operative and most preferably and independent supervisory committee in charge of controlling the Board on behalf of members.

General Assembly

The general assembly is made of all the co-operative members. However, in certain circumstances third parties dealing directly or indirectly with the Co-operative in its transactions may be allowed to participate in general assembly but without a voting right.

It is the supreme organ of decision making within a Co-operative. All decisions engaging the Co-operative must be taken or at least endorsed by the general assembly before their adoption. "It is the body which makes the byelaws governing a Co-operative, elects the Managing committee, takes all administrative decisions by majority votes" (Dutta, 1991:69).

Board of Directors

This is the organ which represents the Co-operative before the law and functions according to the rules and regulations set by the general assembly

⁵ The big part of this section was taken from the ICA publications mainly the "Framework for Co-operative legislation (COOPREFORM) by Hagen Henry, Geneva, March 1998.

and the law governing Co-operatives in general. As the Co-operative is very often engaged in business related activities and other technical issues that the Board of Directors or any other member can manage, it recruits the management board and technicians that are to be approved by the General assembly and answerable to it through the Board of Directors. This justifies the dual character of a co-operative as both an association and a business enterprise. <http://www.copac.coop/guide-coop-legislation> last seen on 18 October 2:40 pm)

Structure of a cooperative as hybrid in character (association and enterprise) (Appendix 1)

2.4 Co-operative farming: definitions, features, merits and critics

2.4.1 Definitions

Agricultural organization is made of different alternative patterns for which the choice depends on the path of modernization that one individual, group or decision making arena would like to follow. Five major patterns are identified in the literature related to agricultural organization (Khusro and Agarwal , 1961:14). Those are:

- Small peasant farming which is a form of organization where a private individual farmer enjoys his/her full sovereignty to decide on what, when, how and for whom to produce. This pattern of farming organization is usually based on a family labour and the small sizes of the farms don't warrant the use of mechanization in agriculture;
- Capitalist or Estate farming which involves a type of large sized land managed by a private capitalist enterprise on the basis of a hired labour and a high level of mechanization. This pattern occurs now in Rwanda in tea and coffee sectors through privatization;
- State farming where land is owned and managed by the State through its appointees. Cultivators are merely wage- earners. This type of farming organization used to be practiced in Rwanda for cash crops especially tea and coffee plantations before the wave of privatization;
- Collective farming through which the ownership of the land, stock and capital vests in the community as a whole and there are neither individual holdings nor private property in land. It was prominent in different countries under different terminologies (Kolkhoz of former USSR, Ejido of Mexico and Kibbutz of Israel). Apart from Kibbutz where both production and consumption are absolutely communal, individuals in Kolkhoz and Ejido are allowed to own a limited strips of land for production on their own account (Ibid:16) and finally the form of Co-operative Farming which is discussed in details in this section.

The term Co-operative farming has been subject of a lot of confusions with people qualifying any form of Co-operative organization emerging in agriculture sector as "Co-operative farming". Other forms of agricultural organizations patterns as put above are very often and loosely termed as co-operative farming.

However, the real accepted definition of Co-operative farming is worth mentioning here according to two different definitional attempts but conveying to the same structure:

According to Akhtar(1952:47), "Co-operative farming is a system of agriculture in which a number of persons group themselves into a co-operative society for purposes of carrying on their farming operations through mutual assistance, voluntarily and democratically deciding the necessary degree of pooling of resources required by the needs of the situation facing them"

This other one seems to be more elaborated: a standard co-operative farm is "a unit of operation in which several individuals or families voluntarily contribute lands and other productive assets, work and manage these lands jointly and get a payment for their work in proportion to their effort, and a profit or dividend in proportion to the property they contributed" (Khusro and Agarwal 1961:52).

The above definition highlights three important attributes of co-operative farming:

- Voluntariness in association;
- Contribution of land for joint management;
- Managerial and manual work; and finally a payment for effort and payment for property.

2.4.2 Merits of Co-operative farming systems

Cooperative farming has been praised for responding to various advantages summarized in economies of scale and generation of surplus in agriculture (Laxminarayan and Kanungo (1967:1).

a. The economies of scale

It is asserted that Co-operative farming increases factors of production such land, employment and capital. Pooling together various fragments and holdings increase the availability of land by a given proportion by abolishing the initial strips and other physical forms of boundaries and then this additional land will be used for further cultivation. This increasing land size consolidated together is conducive for mechanization which is quite impossible under small family farms. The organization of smallholders into co-operative farming constitutes an incentive for employment in the sense that no member can sit idle while there's common works to be done. The cooperative responsibilities compel him/her to join and work alongside other members. Furthermore, Co-operative farmers have that advantage that they have priority as wage labourers before any other external non members for any employment emerging in their co-operative. However, the linkage between mechanization and employment has emerged as a controversy according to which co-operative farming organization generates a labour

displacement and will thus cause unemployment (Khusro and Agarwal 1961:60).

I don't see that as a side effect as long as the economies of scale will also open up the door to diversification. Thus labour saving technologies from Co-operative farming is not a problem in itself.

In opposition to the economies of scale of large farms under Co-operative farming regime, there are diseconomies of scale. This was coined by the proponents of the inverse relationship theory according to which small farms are more efficient (productive) than large ones without however the exact size of the optimum farm. The attributes "large or small" are very relative.

Furthermore, all the studies which concluded to the diseconomies of scale are accused of being methodologically biased in that they compare only one factor of production which is land (size) without taking into consideration the variation or not of others.

Referring to Indian debate of diseconomies of scale, Khusro and Agarwal argued that "...in all these comparisons there is a serious violation, if not complete neglect, of the *ceteris paribus* clause which is so necessary in studies of returns to scale as indeed in all scientific studies. Other things are not kept equal" (Ibid:77). This is true because the study of returns to scale, for it to be qualified as such, necessitates one fundamental requirement which is the increment of all inputs-capital as well as land, labour and management in the same proportion.

b. Cooperative farming and generation of agricultural surplus

It is commonly known that a major part of family farming rests on self subsistence. This is the general case for Rwandan agriculture where very few families are able to sustain themselves as far as self subsistence is concerned. Rwandan agriculture has not attained the mechanization yet rather the farming system is still based on a hoe. (Appendix 2)

The foremost expected advantage to get from land consolidation or co-operative farming as a partial step towards the agrarian reform is the increase in output through the economies of scale. Instead of having capitalist farming system where only individual big farmers can be able to get the surplus and benefit from the incentives of the economies of scale, Co-operative farming tries to allocate them among smallholders. This is a way where farmers can learn from one another and it is a way of weakening agriculture based economic inequalities.

After private consumption and the constitution of necessary stocks, Co-operative farmers sell the surplus to the market. This should be the essence of co-operative farming as one author puts it: "indeed, if the co-operative farm has not done any better and not produced significantly more than the several family farms which constituted it, it has no justification to survive" (Kusro and Agarwal, 1961:86).

Co-operative farming serves as an organizational arrangement through which the State can provide incentives to farmers. These incentives may consist in helping the Co-operative farms to get capitals for production, fertilizers, tax exemptions for some specific investments or the State may help them indirectly by prioritizing them during some procurements of food and other agricultural driven raw materials for the functioning of the State machinery, the purchase of the food for military for instance.

2.4.3 Some pitfalls in co-operative farming

Agricultural co-operation of whichever form either co-operative farming or collectivization brings another structure of decision making and affects in one way or another the individual household's decision making sovereignty.

"By agricultural co-operation is meant any sacrifice of the managerial sovereignty of individual farm households or householders, or their representatives, the sacrifice being justified (by the sovereignty-sacrificing individuals themselves if the cooperative is voluntary; by the government if it is forced) as promoting their common well-being" (Worsley 1971:45).

This sacrifice can be analysed on three fold dimensions:

First, before pooling together their resources, peasants enjoy full sovereignty in their family farming and then since they have to adjust themselves to a new apparatus of co-operative decision making they tend to be conservative and can find features of the new structure unacceptable. They may feel that their interests compete with those of Co-operative. Therefore, in many instances the co-operative becomes a mess.

Still on the side of allocation of the workforce on a co-operative farm, there's a prevailing divergence with the peasant's household utility maximization essentially based on the calculations of "the ratio of consumers to workers in the household, called c/w ratio" (Ellis,1993:109).

Second, farmers may be impatient of the transition from rudimentary (traditional) to mechanized agriculture. It takes some time for the benefits of mechanization to be realized. The challenge lies on the side of smallholders who were used to base their livelihood exclusively on the however much low production from the family farm to be harvested at any time of needs, then it becomes difficult for them to wait for some times more as the mechanization and economies of scale need to harvest mature crops. The same impatience is likely to be manifested if the consolidated or co-operative farm is fallowed; thus, there is a need of a well structured policy providing incentives to those farmers to sustain themselves within the non harvesting seasons or during the fallowing period. One of the alternative solutions to this challenge may be the construction of warehouses where a part of the production is stored to secure farmers in critical moments.

Thirdly, co-operative needs to be democratically managed, that is to say that the management committee members should be elected by members of the co-operative. Even, the external technical support workers should be endorsed by the general assembly. However, the practice is that Governments tend to impose the manager of the Co-operatives from "above" and the latter runs the co-operative as his/her own property in line with the one that the appointing authority need. He/she becomes a "boss" and members are taken

for his/her wage labourers that he/she pays according to his/her own wish. This causes resentment and dissatisfaction among members.

Finally, as the co-operative farm is worked on collectively there is very often the emergence of free riding as members don't put same effort on co-operative work and this can generate disincentive to others thus affect efficiency.

2.4.4 Theory of Collective action: How to counteract free riding?

The theory of collective action was developed by Olson among other authors of organizational behaviour. Olson's theory helps to analyze how to overcome uncooperative behaviors in a group. According to him, the size of the group, its purpose and its level of homogeneity are important determinants of its success (Olson, 1971).

He illustrated this by the following comparison extracted from David Hume's work:

"Two neighbours may agree to drain a meadow, which they possess in common; because 'tis easy for them to know each other's mind; and each must perceive, that the immediate consequences of his failing in his part, is the abandoning of the whole project. But 'tis very difficult, and indeed impossible, that a thousand persons should agree in any such action; it being difficult for them to concert so complicated a design, and still more difficult for them to execute it; while each seeks a pretext to free himself of the trouble and expense, and would lay the whole burden on others" (Olson, 1990:141).

On the other hand, Nabli and Nugent propose a possible way out to the challenges of Collective action through some institutional arrangements such as customs, social conventions and sanctions (Nabli and Nugent, 1989).

The homogeneity in origin and in goals as a way of getting rid of free riding and other opportunistic behaviours is a very important point in the success of Co-operative farming. If smallholders are pooling their resources especially land together so as to joint effort to increase productivity, they should all be bound by a common goal. Otherwise, if large landowners, absentee landlords, businessmen and other elitist groups are coming in with the aim of reaping their interests on detriment of smallholders, the Co-operative is likely to fail. Again, farmers grouping their lands under Co-operative farming scheme should all be resident of the same village.

Summing up, this chapter has clarified that land fragmentation is not always bad and before deciding on land consolidation it is necessary to reflect on factors that drive fragmentation. Thus, consolidation cannot be taken as a magic bullet to land productivity. The same, co-operative farming is a good option to integrate smallholders in economies of scale. However, it has been found out that co-operative farming is vulnerable of managerial problem infringing co-operative principles and hence an obstacle to collective action. Policy orientations should be directed to the alleviation of those pitfalls.

Chapter III: OVERVIEW OF RWANDAN AGRICULTURAL SECTOR AND STRATEGIES FOR ITS DEVELOPMENT

Agriculture plays a considerable role in Rwandan national economy given the number of people whose livelihood depends on that sector and its share in GDP (Kanyarukiga, 2004). It is the most important sector in terms of contribution to GDP, employment, and foreign exchange earnings (Table 3.1). This importance has brought the Government of Rwanda to adopt a number of Policies and Strategies to revitalize that Sector in order to achieve the objectives assigned to it through the national economic development vision 2020 and Poverty Reduction Strategies (former PRSP and Currently EDPRS). Rwandan PRSP and Vision 2020 have set a target ranging between 5 and 8 percent as the annual agricultural growth rate. But, between 2001 and 2005 the target couldn't be met as the estimated average agricultural growth was 4.2 percent (Appendix 6).

It is in the framework of developing this sector that land reform has been launched and its accompanying tools notably National land law and policy and different Instructions and byelaws. The ultimate objective of the agricultural policy is to contribute to the national economic growth, to achieve improved food security and the nutritional status of the population and increase the revenues of the rural households.

Table 3. 1: Total and agricultural population (including forestry and fisheries)

Population (1000)				GDP (US\$ millions Constant 2000 prices)	
	Total Pop.	Agri.	%	Agri. GDP	Share in Total GDP (%)
1979-81	5155	4782	92.76431	535	37
1989-91	6702	6147	91.71889	574	32
1999-01	7666	6959	90.77746	750	41
2003	8387	7574	90.30643	901	42
2004	8481	7644	90.13088	896	41

Source: Compiled and tabulated from www.fao.org/statistics/yearbook

Rwanda has around 1.4 millions hectares of arable land, of which 60-70% is cultivated (www.minagri.gov.rw) with the average farm size per household rotating between 0.60-0.73ha of the cultivable land throughout the last five years while it was 1,00 ha in 1983, thus, the average cultivable farm size per household has declined by 30% within only 24 years (MINAGRI, 2007).

This decline has been simultaneous with the fluctuating productivity which contributes a lot to the increasing poverty in Rwanda. Furthermore, Rwandan agriculture is mainly traditional (99.6%) and rain fed (Appendices 2 and 5).

3.1 Historical background of the Rwandan land question

To get to know the evolution of land question in Rwanda, one needs to capture that reality through a historical perspective of land tenure question in Pre-colonial, colonial and Post-Colonial Rwanda.

Land tenure system in pre-colonial Rwanda was characterized by clan's collective ownership of land. The Chief and King could also transmit the right to use land to different families but this right could be withdrawn at any time by the granting authority.

During colonial period, firstly with the Germanic colonizers up to the year 1916 the traditional relations in and ownership were maintained. However, land became more and more commoditized. It is in this line that the first Catholic and Protestant missions bought land and became land owners during that period.

Under the Belgian colonial rule (1916-1962), the traditional structure which was conferring various privileges to the King and his Chiefs was modified in some aspects in order that the colonialists could leap progressively political and administrative prerogatives. The important innovation in land tenure was the introduction of a "Written Law" compiled in "Codes and Laws of Rwanda" in order to guarantee land tenure security for settlers and other foreigners wishing to invest in land in Rwanda. But, the customary law continued to be valid especially regarding indigenous Rwandans.

The independent period didn't bring in any significant change and the dual system of customary land tenure and written law persisted but with the dominance of the customary law which was governing close to 90% of the country's arable land.

The decree No.09/76 of 04/03/76 enacted in 1976 legalized the transactions through sales of customary land rights provided that the act is endorsed by competent authorities and that the seller does not fall below 2 hectares of the remaining size. Likewise the buyer ought to also justify that before the operation he/she was holding below that ceiling (2hectares). This stipulation shows how the current imposition of land ceilings is not new. It has been part of the land related regulations for a long time though the higher degree of current land scarcity could not allow the Government to maintain the same ceilings, the reason why the 2 hectares have now been halved as a minimum allowed holding.

To this aim, an important trend of scarcity of land is to be realized: From 2 hectares as a minimum landholding for a household in 1976 (which could by that time probably fit in with the number of population and households), the current average arable landholding per household rotates between 0.68-0.74 ha (MINAGRI, 2007).

However, the average farm size varies from one Province to another with the eastern part of Rwanda (Byumba, Kibungo, Umutara) and central Gitarama having the highest farm size(Appendix 4).

At the individual household level the landholdings are unequally allocated as well. The table below shows that only 25.8% of the rural households own more than 1 hectare of arable land. Still this small proportion of the rural household owns 68.9% of the total rural land holdings. The rest of the rural landholdings (31.1%) are shared by 74.2 % of the rural households each having very tiny and insignificant landholding. This extent of inequality in land holdings distribution makes the outcome of land ceilings (with 1 hectare as an allowed minimum per household) very suspicious with bad consequences to these smallholders below that floor.

Table 3.2 Distribution of land holdings among rural households, Rwanda,2006

	Rural group1 <0.3ha	Rural Group2 0.3-1.0ha	Rural Group3 >1.0ha	All Rural Groups
Share of rural household(%)	39.4	31.7	25.8	96.9
Average household size (number of persons)	4.5	4.9	5.6	5.3
Total land holdings ('000 ha)	64	274	750	1,087
Share of total land holdings(%)	5.9	25.2	68.9	100
Land holdings per household (ha)	0.11	0.58	1.94	0.75
Land holdings per capita(ha)	0.02	0.12	0.35	0.15
Poverty rate (% households <poverty line) ⁶	74	67	54	66

Source: calculations from EICV data,2006

3.2 Ongoing land reform in Rwanda

'A number of Scholars have sought to capture the range and complexity of Africa's land problems. In general they have pointed to insecurity of tenure, subdivision of land, informal land markets, the alienation of land and its concentration, and the role of undemocratic structures of local government in dealing with land disputes' Moyo and Yeros cited in Manji,(2006:40).

Land question in Rwanda is also a very hot issue that preoccupies decision making arena. Land reform in Rwanda has been launched in order to solve various land related problems such as an extremely unfavourable land-man ratio, unbearable decline in the average size of holdings, a high level of land fragmentation all of which contributed to significant decline in land productivity.

In effect, the emphasis of land reform is put on the following areas:

- Tenancy reform;
- Imposition of ceilings and floors of landholdings;
- Consolidation of smallholdings; and
- Co-operative farming.

⁶ This poverty headcount is only for the rural areas. As for the entire population the Integrated household survey 2006 data (EICV) showed that the poverty rate is 56.9%. This shows how a big part of the poor live in rural areas.

3.2.1. National Land Policy

Keeping in mind the historical background of land tenure system in Rwanda coupled with the long term economic vision commonly called “vision2020” and the Poverty Reduction Strategies laid down by the Government of Rwanda, a land policy was adopted in 2004 as an inclusive part of the land reform process.

The policy statement claims that it aims at solving a number of problems which affect the lives of many Rwandans and contribute to the increasing number of poor people. Those problems are such as a high demographic pressure on a very tiny space, an excessive land fragmentation which hinders productivity, the progressive decline in productivity, inadequacy of land legislation etc...

The 2006 Integrated Household Survey revealed that 11.5 % of households in Rwanda are landless (NISR: 2006).

The national land policy tries to address those problems through the following main principles among others:

- Sustainability of land as a common heritage for the past, present and the future generation;
- Equal rights to access to land for all Rwandans without any discrimination whatsoever and this especially in favour of women who had been deprived of those rights for long;
- Land tenure security guarantee through land tiling and registration;
- Efficient land management and land use planning including “consolidation of small plots for a more economic and productive use of land”;
- Inclusion of land rental market and land taxation in land administration are taken for determining factors of land development as a capital and finally a well-defined legal and institutional framework as an indispensable tool for the establishment and good implementation of a national land policy (Republic of Rwanda, 2004).

3.2.2 Land Law

As it was mentioned previously, one of the main guiding principles for the implementation of the National Land Policy was the establishment of a legal and regulatory framework which is conducive for a better land management and administration in a more productive way. It has been argued that high land fragmentation assumed to be among the leading causes of the low productivity is mainly due to the predominance of customary law governing land acquisition. Through inheritance and succession father to son system, a parent should have at least as many fragments of landholdings as the number of sons susceptible to marriage. As a result, many households were condemned to have only small plots which, according to the policy statement, are not productive and thus should be banned through consolidation (Ibid).

It is in this context that the Organic Law No 08/2005 of 14/07/2005 Determining the Use and Management of Land in Rwanda was enacted. Abrogating the statutory order No 09/76 of March 1976 which was basically for guaranteeing land right to selected owners such as religious missionaries,

scientific associations and prominent individuals (Pottier, 2006:514), the 2005 Organic Law “covers three areas: Land Scarcity, Population pressure and landlessness; soil degradation and the need to combat erosion; and the shortcomings of both customary law and statutory regulations” (Ibid,520). All of these issues are addressed in the Law in some ways.

The major part of the Organic Law concerns the Management, Organisation and Exploitation of land (articles 19 -53). It is in this perspective that it regulates the issues of land consolidation, land registration, transfer of land rights and the land lease for agricultural production.

The law, like land policy, discourages small plots and land fragmentation in general. The article 20 of the Organic Law No 08/2005 of 14/07/2005 stipulates:

‘In respect of Public interest and in a bid to improve rural land productivity, the Minister having Agriculture in his or her attributions in conjunction with local authorities and the respective residents may approve the consolidation of small plots of land in order to improve land management and productivity. Each landholder shall be entitled to the rights over his or her parcel of land’.

This Organic Law does not however detail how the process of consolidation of smallholdings will be conducted. This is reserved through the same law in the capacity of the Minister having Agriculture in his or her attributions.

The land ownership is to be proved by land title got following its registration which is obligatory (article 30). The Organic Law also provides different modes of land right transfers such as Succession, land lease or sale, donation and finally possibility of mortgage provided that none of these modes bring prejudice to the minimum ceiling of 1 hectare as a possible smallholding per household(articles 33-38).

The law fixed the limits of land lease between 3 – 99 years renewable. Title deeds conferred by Competent authorities to people will be reflected by registration certificates of a long lease of up to 99 years, emphasizes the National land Policy (Republic Of Rwanda, 2004:28).

As the foremost aim of the land reform was to increase land productivity, the Organic Law provided strict measures compelling people to use the land “productively”, failure to do so, their land will be confiscated by the legal authorities (Article 65 of the Organic Law No 08/2005 of 14/07/2005).

3.3 Background of Co-operative sector in Rwanda

Throughout the history of Rwanda, co-operative spirit has been embedded in Rwandan culture where the population used to have different forms of self-help and social solidarity especially in agricultural activities and construction. Some of these arrangement still exist but more informally. As for Co-operatives in the real sense of the term, they exist as well and unlike other forms of self help, Co-operatives are institutionalized.

The first regulatory framework governing Co-operatives was enacted in 1949 by the colonial Co-operative Ordinance that remained valid until the current law No. 31/1988 of the 12th October 1988 was enacted. However, the latter was also revealed not conform to the new global and national development needs whereby the proposal for a new law governing co-operatives in Rwanda is still pending waiting for endorsement by the Rwandese legislature.

Despite the co-operative virtual existence, Rwanda has never got a strong Co-operative movement vertically integrated neither at national, regional nor international level. Most of them were created by self interested elites and the lack of democratic culture in their management was always the basis of their failure to promote interests of members.

A significant number of Co-operatives where the Government had to invest a lot of money collapsed because they were lacking a clear policy and strategies with the co-operative spirit. The collapse was also due to the fact that many of them were created not from the own inspirational need of members but rather from above and were characterized by a drastic embezzlement of funds by managers also imposed from above (MINICOM, 2006).

Worse again, the tragedy of 1994 Genocide which ravaged Rwanda has not spared Co-operative sector. It was almost destroyed as many other sectors. After the mayhem, many new so called Co-operatives were created simply because it was an easy channel of getting free emergence money. This created a culture of Co-operatives' dependency on external donors without any internal efforts to sustain members' livelihoods. At the end of the external financial assistance, all of them were collapsing because the aim for which they were created was over. This is a serious issue ranging from the lack of co-operative philosophy itself during the creation of Co-operatives in Rwanda.

However, after the realization of all the above constraints, "the Government of Rwanda considers now the cooperatives as full partners in its efforts of alleviating poverty. To harmonize and coordinate the interventions in that sector, it has been decided to design the national policy of promoting the cooperatives and to gather in a unique document with the strategies chosen and the priority activities retained for the years 2006-2008" (Ibid).

This goes with the direction of ongoing agrarian reforms where Co-operative farming has been chosen as a way which can help to reduce fragmentation rate of landholdings in the effort to consolidate small parcels or plots.

Co-operatives and similar self help organisations were surveyed in 1992, 1996 and 2004 by IWACU Centre, which is a Research and Co-operative training centre, showed the following results revealing the dominance of agricultural organisations:

Table 3.3 Allocation of Co-operatives and other self help organisations in 1992

Domain	Number of Organisations	Percentage (%)
Farming & Breeding	7,001	80
Arts & Craft	424	5
Mines	33	0.3
Small Industries	75	0.8
Housing	72	0.8
Transport	11	0.1
Savings & Credit	286	3
Mutual aid	392	4.5
Insurance	2	0.02
Other services	357	4
Undeclared	99	1
TOTAL	8,752	100

Source: Tabulated from MINICOM, 2006

Table 3.4 Co-operative and other self-help organisations in 1996

Domain	Number of Organisations	Percentage (%)
Farming & Breeding	3,596	75.5
Commercialization	235	5
Artisan	234	5
Other services	692	14.5
TOTAL	4,757	100

Source: Tabulated from MINICOM, 2006

The last survey conducted so far was in 2004 where the farming & breeding domain was still dominating with 70 % of the total surveyed organisations⁷.

⁷ The year 2004 only gives the percentages of farming organisations without other details.

3.4 Social and economic implications of land consolidation in Rwanda

3.4.1 Introduction

Land consolidation is taken for a magic bullet against low agricultural productivity by Rwandan policy making arenas. Yet, those “policy makers have never produced an empirical scientific evidence that could show that land consolidation boosts productivity” (Pottier, 2006:523).

An empirical study conducted by the World Bank Consultant B. Blarel on the Economics of land fragmentation in Rwanda in the years 1980s concluded that land consolidation policies are unlikely to increase land productivity significantly (Blarel et. 1992:252). For him, land fragmentation and intercropping, unlike land consolidation and monocropping, is beneficial to Rwanda as they allow complementarities between crops, variation in soil types and micro-climatic differences, briefly they help farmers to manage risks (1992:252).

Without testing the correlation between land productivity and land consolidation as this would require another research, the present study explores different social economic parameters that often arise during land consolidation process. These parameters are such as the institutional framework needed for such operation, acceptance or resistance of land consolidation by landowners, the issue of extended family joint ownership over land, valuation of farmland holdings and fixed properties, expropriation and compensation, corruption, cost associated with the whole process of land consolidation, the equity in land consolidation operation and finally the need for other accompanying policies and programmes.

3.4.2 Institutional framework for land consolidation

By institutions here, I am referring to specific laws governing land consolidation process and institutions that are in charge of its implementation. This is fundamental given the importance of the process and its impact on agrarian structure and livelihoods of the population especially those earning their lives from agriculture sector either as farmers or wage labourers.

Land consolidation is undoubtedly taken for a cornerstone of the agrarian reform in Rwanda given the fact that the main objective of the reform is to improve the livelihood of farmers through increased land productivity based on efficient production of “economically viable holdings”.

By economically viable holdings, the policy refers to large sized farms conducive for economies of scale as a result of consolidating together the smallholdings.

This importance and specificity of land consolidation impose the necessity of a law and a government body where all stakeholders are represented for the whole consolidation process. However, none of them is in place now. The land law gives authority to the Minister having land in his/her attributions to edict the Orders governing the process of land consolidation but

up to now, 3 years after the land law was enacted and the land Policy adopted, the institution has not yet come up with mechanisms through which land consolidation should be conducted. By the time of collecting the field data for the present research paper a pilot preliminary consolidation program was being done in 4 Districts (Musanze, Karongi, Kirehe and Gasabo) under the technical and financial support of DFID. This activity shouldn't have been started before those institutions are in place.

Borrowing the experience of countries where land consolidation policies were implemented especially in eastern Europe, Netherlands, Portugal, France etc..., the common institutions which were put in place were the Land Consolidation Act or Law which created and organized the Land Consolidation Commissions or Authorities in those respective countries. The Authority or Commission was organized according to the social economic implications and the diversity of stakeholders in consolidation process whereby it was different from one country to another (FAO, 2003).

The organizational structure of the Land Consolidation Authority or Commission should reflect an integrative approach taking into account all the social and economic aspects i.e agriculture, Finance, environment and social justice. Thus, in the context of Rwanda the Authority should be composed of the representatives of different concerned line Ministries such as the Ministry in charge of land, environment and forestry, (MINITERE), Ministry in charge of agriculture (MINAGRI), Ministry in charge of Infrastructure (MININFRA), Ministry of Justice (MINIJUST) for the cases of conflicts and appeals throughout the implementation, Ministry in charge of local governance (MINALOC) as the consolidation involves the grassroots local government authorities, the Ministry in charge of Finance (MINECOFIN) as the whole process needs a specific budget to be voted and disbursed for the activities and the Office of Land Registrar as the process will require property rights, registration and titling related issues. Besides these Ministries and Office representing the central government views in their respective areas of activities, there has to be decentralized land consolidation commissions or committees at Districts and Sectors levels as they are the ones who are very near the population "beneficiaries" of the policy. In the same structure, farmers must have their voice and be represented by the apex farmer's Co-operatives/Associations Organisation (URUGAGA IMBARAGA). Finally, the Authority or Commission would establish necessary administrative and technical services as bureaucratic and field staff recruited on merits.

3.4.3 Acceptance or resistance of land consolidation by land owners

Land consolidation may normally be voluntary, compulsory or hybrid (partly voluntary)(Zhou 1999:5).It goes without saying that the preferable one is the ideal democratic system "voluntary land consolidation" despite that it is seldom and very often unsatisfactory. However, the diversity of interests among stakeholders some time dictates otherwise and the compulsion, totally or partly, is imposed from above. Yet, in all cases the population should cooperate.

This cooperation is got through an organized education of public opinion campaign about disadvantages of land fragmentation and advantages of consolidating holdings (ibid).

In the specific case of Rwanda, land consolidation has been adopted as an agrarian reform policy option in a purely top-down system. The awareness among the population has not been taken into consideration. The only sensitization and public opinion education campaign that has been conducted was about the land law as a whole. Building awareness through land law where land consolidation occupies only 2 articles of the whole law document is not enough for the population to get to know what land consolidation is all about and why. There is a need of concentrating the effort of sensitization for the particular policy option of land consolidation. Failure to get the cooperation of the local population means automatically their resistance to the policy whereby there is less likelihood for its success.

The experience of imidugudu settlements policy “Villagisation” adopted as emergence management after the 1994 Genocide in Rwanda and later on transformed into a development policy is instructive: Because it had been imposed to the population without enough of public opinion awareness, the population resisted to it at the extent of even evicting them from their usual settlements to the places selected by the Government for Villagisation by force. It was a typical “top-down” style of policy making. But, the majority of the population didn’t stay long in those new settlements, they returned back to their former places before Villagisation at any risk or cost. Up to now the Villagisation policy seems to have failed as the population is still resistant to it (Hilhorst and Leeuwen 1992).

It is embedded in Rwandan culture that they can’t easily accept any thing which affects their agrarian structure. If such resistance is still manifested against Villagisation which was only involving simply changing the settlement with relatively less risks of losing one’s land than it would be for land consolidation, how easier shall the latter be accepted? This is a question that decision makers in relation with the implementation of land consolidation should look into.

3.4.4 Extended family, joint, dual or multiple ownership of land

By joint or co-ownership of land means here the ownership of property by more than one person. In this case the co-owners, though they are entitled to their own share but in most cases they don’t know its exact size and delimitations. This is a frequent case in Rwanda because of the law governing inheritance.

The Rwandan family and customary laws stipulate that in case of a death of a person, the property of the latter passes on to his/her legal heirs in accordance to their degree of kinship. Normally the deceased’s heirs include his/her direct or adopted children, the spouse and others explicitly specified by the law (articles 66-71 of the Law N° 22/99 of 12/11/1999 regarding matrimonial regimes, liberalities and succession).

Apart from the children who by the time of the parent's death had already acquired the "legal majority" or married and thus had got their own households with their respective inherited portions, other children still enjoy a joint ownership of the deceased person's property including land. These cases are dominant in Rwanda especially because of the consequences of the 1994 Genocide which occasioned the death of close to 800,000 people and its aftermath is full of a large number of orphans.

Then, during land consolidation process, problems are likely to occur from even the initial stage of accepting to cooperate and consolidate land; it may not be easy to reach a common and simultaneous agreement to consolidate their jointly owned property for all the heirs. Also, corollary to that another issue is related to the registration of landholdings in whose name is the property to be registered as in most cases the property is still in the names of the deceased parent. The expropriation and compensation stage is also more likely to generate conflict among the heirs as it would not be easy to allocate the value among them while they didn't have separate ownership and property rights for each.

Besides inheritance, there is another problem of polygamous cases; although polygamy is not legalized in Rwanda, it is dominantly practiced in Northern part of the country and in Islamic communities throughout the country. During land consolidation process, only the first wife is to get the property rights and other allocations due from consolidation as she's the one who is registered in official documents. Apart from the legal wife, others would be thrown out of the land without any other alternative or compensation because they lack legal foundation to find the place at the new location or village created for the sake of consolidation and this is another potential cause of dispute.

The surveyors may also face another problem of dual and multiple ownerships where the main property which is land has been improved by some buildings or tree plantations for which the owners are different but without separate property rights.

3.4.5 Valuation of farmland holdings and other immovable properties and vulnerability to corruption.

The stage of valuation of the holdings is the most critical one because the fairness and accuracy of the valuation will determine the behaviours of the population in the new sites after consolidation.

Three major methods for valuing land are considered by the literature: "Market value, rental value and land productivity" (Zhou 1999:7).

Market value system can be very hard to be applied in Rwandan case because land market is almost absent though its development is one of the targeted specific objectives of the current land policy and reform. So, basing the judgment under such method would give room to the valuator for arbitrariness.

Like it is the case for land market, its correlate land rental is not formally organized yet. Yes it does exist but still informally. There's no specific policy or other institutional framework which would regulate that market. This informal aspect of land rental renders the determination of exact rental values a very difficult task as the value and its unit of measurement varies from one region to another and according to the free will of the contracting parties. Thus, rental values may be paid in cash or in kind. Also, the rental value may be different for one parcel depending on the bargaining powers of the contracting parties. All of these considerations reduce the fairness and accuracy of the value to be got through this method.

The third method seems preferable. The assessment of the value of current farmland through land productivity which takes into account different geographical determinants of the parcel like its flatness, the level of fertility, acreage, access to water and irrigation, distance to the village etc.....

A field team of technicians appreciate all those different parameters and come up with a ranking of parcels based on their productivity based values. However, it is to be noted here that the valuation through land productivity system can't give reliable information because of the fluctuating climatic conditions in Rwanda and other natural hazards. Thus, there is a need for a cross checking along different seasons and finally come up with an averaged tendency. Despite its longest procedure which would involve more human and financial means, the land productivity system of valuing land holdings is the most rational and thus recommendable to Rwanda.

Whichever method of valuing parcels might have been used, there is always a problem of the changing value of the valued parcels either upwards or downwards during the schemes of implementation process which may create turbulences among the owners of the underestimated parcels or the government as a looser in case of overestimation and hence may affect the right course of the implementation process.

The efficient remedy to this issue was found by The Dutch Government where "the valuation was made at the beginning of the consolidation process to permit the redistribution of plots and another when consolidation is completed, in order to determine changes of value having occurred, for compensation purposes" (Fittis 1982:306-307).

Furthermore, the stage of assessing the value of the holdings is likely to be very critical as regard to the high probability of the occurrence of corruption among the Officers and technicians in charge of the activity. For the landholder to obtain the highest value possible to his/her parcel, he/she may bribe those carrying out that operation. This is a serious issue as far as Rwanda is concerned which was ranked on the 121st place out of 163 countries in the CPI report with a Corruption Perception Index score of 2.5 which is among the very critical scores around the globe.
(http://www.transparency.org/news_room/in_focus/2006/cpi_2006__1/cpi_table last seen on the 20 October 2007)

Specialized tribunals or Chambers of appeals in case the owner is not satisfied by the valuation report should be put in place. Currently all land

related cases are being handled by the First Instance Tribunals (Districts' Tribunals) along side many other issues whereby land consolidation appeals may end up receiving the least attention as the judicial may assume that the Government's bodies have the right appreciation of the value of the land. The Courts' decisions on appeals should intervene as soon as possible to avoid the impasse because "once consolidation has been promulgated, farmers would not improve the original land but wait for the new one" (Trivedi & Trivedi 1973:185 in Zhou 1999:13).

Again there should be a reestablishment of the balance between the parties in this case as the appealing party has the very weaker fall back than the Government. This reestablishment may consist in exonerating the appealing farmer from paying the justice fees for the introduction of the appeal because to maintain them would put the resource poor and weaker party in a position of acquiescence however much dissatisfied he/ she can be.

Land consolidation will certainly involve a lot of expropriations for which respective value compensation will be given. However, the expropriation law is very old as Rwanda is still using the law of the year 1979 which is outdated. Thus, there's a need of enacting the updating the law governing expropriation for public interest with compensation adjusted to the current market prices and purchasing power before land consolidation is implemented.

3.4.6 Cost of the operation

Preliminary work, land improvement and preparation, infrastructural provision, provision of alternative employment opportunities for displaced persons, payment of compensation and other administrative costs will amount a substantial huge sum that the Government is to make sure that it will find the budget lines to finance the whole operation.

The Government of Rwanda is supposed to meet all of these costs; the task which is very difficult to achieve if we consider the limited resources within the country. Rwanda is still relying on external assistance for more than 50% of its annual budget. However, the Government is now benefiting from the British Agency for International Development (DFID) a grant which will cover a relatively very limited period of the reform (2005-2008) while the projections for completing land consolidation process in particular and land reform in general is 11 years counted from 2005.

There is a need for the Government to come up with an operational plan with the provisional activities to be done with their estimated costs and the source of finance either available or to be negotiated with targeted donors so that the activities should not be stopped at a regrettable stage.

3.4.7 Investigating equity in land consolidation operation

According to Lipton "land reform is by definition an equalizing policy, at least in its intention" (Lipton, 1974:270 in Oldenburg, 1990:184).

Then if land consolidation in Rwanda is taken as one of the major parts among many others of the ongoing land reform how equitable is it so as to be qualified as part of the land reform "à la Lipton"? To take a position to this question one needs to recall the definition that the Government of Rwanda attributes to land consolidation:

The Rwandan land law defines it as " a procedure of putting together small plots of land in order to manage the land and use it in an efficient manner so that land may give more productivity" (article 2, 6⁰ of the Organic Law No 08/2005 of 14/07/2005).

The primary aim is to get rid of small "unproductive plots" and base the agrarian development on big farms and economies of scale. However, as long as land consolidation will not be accompanied by a redistributive measure where landless would get some sizes of cultivable land and the smallholders get incentives to invest in and improve their holdings, there will prevail inequalities for ever. The period that follows consolidation needs enough funds to improve land and adapt it to the requirements of economies of scale with the new machineries, fertilizers and other inputs. Only large land owners can afford these economies of scale. The lack of adaptation of smallholders to the aftermath consolidation will compel them to distress sales of their land to the large land owners and thus increase the number of landless.

3.4.8 The need for other accompanying policies and programmes to land consolidation

The point made above on inequalities issues introduced the argument in favour of the adoption of accompanying policies and programmes to serve as incentives to farmers for them to cope with the exigencies of land consolidation. It is in this context that some subsidies are to be directed to farmers proportionally to their income capacities so that the big share of subsidies is not taken by the "lions" rich large landowners. This may consist in helping them to get fertilizers and acquire the necessary machinery for the production process. Hence, there is a need to allocate enough money in agricultural sector development in form of long and medium term credit for example and attribute a considerable share of the national budget to that sector occupying 90 % of Rwandan population. Currently, the trend displayed by the following table is not supportive to agriculture sector development in terms of the share of credits allowed to the sector:

Table 3.5: Share of agricultural credits in the total credit disbursed by Rwandan Banks

Year	Total Credits(in millions rwf)	Agriculture	Percentage (%)
1995	13,560.20	153.9	1.13
1996	22,504.40	77.1	0.34
1997	48,003.10	323.2	0.67
1998	47,442.30	636.3	1.34
1999	51,393.20	1,586.50	3.09
2000	47,802.90	271.9	0.57
2001	40,360.80	639.6	1.58
2002	51,704.70	1,445.60	2.8
2003	58,967.90	2,299.90	3.9
2004	73,428,093.00	5,735,152.00	7.81

Source: Compiled and tabulated from National Bank of Rwanda Annual Reports

As it has been established, it is obvious that the policy will drive a large number of poor Rwandans out of agriculture sector, the exit sector is not yet known. The Government's economic VISION 2020 talks optimistically about the creation of exit strategies consisting in new opportunities in self-employment (Jua Kali) subsequent to the efforts of modernization of agriculture (Republic of Rwanda, 2002:52). The same optimism is found in the Rwandan Poverty Reduction Strategies (PRSP) document which states that better land management through consolidation will generate a boost in non-agricultural income. However, this self-employment out of agriculture for a large number of populations is really far from being materialized given the limited financial and intellectual capacities for self – entrepreneurship. Thus, the education campaign for self – entrepreneurship with the financial capacities to kick off the off-farm employment is recommendable.

Lastly, inheritance, the dominant mode of acquisition of land (Appendix 3) was seen as one of the major causes of high fragmentation; and this goes hand in hand with high fertility of Rwandan population with the average household size of 5 persons (NISR, 2006) and the fertility rate of 5.8 (World Development Indicators database, April 2006) So if there is no policy adopted for strengthening population control, land fragmentation will be cyclical and will prevail again even after consolidation. This has been experienced in India where despite land consolidation, the problem of fragmentation is not prevented (Trivedi & Trivedi 1973:186 in Zhou, 1999:14).

3.4.9 Partial Conclusion

Land consolidation in Rwanda as a way of increasing productivity and therefore reduce poverty should be adopted and implemented with very much of caution. This is because of a good number of social economic factors guided by the cultural dimensions of Rwandan society and the institutional weaknesses or vacuum for the implementation and monitoring of the process of consolidation in particular. Thus, the feasibility of land consolidation in Rwanda is to be assessed not only through a single eyed economic analysis of productivity but also a sociological study of customs, practices, laws and

social and demographic mobility of Rwandan population. It is through this integrated view that the Government may know how, when and where to consolidate land and with which other accompanying policies and programmes to make it successful for the present and future generations.

Chapter IV: CO-OPERATIVE FARMING AS A CHANNEL OF INCENTIVES IN THE AFTERMATH OF CONSOLIDATION: CASE OF JYAMBERE FARMING CO-OPERATIVE

4.1 Introduction

The previous Chapter concluded by saying that there's a need of putting in place the accompanying policies and programmes complementing land consolidation for the latter to be sustainable. It sorts out of the Rwandan National Land Policy that the Promotion of Cooperatives is one of the strategic options for the agricultural development (Republic of Rwanda, 2004).

Self- help organisations through group farming revealed to be one of the feasible options for channelling those incentives to farmers especially the smallholders to help them accommodate the constraints of technologies and economies of scale as a whole (Khusro and Agarwal, 1961).

The Co-operative farming is a form of farmer organisations based on voluntary membership and on a limited number of farmers who are willing to cooperate in all or part of the production stages. It serves as a complementary measure to land consolidation to materialize agricultural development aspirations that justified its adoption.

The following case study of JYAMBERE Farming Co-operative depicts a similar form of farmer's organisation where people voluntarily pooled together their small parcels for a joint production process. This pooling together of land and collective production has been taken as a proxy of voluntary land consolidation for the sake of the present research paper and may serve as a pilot experiment of co-operative farming feasibility subsequent to the consolidation of land.

The data were collected through a focus group discussion with members of the co-operative. As many of them are neighbours to one another the discussions were held in the premises of one selected household where all the neighbours whose plots were consolidated and farmed co-operatively were meeting. They had the opportunity to express themselves freely with an open group interview on the daily activities, benefits and challenges in JYAMBERE farming co-operative. The questions asked were open and general so as to be able to get as many information as possible. In order to overcome the fear of being victims of their statements they decided that their names remain anonymous in the paper as they would face pursuits from the denounced exploiting elites.

4.2 Creation and Geographical location

JYAMBERE farmers' Co-operative was created in 2005 by a majority of group of farmers residents of a same village. It is situated in Musanze District, Kinigi Sector in Northern Province of Rwanda. This specific region is notorious in Rwanda for its rich fertile soil especially for Irish Potatoes and Maize; the reason why it has been considered as a "warehouse" for the whole country as it feeds other parts of the Country in those products. Apart from the soil fertility, the region is known as the most densely populated part of the country according to the 2003 general census of population.

JYAMBERE Co-operative was created upon initiative of few members of the village who, after being inspired by some elites of the benefit of Co-operative farming and aware of the disadvantages of working alone on one's small plot, decided to sensitize their neighbours to try to find a long lasting solution to the problem of progressive decline of productivity. Many of these initiators were elites or opinion leaders of the region some of them because of their relatively higher education levels and others big farmers and businessmen.

After having sensitized and convinced the locals, 150 households reached a consensus to form a Co-operative with the following 5 objectives:

- Consolidation of plots for Co-operative farming;
- Promotion of best agricultural practices;
- Crop specialization based on a monocropping;
- Improved land use and
- Promotion of good human settlements.

The above five objectives were quite a carbon copy of the objectives assigned to the ongoing land reform through National Land Policy and Law. Hence, analyzing the success and challenges of JYAMBERE farming Co-operative can serve as a proxy of the social economic analysis of land consolidation and group farming.



Jyambere Co-operative public poster highlighting its objectives

4.3 Heterogeneity of members

In his "Theory of Collective Action" Mancur Olson stressed that the homogeneity of group is one of the fundamental prerequisites to agree on a feasible collective action. Thus, in a Co-operative farming the homogeneity is to be assessed at four levels: economic status of the members, origins or residences, gender and level of education.

At the economic status level the co-operative members are very much different. While a big part of the household members are smallholders who subsist only for agriculture, the other members and most of them self designated on the Board Committee of the JYAMBERE Co-operative, are usually businessmen and stay in the neighbouring City of Ruhengeri. Two of them are even reported not to have contributed any single area on the co-operative farm because they didn't have land in that region. The only purpose of these businessmen in becoming members appears to have been to find an outlet for making capital investments in farming cheaply because of the low level of taxation on income from agriculture and the exemption they may get while making transactions of various agricultural inputs. This is true because the same businessmen are the ones who supply the Co-operative in fertilizers from their own stores. While buying and selling fertilizers even outside the co-operative, they don't pay as high tax as it would be if otherwise because they do it in the name of developing agriculture.

This self interested spirit of businessmen has repercussion on the employment on co-operative farm as well in the sense that I learnt from the focus group discussion that they never participate in any physical activity in the co-operative labour force at all; yet the lion's share is for them at the end of the day.

"They are only seen during the harvesting period when they come for escorting their trucks which transport the co-operative produce to the market. Other days they are only seen passing through a nearby road rarely waving their hands to the local residents" discussants declared.

The level of education of members goes side by side with their economic status and the same level of "exploitation" which links the rich businessmen with poor smallholders members of the same co-operative is also the same when it comes to the educated people who are not interested in farming per se but are motivated to join the co-operative by their own interest to benefit from their membership because of certain privileges that membership to a farmers organisation can confer. In JYAMBERE farming co-operative the majority of members are local residents who have hardly finished their primary education. However, the co-operative counts also 4 primary school teachers who are members but at the same time local residents and engaged in farming activities. For them, they work in harmony with other members because of that proximity. In the case of a co-operative activity that requires all members' labour force they delegate members of their families or pay an outsider from their own money.

The residence is a very important factor to determine cohesion of a group as well. The exploitative connotation which is noticed on the side of businessmen, the same as other city based – weekend farmers happens because they are not sharing the day to day life of farming activities. Thus, a person who doesn't know the progress and challenges that the co-operative farm is facing is less likely to be an input to the success of the co-operative activities he/she rather contributes to its failure.

In relation with gender, power relations and gender based disputes are noticed during wage labour time on a co-operative farm as it will be detailed in the coming section 4.5 on the equal hourly wage for all labourers.

4.4 Organization and management of the co-operative

The organizational problems that JYAMBERE farmers' Co-operative is facing took roots from its creation. First of all, as it was mentioned above the initiators were not homogenous in terms of social economic status, goals and origins. They were not facing similar problems as their economic status was very much different; thus the motivation to form a Co-operative was some how competing between the poor smallholders and rich absentee large landowners; each category being self interested by its own. So, founder members were not bound by a common interest. A multi millionaire, big farmer or businessman cannot easily share common interests and goals with a simple peasant who hardly produces enough for the subsistence of his/her family without any surplus. This was the case for JYAMBERE Co-operative which has finally been personified in the name of a local elite rich businessman still a founder member of the same co-operative. His/her name appears in this paper as Henry⁸.

The problem is so sensitive that the initial name of co-operative JYAMBERE farmers' Co-operative has changed in the local discourse and is now embodied and identified in the name of Henry. 'Ni rya shyirahamwe rya Henry' as they say in the local language literally meaning "It is Henry's Co-operative".

The structure of this Co-operative is theoretically made of Board of Directors or Executive Committee and the General Assembly and but the decision making power belongs to the individuals rather than either body in the structure which would be the General assembly according to the Universal co-operative management principals.

Members have never elected the Board of Directors, commonly called Committee members, they were appointed by those elites with the Chairmanship of "Henry" but since early 2007, the latter resigned and transferred de jure the Chairmanship to another fellow big businessman but de

⁸ This is not the real name of the person for the security reason. Discussant farmers suggested theirs names to be anonymous throughout the whole paper.

facto he's still dictating decisions. The General Assembly which is normally the supreme organ of decision making was reduced to nothing as ever since its creation, no meeting has been convened to discuss current issues. Every decision is dictated to members by the powerful individual members. As those elite-members of the Board don't have usually enough time to dedicate to farming activities as they are very often busy with other businesses, they have appointed an accountant who manages and monitor the every day life of the Co-operative.

'This accountant has been given an unlimited power. All our lives are in his hands as for us to eat, we have to go and beg him first of all, otherwise you cannot step into your former plot if he doesn't want you to do so'

Source: Focus Group Discussion at Kinigi on 15 August 2007

Anonymous discussant

Under the normal circumstances and according to the Co-operative management principles, an accountant is an external agent who is recruited on merit and approved by the General Assembly of the Co-operatives. The accountant shouldn't have any thing to do with the day to day decision making in the Co-operative as his /her role should only be limited to the financial management of the assets of the Co-operatives, keeping accounts and financial papers without taking part in decision making. This task should solely be left to the members of the Co-operative.

4.5 Production process and distribution

In the normal functioning of Co-operatives, founder members bring together some working capitals (shares) coinciding with its creation. For any new entry, the new member has also to contribute a fixed amount of money or in kind as his/her share.

By definition, for the members to enjoy equal rights 'one man, one voice', shares should be equal so that no member should take advantages of his/her bigger contribution to the Social Capital (meaning here the aggregate of all shares) to dominate others in decision making process. However, in case of Co-operative farming it is allowed to contribute different sizes of parcels pooled together even other capitals like machinery vary from one member to another. Yet, the size of land or capitals one has contributed cannot determine the weight of his/her voice in decision making process. All of members should enjoy equal rights irrespective of how much each contributed to the cooperative farm except during the distribution of profits and distributable portion of the production which are proportional to individual contributions.

This complexity of contribution and the heterogeneity of members generate problems related to the distribution of collectively produced output among members as well as the issue of allocation of collective inputs expenses

like the cost of fertilizers, phytosanitary products, labour hours etc... These factors create room for the 'elite members' to make arbitrary decisions.

The following are the facts:

In order to start the production and pay various inputs, the Board Committee contracted a loan from BRD (Rwandese Development Bank) in the name of JYAMBERE Co-operative without any prior agreement of all the members represented in the Co-operative organizational structure by the General Assembly. One discussant lamented in the following terms:

"Contracting a debt would make sense; the only problem was that we have not been associated as a General Assembly to any decision on that regard. Even the exact amount of the loan we don't know it, what we know from their verbal statements is that we have a loan in the name of JYAMBERE Co-operative and we are all liable because it was contracted by our Board though we have not taken part in its management in any way"

Source: Focus Group discussion at Kinigi on 15 August 2007

Anonymous discussant

When it comes to the need of labour force in the co-operative farm, members take precedence on external offer and they are paid for the work done on hourly basis. The demand for labour does not come from the individual households rather from the Board of Directors represented by the appointed 'powerful accountant' who has the privilege of fixing how much goes to whom. The ironic relieving message very often repeated to members is that they are being paid for their labour hours spent on their own plots while they will also get their shares after the harvest. And this is taken as a double advantage. However, the reality is something else: in the last four production seasons since its creation in 2005, two types of crops were cultivated and harvested. Irish Potatoes were cultivated two times covering two different seasons and maize one season.

The distribution of production only occurred for Irish Potatoes where every member was getting 15kg (against the average of 100Kg⁹ per acre before consolidation) or its equivalent in money per acre of the size of plot(s) given for consolidation. This allocation was equal for the two seasons irrespective of the productivity for each season. After that distribution, business trucks were coming to transport the remaining production to the market and that is the end of story for other members to know the destination and the revenues. The feed back was always to tell them that the production was sold on credit and the money are not yet available and even when available they would use them to pay back the loan contracted and to buy inputs for next season. All of these were verbal; no balance sheet to establish the patrimonial status of the co-operative with assets and liabilities has ever been presented to members. As for maize, no whereabouts since the

⁹ By these Kgs they were referring to Irish Potatoes production

harvesting season up to the time the focus group discussion was conducted, there were 4 months and the next harvesting season was starting.

Even the usual 15kgs per acre distribution did not occur for maize, the whole production was taken to the market. When asked the money from maize production, the answer given by the Board was that ‘‘all the maize grains were rotten’’ without showing the deteriorated ones as evidence.

Concerning the hourly remuneration, it is normally similar for all of those who are employed in the co-operative farm whether it is a member or not. However, there are always disputes among members who work on the Cooperative farm regarding the effort they put on work. They accuse one another of free riding and feel like men should be remunerated higher than women because they consider women as a weaker and lazy sex on work. Those complaints are not between men and women only; even women among themselves don't agree on the principle of equal hourly wages depending on whether or not the working woman is breastfeeding whereby she carries her kid on the back and takes break whenever the kid cries or needs to be breastfed.

‘‘How can you work 6 hours a day without a break and get the same salary as the other one who was virtually together with you but has hardly worked 4 hours because the remaining 2 hours she was sitting breastfeeding her kid who cries every minute? I think I better work on my own plot with my full sovereignty instead of getting old because of hardworking for the ungrateful people who are always washing their feet’’ (lazy and proud).

Source: Focus Group discussion at Kinigi on 15 August 2007

Anonymous discussant woman

4.6 Individual household versus Co-operative decision making

At the household level, Co-operative farming generates many challenges mainly related to the diversity of needs among members and decision making. The experience of JYAMBERE farming Co-operative shows that the households whose plots are pooled and farmed collectively lose their sovereignty of deciding what to produce, when and how. First of all, co-operative farming goes hand in hand with monocropping and the question is to know what would happen to individual households who consolidated all their plots or one and single plot they own. This question is relevant especially for those households whose subsistence depends on the agricultural production. They feed themselves from their usual crops, thus they may run the risk of starving while waiting for the harvest from the co-operative farm. Again, the household members are not allowed at any time to go and harvest some thing from their former plot in the co-operative farm however extreme the necessity may be. Every decision concerning the consolidated plots is deemed to be collective. One mother raised this concern during the focus group discussions in these terms:

"Imagine the kind of rationality in production while our children cannot go and pick any maize from their own plot, whether they die of hunger or not, that is their business, the Co-operative does not care as long as the Board has not yet decided on the case!"

Source: Focus Group Discussion at Kinigi on the 15 August 2007

The above statement suggests that land consolidation and co-operative farming applied to all the plots belonging to one individual household is subject to many challenges on the side of household's farming related decision making. Fortunately, in JYAMBERE farming Co-operative members did not consolidate all their individual plots. Every household with more than one plot had to leave aside some portions of plot(s) for which the production process is sovereign to the household.

We don't lose the view however that the policy statement regarding land consolidation is compulsorily applied to all small plots below 1 hectare. Thus, very few rural households will be spared from that subjugation.

4.7 Towards the split of Co-operative ties

Following the power relations games that led to the mismanagement and lack of Co-operative spirit of members, some have started withdrawing their shares from the co-operative farm. Out of 150 households initial founder members, 15 households had already withdrawn their shares and were not bound to Co-operative organization any more. This was the number of withdrawals by the time the focus group discussions were being conducted but many more others among the discussants revealed the same intention of withdrawing their shares. This "exit" option instead of "voice" (Hirschman, 1970)¹⁰ is made through an explicit written letter to the Board of Directors, though legally it should be addressed to the General Assembly for the valid decision making, stating that the membership is suspended. Another option that is used is to sell out one's plot to another member who decides to stay in the Co-operative. This option seems to benefit to the well to do farmers and the elites who are usually well placed to purchase the plots sold by the disappointed poor farmers and it is the likely end result for any mismanaged co-operative farm.

¹⁰ By "exit" Hirschman refers to members of a group who may be dissatisfied with its functioning and decide to leave the group or Organisation while by "Voice" dissatisfied members decide to criticize and stay within to reform the collective action for its success.

4.8 Partial Conclusion

The above case study's findings showed that Co-operative farming systems suffers from a certain number of drawbacks especially on the managerial side of the Co-operative scheme itself.

There is still a lack of Co-operative culture whereby the universally accepted principles of co-operatives are not respected. Decision making in Co-operatives are still captured by elites on the detriment of other members.

Specifically, Co-operative farming should involve much of reflections on the side of individual household's decision making and livelihood security within and outside the Co-operative farming scheme. Particularly setting up proactive measures and programmes needed to counteract any potential natural hazard which may affect the co-operative farm and thus endangering members' livelihoods security. A National wide educational programme on Co-operative principles and management is a prerequisite to implement Co-operative farming as part of agrarian reform.

The Co-operative promotion policy already adopted in Rwanda is a good step but too general to monitor the peculiarities imposed by Co-operative farming schemes. The findings suggest that there is a need to adopt an appropriate Co-operative farming policy for the particular case of farming Cooperatives for a better monitoring and implementation of the programme. The Government's action is very much need as "Supporting collective action by smallholder farmers requires government support to promote producer-based organisations so that they can develop business and management skills, establish information systems and connections to domestic and global markets, and create good governance practices and the infrastructure needed to connect small farmers to finance and input supply systems"(Mugerwa, 2005:275).

Chapter V: GENERAL CONCLUSION

The paper analysed the feasibility of land consolidation and co-operative farming in Rwanda in three directions:

Firstly, it was aimed at finding out how pro- active is land consolidation in Rwanda vis-à-vis the number of challenges that usually hinder its implementation. Among them, it was established that land consolidation in Rwanda as defined in the law will result in a distress sales of land by smallholders who will not be able to adapt themselves to the emerging constraints of the economies of scale such as new technologies and improved use of fertilizers. This is especially because there are no effective accompanying policies and programmes to help those resource poor smallholders to face the challenges of the new agrarian structure. The same policy gap exists for the emerging landless class. Thus, there is less likelihood for equity to be respected during land consolidation.

On the financial side, it was found out that land consolidation is so costly that the Government of Rwanda is not able to finance the whole operation up to the end. Hence, an operational plan covering the whole timeframe for the consolidation was recommendable.

Given the complexity of the valuation of landholdings and other immovable properties the study revealed that the field officers may be attempted for corruption whereby strong measures are to be put in place to minimize this probability. The land market imperfections were also seen as catalysts for corruption because the determination of the value of land in monetary terms is full of uncertainty. Again, there is a clear imbalance of fall back between dissatisfied farmer and the Government during the assessment of the values of the properties whereby the judicial should take into consideration that imbalance and protect the weaker party throughout the appealing process.

Secondly, the study analysed co-operative farming scheme after consolidation in relation with the management of the collective property, group and individual decision making, Co-operative production process, land fragmentation cycle and finally the regulatory and institutional framework side.

The collective action on the co-operative farm is hindered by the capture of monopoly in decision making by some elites who are self interested and don't share the common goal with other members. The undemocratic style of managing co-operative farm is the basis of dissatisfaction of members which compels them to cut all the ties with the co-operative. The deep differences in households' level of endowments generate the differences of their daily needs and thus it becomes very difficult to agree on any collective action harmoniously.

Co-operative production process was seen as a disincentive to poor farmer who can succumb under any natural hazard striking the co-operative

farm. They are also prejudiced by the constraints of time imposed by co-operative farm management before the distribution of the harvest takes place.

Finally, the institutional and regulatory framework for land consolidation and co-operative farming was found still weak to implement those programmes successfully without making grievances to any category of people. There's a need to put in place institutions that would specifically be in charge of designing, monitoring and adjusting where necessary the implementation of the main guiding principles of the agrarian reform in Rwanda particularly with regard to land consolidation and co-operative farming. Mixing these attributions with many others of different domains reduces the extent of the attention that should be paid on land consolidation and co-operative farming. These institutions once in place and empowered with necessary facilities can help to mitigate social, cultural and economic challenges that may hinder the success of the operation of land consolidation and co-operative farming.

It was also found out that land consolidation by itself cannot put an end to land fragmentation in Rwanda. As the major driving force for fragmentation was revealed to be the dominance of customary law in land ownership through inheritance, it was realized that without any effective population control (family planning) policy or programmes aiming at reversing the trend of demographic growth in Rwanda, land consolidation can never help to stop fragmentation.

This research opens up future researchable areas in Rwandan agrarian structure and reform. It is in this perspective that a study of determinants of land productivity in Rwanda with a special focus on the possible correlation between land fragmentation and productivity is of a great relevance.

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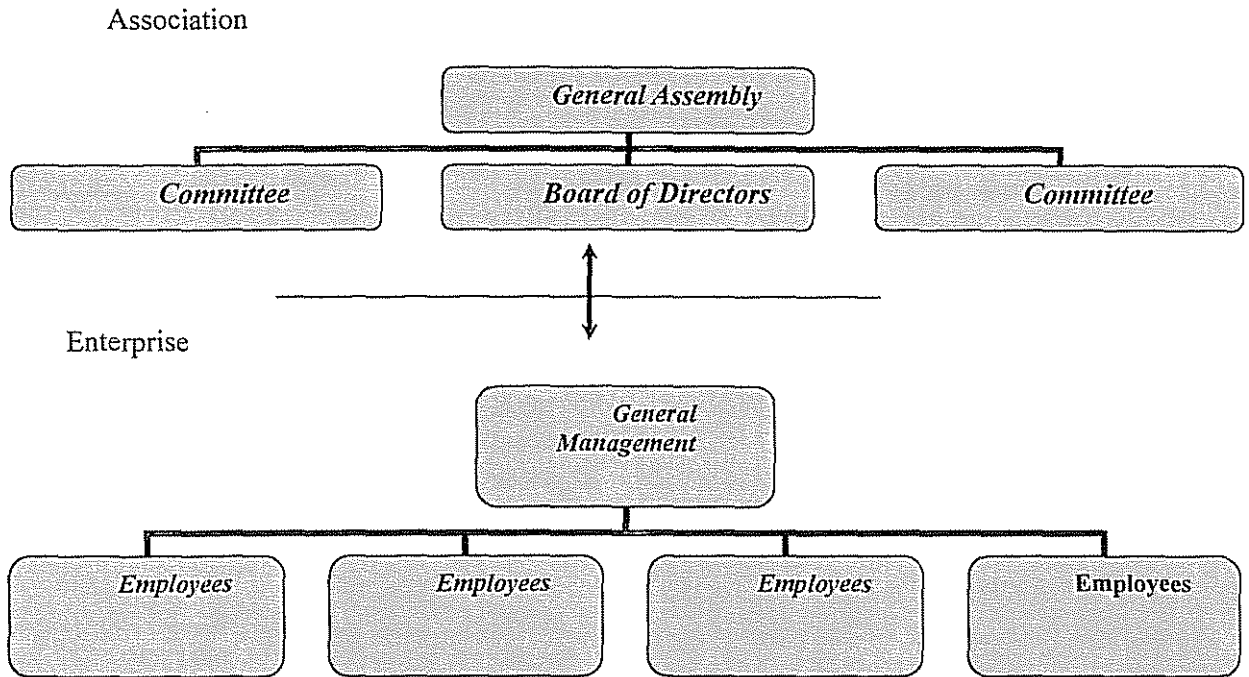
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APPENDICES

- Appendix 1 Structure of a co-operative as hybrid in character
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APPENDIX 1

Figure 1: Structure of a cooperative as hybrid in character (association and enterprise)



Source: MINICOM (2006) www.minicom.gov.rw

APPENDIX 2

Distribution of households by agricultural practices and by province (2006)

PROVINCES	TYPE OF FARMING		
	TRADITIONNAL	ANIMAL TRACTION & Mechanization	NOT DECLARED
KIGALI City & Rural	126 305 (99,0)	743 (0,7)	27,56 0,3
GITARAMA	178 256 (99,8)	28 (0,2)	0 0
BUTARE	33 455 (100,0)	0 (0)	0 0
GIKONGORO	41 442 (99,3)	122 (0,7)	0 0
CYANGUGU	38 002 (99,6)	933 (0,4)	0 0
KIBUYE	58 116 (99,7)	0 (0)	0 0
GISENYI	94 642 (99,7)	149 (0,3)	0 0
RUHENGERI	101 111 (100,0)	0 (0)	0 0
BYUMBA	153 265 (99,6)	135 (0,4)	0 0
UMUTARA	96 122 (100,0)	0 (0)	0 0
KIBUNGO	136 759 (99,3)	2049 (0,3)	1067 0,3
RWANDA	1 057 474 (99,6)	4158 (0,3)	1094,56 0,1

Source: Adapted from Rwandan agricultural survey 2006

APPENDIX 3

Distribution of land by mode of acquisition and by province in 2006

PROVINCES	MODE OF ACQUISITION OF LAND						
	INHERITANCE	PURCHASED	GIFT	FREE UTILIZATION	RENT PAID IN KIND	RENT PAID IN CASH	OTHERS
KIGALI							
City&Rural	54109	28638	27255	1890	8438	4005	2739
%	(37,3)	(24,9)	(19,8)	(4,1)	(4,0)	(7,2)	(2,7)
GITARAMA	142694	9748	15243	3587	3338	3640	35
%	(63,8)	(7,8)	(11,1)	(3,9)	(12,5)	(0,7)	(0,2)
BUTARE	17742	2315	1161	1650	4013	6440	135
%	(62,4)	(5,6)	(4,0)	(9,7)	(11,8)	(6,1)	(0,3)
GIKONGORO	15304,34	9910	11471	3326	933	529	90
%	(53,6)	(19,0)	(13,6)	(3,6)	(8,1)	(1,5)	(0,7)
CYANGUGU	18724,66	6295	9502	80	3620	713	0
%	(35,5)	(22,2)	(24,5)	(1,0)	(14,9)	(1,9)	(0)
KIBUYE	31982,39	11851	10552	2491	1200	174	0
%	(47,5)	(20,7)	(16,6)	(3,9)	(9,4)	(1,9)	(0)
GISENYI	22637,97	19324	37969	7867	2687	3839	467
%	(31,2)	(22,4)	(29,0)	(3,1)	(7,9)	(5,7)	(0,6)
RUHENGERI	30837,67	34313	24718	5982	2933	1163	1164
%	(27,6)	(34,6)	(27,9)	(4,3)	(3,7)	(1,4)	(0,4)
BYUMBA	59065,69	39348	47643	3096	1235	2214	798
%	(17,2)	(28,1)	(40,9)	(4,2)	(2,5)	(6,9)	(0,3)
UMUTARA	36792,4	25750	25174	2635	3481	2290	0
%	(23,6)	(30,4)	(22,9)	(6,5)	(7,9)	(8,8)	(0)

KIBUNGO	36336,0445	29409	47568	7300	10498	7324	1440
%	(22,7)	(20,9)	(32,8)	(5,5)	(7,3)	(5,3)	(5,6)
RWANDA	466225,212	216899	258255	39904	42376	32332	6869
%	(35,2)	(23,3)	(24,9)	(4,3)	(7,1)	(4,3)	(0,9)

Source: Adapted from Rwandan agricultural survey 2006

APPENDIX 4

Distribution of land size per household per province 2006

PROVINCES	Average land use per household (ha)	Total land (ha)
KIGALI VILLE et KIGALI NGARI	0,69	127 076
GITARAMA	1,09	178 284
BUTARE	0,36	33 455
GIKONGORO	0,41	41 564
CYANGUGU	0,34	38 935
KIBUYE	0,68	58 250
GISENYI	0,56	94 791
RUHENGERI	0,54	101 111
BYUMBA	1,04	153 400
UMUTARA	1,14	96 122
KIBUNGO	0,95	139 875
RWANDA	0,72	1 062 861

Source: Rwandan agricultural survey 2006

APPENDIX 5

Distribution of land (in ha) by use of water and by province 2006

PROVINCES	TYPE OF FARMING SYSTEM			
	RAINFALL	IRRIGATION	DRAINAGE	NOT DECLARED
KIGALI	120 322	1479	5274	0
	96,3	1,7	1,9	0
GITARAMA	173 013	135	5136	0
	90,1	1,9	8,0	0
BUTARE	32 701	0	754	0
	97,2	0	2,8	0
GIKONGORO	40 995	369	199	0
	97,3	1,6	1,1	0
CYANGUGU	37 892	744	299	0
	95,1	3,7	1,2	0
KIBUYE	56 560	53	1460	176,8
	95,8	0,6	3,3	0,3
GISENYI	94 175	0	616	0
	97,1	0	2,9	0
RUHENGERI	99 884	1125	102	0
	99,4	0,2	0,4	0
BYUMBA	152 810	413	177	0
	98,2	1,0	0,8	0
UMUTARA	95 641	210	270	0
	97,3	0,8	1,9	0
KIBUNGO	139 763	96	17	0
	99,2	0,5	0,3	0
RWANDA	1 043 756	4624	14304	176,8
	97,0	1,0	2,0	0,0

Source: Rwandan Agricultural Survey

APPENDIX 6

Agricultural sector growth performance, Rwanda, 2001-05

	2001	2002		2003		2004		2005		2001-05
	1995 RWF (millions)	1995 RWF (millions)	Year-on-year growth (%)	1995 RWF (millions)	Year-on-year growth (%)	1995 RWF (millions)	Year-on-year growth (%)	1995 RWF (millions)	Year-on-year growth (%)	Average annual growth (%)
Total GDP	580.2	635.6	9.6	640.0	0.7	668.4	4.4	710.6	6.3	5.2
Agricultural GDP	260.1	299.1	15.0	285.5	-4.5	289.4	1.4	306.3	5.8	4.2
of which:										
Food crops	218.2	255.9	17.3	243.4	-4.9	241.8	-0.7	259.4	7.3	4.4
Export crops	7.8	8.2	4.2	6.0	-26.2	9.0	48.9	7.1	-20.7	-2.4
Livestock	23.9	24.7	3.0	25.4	3.0	28.0	10.3	28.9	3.0	4.8
Fisheries	2.0	2.0	1.0	2.0	1.0	2.0	0.0	2.0	0.0	0.5
Forestry	8.2	8.4	3.1	8.7	3.1	8.6	-0.6	8.9	3.0	2.1
Food imports										
Value (000US\$)				28.3		43.4		35.3		11.6
Volume(000MT)				75.5		92.1		79.9		2.9

Source: World Bank (2007:7) using estimates from MINECOFIN and IMF 2006

