ANALYSIS OF FACTORS INFLUENCING SUSTAINABILITY OF FARMER COOPERATIVE SOCIETIES IN KANO STATE, NIGERIA

BY

YUSUF YUSHA'U HABIB
(SPS/14/MEX/00009)

DEGREE:

M.Sc. AGRICULTURAL EXTENSION

SUPERVISORS:

Dr. A. ABDULLAHI
Dr. I. TAFIDA

DEPARTMENT OF AGRICULTURAL ECONOMICS AND EXTENSION, FACULTY OF AGRICULTURE, BAYERO UNIVERSITY, KANO

APRIL, 2019.

ANALYSIS OF FACTORS INFLUENCING SUSTAINABILITY OF FARMER COOPERATIVE SOCIETIES IN KANO STATE, NIGERIA

YUSUF YUSHA'U HABIB
(SPS/14/MEX/00009)

A DISSERTATION SUBMITTED TO THE DEPARTMENT OF AGRICULTURAL ECONOMICS AND EXTENSION, FACULTY OF AGRICULTURE, BAYERO UNIVERSITY, KANO, IN PARTIAL FULFIL-MENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF M Sc. AGRICULTURAL EXTENSION

APRIL, 2019

DECLARATION

I hereby declare that this work, "Analysis of factors influencing sustainability of Farmer Cooperative Societies in Kano State, Nigeria", is the product of my research efforts undertaken under the supervision of Dr. A. Abdullahi and Dr. I Tafida, and has not been presented anywhere for the award of a degree or certificate. All sources have been duly acknowledged.

……

Signature and Date

YUSUF YUSHA'U HABIB

(SPS/14/MEX/00009)

CERTIFICATION

This is to certify that the research work for this dissertation and the subsequent write-up (YUSUF YUSHA'U HABIB with SPS/14/MEX/00009) were carried out under our supervision.

……. ……..
Dr. A. Abdullahi Date
(Supervisor)

……. ……..
Dr. I. Tafida Date
(Internal Examiner)

……. ……..
Dr. A. Abdullahi Date
(Head of Department)

APPROVAL PAGE

This dissertation entitled " Analysis of the Factors Influencing Sustainability of Farmer Cooperative Societies in Kano State, Nigeria" prepared by Yusuf Yusha'u Habib (SPS/14/MEX/00009) has been examined and approved for the award of Masters Science (M Sc) in AGRICULTURAL EXTENSION.

…… ……
(External Examiner) Date

……. ……
Dr. I. Tafida Date
(Internal Examiner)

……. ……
Dr. A. Abdullahi Date
(Supervisor)

……. ……
Dr. A. Abdullahi Date
(Head of Department)

……. ……
(SPS Board Representative) Date

ACKNOWLEDGEMENTS

First and foremost, I wish to express my gratitude to Almighty Allah the creator of Heaven and Earth for granting me the courage, grace and strength to carry out this work and sparing my life to witness the successful completion of this programme (M.Sc.). Specially, I express my gratitude to my able and wonderful project supervisor, Dr A. Abdullahi and my Internal Examiner, Dr. I. Tafida for their guidance, patience and diligent supervision for successful completion of this work. Also my appreciation goes to Professor M. I. Daneji, Professor A. B. Muhammad, Professor A. Suleiman, Professor M. M. Ahmad Dr. M. B. Bello, Dr. S. Sabiu, Dr. Isa Abubakar, Dr. Naniya (SMS), Mal. Ubale Sani, Mal. M. Halliru and Mal. Z. Adam, Mal U. Karaye, Mal Abdullahi Maigarabe and Mal Hassan Hussain for their advice and valuable suggestions throughout this research work.

This acknowledgement cannot be completed without mentioning the members of my family.

My beloved mother, Hajiya Rabi Yar Jafaru, my brothers and sisters Ibrahim, Sadiqa, and my junior ones, Abdullatif, Binta, Saifullahi, Saliha, Dini, Firdausi, Nasiru, Maryam, Ummi, Ahmed, Dan Balarabe, Muhammad and the entire Habib family, who stood by me during this study.

Finally, I wish to extend my gratitude to all my colleagues: Mohammad Gwadabe, Aminu Ibrahim, Yusuf Umar, Ahmadu Hussaini, Mustapha Kundiri, Abdullahi Chamo and I equally shared my appreciation with all my colleagues from Department of Cooperative Economics & Management (Kano State Polytechnic) for their various contributions. Special thanks also go to all my Friends who are too numerous to mentioned.

DEDICATION

This work is dedicated to my late beloved father, Alkali Yusha'u Habib Galadanchi (May his soul rest in perfect peace).

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATION AND ACRONYMS

FCSs:	Farmer Cooperative Societies
FBOs:	Farmer Based Organizations
SAA:	Sasakawa African Association
ICA:	International Cooperative Alliance
ADP:	Agricultural Development Programme
KNARDA:	Kano Agricultural and Rural Development Authority
UN:	United Nation
WB:	World Bank
SNA:	Social Network Analysis
FAO:	Food and Agricultural Organization of the United Nation
GP:	Group Promoter
IOFs:	Investor Owned Firms
NGOs:	Non Governmental Organizations
KNSG:	Kano State Government
KCF:	Kano Cooperative Federation
KCFA:	Kano Cooperative Financing Agency
SPSS:	Statistical Package for Social Science
EV:	Eigen Value
KMO:	Keiser Meyer Olkin
EFA:	Exploratory Factor Analysis
NCSD:	Nigeria Cooperative Societies Decree
ARI:	Agricultural Research Institute
AI:	Agricultural Industries
AIC:	Agricultural Insurance Company
AGRO/D:	Agro Dealers
AFI:	Agricultural Financing Agency
BOA:	Bank of Agric
MOC:	Ministry of Commerce.

ABSTRACT

The study analyzed the factors influencing sustainability of Farmer Cooperative Societies (FCSs) in Kano State, Nigeria. Multi-stage sampling technique was used in selecting 181 members of FCSs from four selected Local Government Areas (Gwarzo, Rimingado, Garko and Albasu) of the State. Primary data were collected using structured questionnaire. The analytical techniques used for study were descriptive statistics, Social Network Analysis (SNA), Sustainability Indicators (SI) and Exploratory Factor Analysis (EFA). The result showed that the members FCSs were predominantly males and within active ages with an average of 44 years, 89% of FCSs formation have been influenced by extension agents, leadership was mainly by nomination while 70% of them has never changed their leaders. The SNA results found that, members had strong links with Agricultural Development Programme, FCSs, Family & Friends, community leaders and weak links with agric industry, agric insurance and Universities. The six factors meet the criterion of Keiser rule of thumb that comprises of diversity and participation (EV=2.268), autonomy and linkages (EV=1.547), group development (EV=1.388), managerial (EV=1.274), incentive and democracy (EV=1.201) and competence and policy factors (EV=1.026) which accounted for 62% variance. Moreover, the majority of FCSs were not adequately sustained since 4 out of 7 Indicators comprises; member participation (M=2.85), effective links with development services (M=2.96), continuous group saving (M=3.09) and regularity of group meeting (M=3.13) are below the average mean (3.17) while Garko and Albasu had the highest sustainability level. Inadequate funding and poor government support as well as poor participation were the major constraints of FCSs in the study area. It is concluded that FCSs in the study area were not sustainable since 4 out of 7 indicators showed not adequately sustained in the study area. It is therefore recommended that more sensitization programme should be introduced by leadership of FCSs to provide capacity for members to increase their commitment toward their societies and more linkages and affiliation should be enhanced to expand the scope of FCS activities beyond local context and strengthen their structure.

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Agriculture is an important sector in the economy of Africa, significantly contributing to economic growth and development, and serves as a major employer for the majority of people in Africa especially for rural dwellers (Abdul Rahman, 2015). The wish to transform agricultural sector in Africa dates back the colonial era when European settlers saw the potential of turning agricultural products into the backbone of their new economies (Flygare, 2006). Thus, one of the main components in modernization efforts in the area of agriculture was the promotion of agricultural cooperatives as a way to market African produce overseas and increase the Africans' participation in the sector (Wanyama, Develtere & Pollet, 2009).

In related development, cooperation has always been the vein of human development and people have been known to live with one another in different groups of association. Mostly, materials, social, educational, recreational, cultural and spiritual needs of the people were satisfied by these associations. However, it is difficult to state the time and place when and where cooperation was started. But modern cooperation, as we know today can be traced to Britain in particular where the first successful cooperative society was established in 1844 at Rochdale town in England. The success story of the society proved an inspiration and guiding principles to cooperative movement throughout the world (Ilu, 2007; Yahaya, 2001).

In Nigeria, the modern cooperative societies started as a result of the Nigerian cooperative society law enacted in 1935 following the report submitted by C. F. Strickland in 1934 to British colonial administration on the possibility of introducing cooperatives into Nigeria (Onuoha,

2002). Cooperative societies in Nigeria like their counterparts all over the world are formed to meet people's mutual needs. In Nigeria where many small-holder farmers feel powerless to change their lives, cooperatives can serve as a strong, vibrant and viable economic alternative. Agricultural Cooperatives are considered useful mechanism to manage risks for members in agriculture. Through cooperatives, farmers could pool their limited resources together to improve agricultural output and this will enhance socio-economic activities in the rural areas (Ebonyi & Jimoh, 2002).

Agricultural cooperatives are business enterprises usually organized, owned and controlled by farmers and operate for mutual benefit of their members as producers or marketers (Yahaya, 2012). Agricultural cooperatives are based on the powerful idea that togetherness of small-holder farmers can achieve goals that none of them can achieve individually (Bibby & Shaw, 2005). It has been considered as a third force, an alternative and countervailing power to both big business and government. Agricultural cooperatives encourage members to engage in joint cultivation of food and cash crops, purchase farm inputs at subsidized price and create better producers' price for their farm products (Poulton, Kydd & Dorward, 2006).

In view of the low financial capacity and high level of under-development, an individual farmer cannot achieve the desires for large-scale production. It is therefore in the farmers' interest that resources are pulled together so as to gain so many advantages and thus widening the industrial base of the economy and the management techniques (Epetimehin, 2006). For instance, farmers' cooperative societies are formed to bring in more agricultural inputs and marketing services to members, increase competition in the agricultural sector and provide savings and credit to members, among other functions. Smallholder farmers stand a better chance with the formation of agricultural co-operatives.

Mohammed (2004) emphasized that farmers are burdened with high prices of farm inputs, inefficiency of farming techniques, inadequate production infrastructure, poor market and heavy constraints in obtaining credits facilities. The unfavorable situation is further been compounded by the general economic downturn and government drives to remove all subsidies on farm inputs such as chemical fertilizers, and agro-chemicals. The cooperative option comes into focus as a viable way to effectively mobilize farmers to form groups and pool their resources so as to become more effective in agricultural production (Agenyour, 2014).

Therefore, there is a growing advocacy for achieving sustainable food security in Nigeria and a lot of efforts has been directed at finding appropriate structure for organizing millions of small scale farmers towards achieving food security. Agricultural cooperative society has been considered as the appropriate vehicle for harnessing and polling the resources of millions of small-holder farmer producers together to enjoy the benefit of large scale production (Omotesho, 2008).

There are many definitions of sustainability and many interpretations of their meanings. In the most obvious sense, the term "sustainable" refers to something which can be sustained, or kept going over long period of time without over -dependence on outside support. In other word it refers to resource use and lifestyles which do not damage resources or society (Sexton & Iskow, 2005).

According to Dejene and Getachew (2015), the success of a collective action, such as a cooperative, has been viewed in different perspectives: one being institution-building (sociologists) and the second being economic productive behaviors (i.e. efficiency for economists). For the purpose of this study, Rankin and Russell's definition of cooperative sustainability have been adopted, which is a cooperative being economically successful and

being able to maintain this position. We are taking sustainability of the cooperative as a long-term success (Rankin & Russell's, 2005). Thus, the sustainable FCSs are organizations that are capable of managing their own affairs for long periods without over-dependence on outside support (FAO, 2000).

The government and donor partners have promoted and supported the development of farmer groups in Nigeria and Africa in general for decades; some have supported them for practical purposes, while others have done so for strategic reasons. Cooperatives and other forms of Farmer Based Organizations (FBOs) have been promoted as an element of strategy for agricultural modernization and structural transformation of national economies; along planned economy in some cases, free-market economy in others. In addition, such organizations have been promoted as key mechanism for empowerment, particularly by those who viewed poverty and associated disadvantages as the consequences in political, economic and social spheres (Juliana, 2015). Thus, the study examined factors influencing sustainability of Farmer Cooperative Societies (FCSs) in Kano State.

1.2 STATEMENT OF PROBLEM

The interest in the creation of Farmer Cooperative Societies (FCSs) in Nigeria is not new. Over time, many FCSs have been formed in Kano State to perform single or multi-purpose functions in the field of livestock or crop production. However, most exist only for short time, going out of existence for a number of reasons which have not been fully investigated. Despite the significant progress in the establishment of FCSs, sustainability remains a major challenge for the majority of these cooperatives. Kano is one of the states in Nigeria with substantial number of FCSs but performance and sustainability of these societies have been debatable, since the number of

mushroom societies is increasing over time but voices of the small-holder farmers are continuously unheard.

The paucity of empirical investigation on sustainability of FCSs and related factors in Kano State raised the demand for the present study. A number of studies have examined some key issues contributing to success and failure of farmer cooperatives. Ajayi and Akinnagbe (2010) reported that most of FCSs are hastily formed, often with no regard for the socio-cultural and economic structures of the farming communities. Such groups are not viable and incapable of serving as a channel through which farmers can take part in decision making. However, identifying and promoting authentic farmer cooperative that empowers smallholders is a big challenge for governments and their development partners. According to Borgen (2001), the most important reasons for cooperative failure include; the shortage of trained managers, lack of understanding the principle and approaches of cooperatives and inability of cooperative members to cope with modern methods and tools of production. Onje (2003) added that the problem of dishonesty among cooperative leaders is another factor retarding the growth and sustainability of agricultural cooperatives in Nigeria. Yahaya (2001) reported that the participation of cooperatives in marketing of agricultural produce is very low as a result of poor organizational structure, inadequate infrastructural facilities and administrative bottlenecks.

Sasakawa African Association (SAA, 2012) study in Nigeria on strengthening farmer organizations showed that, finding the sustainable farmer organizations that are able, motivated and sufficiently independent to effectively represent farmers' interests is an indispensable factor. It also indicated that, there are several challenges facing resource-poor farmers ranging from inadequate information; lack of organized groups; low motivation; low literacy level; lack of access to productive inputs; low technological know-how among others.

In view of this, it should be noted that, the growth of mushroom FCSs has over shadowed the functional ones and little is known about the activities, performance and sustainability of these FCSs.This study attempts to fill the information gap by investigating the activities of functional FCSs in Kano and issues related to their sustainability. Specifically, the study intends to address the following research questions:

i. What are the socio-economic characteristics of the members of FCSs in the study area?
ii. How effective are FCSs in improving the livelihoods of the members?
iii. What are the linkages between FCSs with Government and other organizations?
iv. What are the levels of sustainability of FCSs?
v. What are the factors responsible for FCSs sustainability?
vi. What are the constraints associated with sustaining FCSs in the study area?

1.3 OBJECTIVES OF THE STUDY

The broad objective of the study is to analyze the factors influencing sustainability of Farmer Cooperative Societies (FCSs) in Kano State. However, the specific objectives are to;

i. describe the socio-economic characteristics of the members of FCSs;
ii. determine the effectiveness of FCSs in improving the livelihoods of the members;
iii. examine the linkages of FCSs with Government and other organizations;
iv. examine the level of sustainability of FCSs;
v. determine the factors responsible for FCSs sustainability; and
vi. describe the constraints associated with sustaining FCSs in the study area.

1.3.1 Hypothesis

Ho – There is no significant relationship between the farmers' socio-economic characteristics and FCSs membership in the study area.

1.4 JUSTIFICATION OF THE STUDY

It is generally believed that successfully managed agricultural cooperatives have great potential in agricultural development in particular and rural development in general. Agricultural cooperatives are considered suitable institutional structures for addressing market failure experienced by small scale farmers (Chirwa *et al.*, 2005; Ortmann & King, 2007; Poulton*, et al.,*2006; Valentinov, 2007).

Sustainable, strong and functional farmer cooperative societies can provide opportunities to farmers to effectively play an important role in the market economy and benefit from it. Farmers are the single largest group of users and managers of land, water, and other ecological resources throughout the world. Most small-holder farmers regardless of gender require services and information obtainable through membership of agricultural cooperative. Viable FCS, especially one with legal standing, can facilitate the grouping of produce and linkages with the market: collecting orders from buyers and disseminating information to its members, negotiating minimum prices and setting a delivery date; it can also make it easier to negotiate credit and other financial products from financial institutions (Juliana, 2015).

This study seeks to contribute to the emerging body of knowledge on how best government, cooperative federation, research institutions, policy makers, ADPs, cooperative organizations and others development partners toward forming, promoting, managing, identifying and strengthening new and existing small-holder farmer groups. However, the study also assists in the improvement of cooperatives sustainability rates, by suggesting appropriate and relevant

measures. The study will help to establish strategies for strengthen and support cooperatives, by making them more effective when serving farmers, and in so doing, contribute toward achieving national goal of poverty reduction and food security. However, the research information will also contribute to the existing literatures and fill the knowledge gap on sustainable factors affecting the sustainability of FCSs, which will be useful as a reference material for further research on the challenges faced by cooperatives in developing countries.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter presents a summary of literature reviews carried out under the study as related to sustainability of farmer cooperatives. In line with this, the literature review was presented based on the key variables of the study via; the concepts of cooperative, agricultural/farmer cooperative, activities/ roles of agricultural cooperative, FC social network, FC sustainability indicators, sustainability factors of FCSs, the theoretical framework and empirical study.

2.1 CONCETUAL DEFINITION OF TERMS

2.1.1 Concept of Cooperative

The idea of people working together is the basis for the formation of cooperatives, which dates back to the nineteenth century, when the pioneer cooperative members of the Rochdale society launched the cooperative movement in 1844. Cooperatives are independent association of people who voluntarily unite to form a jointly owned and democratically controlled enterprise called cooperatives, to meet members' economic, social and cultural needs (Henry & Schimmel, 2011).

Cooperatives are intended to be organizations or enterprises, which are highly democratic and self-governing and which rely on self-help and their own responsibility to meet goals that include not only economic but also social and environmental ones (United Nation, 2009). The International Cooperative Alliance (ICA) viewed cooperative as 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, 2010).

This definition emphasizes that cooperatives in general have their own guiding principles and value concepts. Cooperatives are based on values of *self-help, democracy, equity, equality and solidarity while cooperative members belief in the ethical values of honesty, openness, social responsibility and caring of others.* The guiding principles of cooperatives have been developed since 1937, the first Rockdale cooperative principles. Unlike the private, public, or voluntary sectors, almost all cooperatives around the world are guided by the same seven principles: - *voluntary and open membership; democratic member control; member economic participation; autonomy and independence; education training, and information; cooperation among cooperatives; and concern for community* (Henry, 2005; Yahaya, 2012).

2.1.2 Agricultural Cooperative/ Farmer Cooperative

An agricultural Co-operative, also known as farmers' co-operative, is a form of co-operative formed by farmers or agriculturalists who combined their resources together for the production and marketing of their produce. They also get some equipment and items to enhance effectiveness of their production and marketing of the items with the hope of benefiting members financially and economically. Farmers' cooperatives can therefore be defined as voluntary business associations formed by people (mostly farmers) of limited means through contribution of share capital that forms the basis of sharing out the profits that accrue from the business (Wanyama, *et al.,* 2008). According to Yahaya (2001) Farmer cooperative societies are business enterprises usually organized, owned and controlled by farmers and operate for mutual benefit of their members as producers or marketers.

Agricultural cooperatives have emerged as institutional vehicles to facilitate information exchange, improve collaboration, disseminate agricultural innovation, and improve market access (Fischer & Qaim, 2012). Agricultural Co-operative as a form of business organizations is

distinct from the common investor–owned firms (IOFs). Both are organized as enterprises, but IOFs pursue profit maximization as their objectives, whereas co-operatives strive to maximize the benefits they generate for their members.

2.1.3 Sustainability and Cooperative

Sustainability "has become one of the most over used and abused words in the development vocabulary". The concept of sustainability is composed of three pillars: economic, environmental, and social. Sustainability is a process of living within the limits of available physical, natural and social resources in ways that allow the living systems in which humans are embedded to thrive in perpetuity (United Nation, 2005). According to Investopedia (2018) Sustainability focuses on meeting the needs of the present without compromising the ability of future generations to meet their needs. In the most obvious sense, the term "sustainable" refers to something which can be maintained, or kept going. But, it also refers to resource use and lifestyles which do not damage resources or society (Sugden, 2003).

The concept success does not have single definition and a mixture of definitions has been used, in order to determine the success of cooperatives enterprise. For instance, Bruynis *et al*. (2007) define success in terms of longevity, business growth, profitability, and members' satisfaction. Sexton and Iskow (2005) measure success based on self-evaluation. Ziegenhorn (2003) understands success of networks in terms of their survival. Moreover, Amini and Ramezani (2006) found members' participation in cooperative administration to be a major contribution to cooperatives' success.

Rankin and Russell (2005) defined a sustainable cooperative as one which is economically successful and hence able to compete with other cooperatives and the private sector'". According

to Jones (2004), the success of a collective action, such as a cooperative, has been viewed in different perspectives: one being institution-building (sociologists) and the second being economic productive behaviors (i.e. efficiency for economists). For the purpose of this study, Rankin and Russell's definition of cooperative sustainability will be adopted, which is a cooperative being economically successful and being able to maintain this position. We are taking sustainability of the cooperative as a long-term success (Rankin & Russell, 2005).

2.2 ROLE OF FARMERS' COOPERATIVES IN AGRICULTURAL DEVELOPMENT

A cooperative is a widespread and important governance structure within the agricultural sector. The cooperative sector worldwide is comprised of approximately 800 million members in over 100 countries and it is estimated to account for more than 100 million jobs around the world (ICA, 2007). Agricultural cooperatives in particular, account for 80 to 99% of milk production in Norway, New Zealand and the United States; 71% of fishery production in the Republic of Korea; and 40% of agriculture in Brazil (ICA, 2007).

Cooperatives are an important form of organizational structure in many agricultural markets.

For example, in the EU, cooperative firms account for over 60% of the harvest, handling and marketing of agricultural products, with a turnover of approximately 210,000 million euro's (Gertler, 2001). Furthermore, over 50% of global agricultural output is marketed through cooperatives (Bibby & Shaw, 2005). There are several benefits that farmers receive from being part of a cooperative organization.

2.2.1 Access to Market

Cooperatives are helpful in overcoming access barriers to assets, information, services and, input and output markets. For example, Hovhannisyan, Urutyan and Dunn (2005) identified that

American farmers, in milk marketing cooperatives, were able to pool products of a specified grade and quality and therefore they were better able to market milk to large scale buyers. They further argued that cooperatives were able to move their products to distant markets and thereby expand their opportunities for milk sales. Agricultural cooperatives have played an important role in helping small-scale farmers to cope with competitive and fluctuating markets and high transaction costs and to achieve economies of scale, through bulk selling, in order to meet market demand (Clegg, 2006)

Many businesses prefer to buy from larger farmers, rather than small-scale farmers because the small-scale farmer's produce is not reliable, when it comes to producing the correct quantities (Kirsten & Sartorius, 2002). This provides farmers in cooperatives with better opportunities to participate in the supply chain and to also be able to compete with larger farmers, for market opportunities.

2.2.2 Increased Bargaining Power

Cooperatives have also increased the bargaining power of farmers, since they all 'speak with one voice' (Onoh, 2007). Due to economies of scale (or other factors that limit competition) a cooperative has market power, which would be an incentive for the farmers to become part of the organization and thereby avoid price exploitation. Cooperatives, on such cases, would help to increase margins and provide market assurance, and can also play the role of 'competitive yardstick'. For example, Kodama (2007) when analyzing coffee cooperatives activities in Ethiopia, found that the existence of cooperatives in the coffee market had led to improving the purchasing price offered by private traders, due to competition with the cooperatives. All these measures tend to increase farmers' incomes.

2.2.3 Poverty Reduction Strategy

In relation to the social aspect of development, a cooperative presents an important model, which can address the problem of social exclusion of the poor and disadvantaged who lack access to opportunities in a liberalized market economy (Birchall, 2004). Cooperatives encourage local participation and inclusion which is central to poverty reduction. This has being reflected in the UN guidelines, related to cooperatives in social development, as quoted by Bibby and Shaw (2005). Governments recognize that the cooperative movement is highly democratic, locally autonomous but internationally integrated, and a form of organization of associations and enterprises whereby citizens themselves rely on self-help and their own responsibility to meet goals that include not only economic but social and environmental objectives, such as overcoming poverty, securing productive employment and encouraging social integration.

In addition, it holds guide symposiums for the farmers to acquaint them with the necessary knowledge and skills about the agricultural new methods that aim at increasing the agricultural production and, therefore, promoting the rural society (World Bank, 2005).

Other roles/ activities of FCSs in Nigeria according to Onoh (2007) are:

- Educational Role: Agricultural co-operative societies provide professional advice to farmers on how to use chemicals to eradicate pests, diseases as well as on mechanization of agriculture. They prepare farmers' mind ahead of time the prices of their product. They also carry out research services into the marketing of their products as well as educating them on the best seedling to plant and the actual period. They disseminate new ideas to farmers through extension workers either through individual method, personal contact, group method and mass media.

- Mobilizations of Savings: Agricultural co-operative enables the mobilization of savings among farmers as they would be enlightened on the benefits of savings. The culture of savings will then be developed among the co-operative members, who are in this instance, farmers. Agricultural co-operative therefore, play an important role in savings mobilization among its members.
- Provision of Extension Services: Extension is a way of service aimed at getting knowledge developed from one environment to the other. Agricultural extension is a bridge between the researchers and the farmers. In other words, agricultural extension is a connecting link between the researches and farming communities. Through the agricultural agents, farmers acquire certain skills in both animals and crop production. It improves the farmers' standard of living, conduct and organizes training for farmers. The extension services help to increase and improve food production.
- Management of Credit: Agricultural Co-operatives grant loans to members for productive purposes. An agricultural co-operative like a Farmers' Credit Union will be able to raise loan funds at advantageous rate from commercial banks because of its large associative size and will then distribute to its members on the strength of mutual or peer –pressure guarantees for repayment.
- Attraction of Government Support: It is important to note that the governments of Nigeria believe that cooperative societies are essential for the economic development of the Nigerian agricultural producers. This situation is supported by the expanded role of the ADPs and the RBRDAs. They always organize farmers under their programmes into groups for better co-ordination of their activities.

- Direct Marketing: Agricultural cooperatives usually engage in direct marketing of their agricultural produce. When this is done, the middlemen are usually by-passed. This enables the agricultural cooperatives to protect the members from exploitation by such middlemen.
- Acquisition of Farm Inputs: Agricultural cooperatives societies help members in acquisition of farm inputs, such as seedlings, machinery etc. these farm inputs, usually purchased jointly through the society thereby reducing the high units cost which members should have incurred should they have purchased such as inputs individually (Onoh, 2007).

2.3 SOCIAL NETWORK ANALYSIS

Social network analysis (SNA) is an interdisciplinary methodology developed mainly by sociologists and researchers in social psychology in the 1960s and 1970s, further developed in collaboration with mathematics, statistics, and computing that led to a rapid development of formal analyzing techniques which made it an attractive tool for other disciplines like economics, marketing or industrial engineering (Scott, 2000). SNA is based on an assumption of the importance of relationships among interacting units or nodes. These relations defined by linkages among units/nodes are a fundamental component of SNA (Scott, 2000).

2.3.1 Benefits of Social Network

-identify who are the persons, playing central roles (thought leaders, knowledge brokers, information managers, etc.);

-identify bottlenecks and those who are isolated;

-spot opportunities for improving knowledge flows;

-target those areas where better knowledge sharing will have the most impact; and

-raise awareness of the significance of informal networks.

2.3.2 Key Points and Practical Tips of SNA

After social relationships and knowledge flows become visible, they can be evaluated, compared and measured. Results of the SNA can then be applied by individuals, departments or organizations to:

To conduct a successful SNA, It is important to know what information to gather in the first place. As a result, it is vital to put a great deal of thought into the design of the survey and questionnaire. Effective questions typically focus on a variety of factors, such as:

– Who knows whom and how well?

– How well do people know each other's' knowledge and skills?

– Who or what gives people information about a specific theme/relationship/process?

– What resources do people use to find information, get feedback/idea/advice about specific theme/relationship/process?

– What resources do people use to share information about theme/relationship/process? (EC-FAO, 2006).

2.4 MEASURING SELF-RELIANCE GROUP AND SUSTAINABILITY INDICATORS

Experience has shown that building a network of sustainable self-help groups takes time. A Group Promoter (GP) play pivotal role in initiating and sustaining this learning process in its initial phases. However, it is vital to recognize when groups have reached a point of self-sustainability and no longer reliance on the assistance of GP. According to FAO (2000) the groups can use a number of ***indicators*** to measure their Progress or Sustainability. These include:

2.4.1 Regularity of Group Meetings and higher level of Member Attendance

When regular meetings and high attendance continue in the absence of the GP, the group is obviously highly motivated and well on the way to achieving self-reliance.

2.4.2 Shared Leadership and Member Participation in Group Decision Making

Group that shared leadership responsibilities and in which there is a high level of participation in decision making learn more quickly and develop a broader leadership base. Group dominated by a minority are unstable and vulnerable to leadership crises.

2.4.3 Continuous Growth in Group Savings

Group saving is a key measure of member's faith in and financial commitment to group activities. It is also a good indicator of the profitability of the group activities. Groups which do not save, or save very little, are less likely to achieve sustainability.

2.4.4 High Rates of Loan Repayment

A group's capacity to repay loans on time is another indicator of group financial discipline and the profitability of its income-generating activity.

2.4.5 Group Problem-Solving

A group which solves problems and takes initiatives for its self-development in the absence of the GP has a high level of member confidence.

2.4.6 Effective Links with Development Services

The self-reliance of a group also depends on its ability to maintain links with government and NGO development services, in the absence of its GP (FAO, 2000).

2.5 FACTORS AFFECTING SUCCESS OR FAILURE OF COOPERATIVES

The success or failure factors of cooperatives have been classified as external and internal to the cooperatives.

2.5.1 Internal Factors

The internal factors that would affect a cooperative's success or failure are the ones that arise internally and these include governance, leadership and managerial skills.

2.5.1.1 Governance Structure

Governance has been defined by different scholars, depending on the context. For example, Rhodes (2007) indicated that governance included the need to counteract the centrifugal dynamics of interest division. Governance involves networking and assumes an accommodative orientation within such networks with a shared willingness to learn from each other. Governance in a cooperative is simply defined as involving decision-making processes and the capacity to implement decisions (Chibanda, Ortmann, and Lyne, 2009), which should represent the interests of the group of people.

Cooperatives, as member-owned business enterprises, have their own governance structures, which makes them different from corporate firms or investor-owned firm. They follow at least some of the principles listed by the ICA, as outlined in the first part of the section. 'The United States National Cooperative Business Association' (UN, 2009) also emphasized the unique characteristics of cooperatives, relative to other businesses, as being user-owned and user-controlled, where policy decision are made by the members, based on 'one member one vote', regardless of any member's investment in the cooperative. Collective decision- making follows democratic principles (such as following a majority decision, but ensuring that minority

preferences and opinions are respected) is one of the important governance issue within cooperatives (ICA, 1995). The principles adopted from the Rochdale pioneer cooperative movement are intended to represent the prudent business practices followed by cooperatives.

Governance of member organizations, such as cooperatives, can be very challenging, but it is also very important for the continuity of the cooperative. Cornforth (2004) examined the conflicting roles of board members, by using various theories: agency theory, stewardship theory, resource dependency theory and managerial hegemony theory. He argues that the governance of cooperatives is a complex, inherently difficult and problematic activity. The boards of cooperatives face conflicting roles in trying to control and provide direction to the running of their organization. An example of this contrast is the conformance role, as in agency theory, and the performance role, as in stewardship theory (Cornforth, 2004). These roles would involve the boards behaving in a different way. The conformance role requires the board to ensure that the organization acts in the interest of its members, but, in contrast, the performance role requires them to improve the organization's performance, through value adding to the organization's strategies and decisions (Cornforth, 2004). In addition, these conflicts can be worsened by other wider contextual factors, such as agricultural industrialization (Cook, 1995) and government policies.

The challenge within cooperatives, especially those developed with a traditional structure, which is still a common cooperative form in developing countries, is that they suffer from a number of disadvantages. The problems inherent in the traditional cooperatives includes free-riders, horizon, control and influence cost problems (Cook, 1995). These problems have given rise to doubt about the sustainability of these cooperatives.

The nature of cooperatives, as business enterprises, also requires a democratic process of governance. This requires the *active participation of the members in important decision making processes*. Empirical studies have shown how governance can positively, or negatively, affect the cooperative's success (Borgen, 2001; Osterberg & Nilsson, 2009), by affecting member participation and their commitment.

1. **Member Participation**: The activities that encompass member participation in a cooperative include attending meetings; serving on committees; involvement in recruiting others; and patronage (Osterberg and Nilsson, 2009). The participation of members in the governance of a cooperative is what differentiates cooperatives from other business organizations, such as investor owned firms (IOF). Participation would be an important indicator in developing farmers' understanding and appreciation of a cooperative's organization.

Several studies have revealed the effect of un-democratic processes on member participation. Osterberg and Nilsson (2009) found that there was significantly higher member disloyalty, when members were dissatisfied with their cooperative's management. Borgen (2001) reported that a member is seen to be more loyal to decisions in which s/he has participated actively, rather than decisions which were forced on him/her. Osterberg and Nilsson (2009) observed that members considered democratic control to be more crucial, and further argued that this indicates that members regard the cooperative as a social institution, as much as an economic one. This shows the importance of having a well-functioning democracy within cooperative governance. The more members participate in their cooperative, the more they will be committed to their cooperative.

2. Member Commitment: Members of cooperatives are also patrons, that is, they are suppliers or buyers: but at the same time they are owners of the organization. Their decisions to increase or reduce volumes (and even withdraw from the cooperative) have great implications on the cooperative's survival. Therefore, commitment of its members is very important for the successful performance of a cooperative. Fulton (2001) defined member commitment as "preference by members for something that is offered by the cooperative and not by other alternative organizations e.g. IOF". There are several factors that contribute to members' commitment, such as the benefits that members receive from the cooperative (Osterberg & Nilsson, 2009); participation in the governance of the cooperative; and the cooperative's ability to translate members' needs into decisions (Fulton & Giannakas, 2001).

The other challenge in cooperative governance is the heterogeneity amongst members, which would affect their decision making, since it would be more difficult for management to consolidate the diversity in the member's interest — for the benefit of all (Cook. 1995; Cook and Burress, 2009). This may bring in passivity of those who feel that their needs are not being addressed as argued by (Osterberg & Nilsson, 2009). A number of studies have pointed out that excessive heterogeneity of membership has contributed to a breakdown in cooperative action (Cook, 1995). Fulton (2001) noted that member commitment is linked to the cooperative's ability to develop a reputation, as an effective agent for the members. Members should be able to see the cooperative as addressing their needs. Fulton and Giannakas (2001) concluded that cooperatives must be increasingly aware of these feedback effects and manage them accordingly. The authors noted that the success of the cooperative, as being an effective agent for members, is likely to result in increased member commitment.

2.4.1.2 Leadership

Leaderships play an important role in influencing the direction of an organization. Leaders are meant to initiate, promote and defend the policies, by which the organization operates (Fulton, 2001). Leadership involves interpersonal relationships between the leader and the led and it aims to motivate a group of people, to act towards achieving a common goal (Banaszak & Beckrnann, 2006). In a cooperative, leadership involves a process of reaching consensus and then following through with the group's decision. Internal leadership is, therefore, crucial in the implementation of policies and activities, which continually enhance the operations of the cooperative. The cooperative, although being a democratic organization, may experience leadership problems, which can lead to organizational failure (Fulton, 2001). Fulton (2001) defined organizational failure as a time when the organization fails to adopt the most efficient policies for its members. Fulton (2001) stated that leadership problems occur when the cooperative fails to select the leader that has proposed the most efficient policy for the organization: and where efficiency is defined in terms of what is best for the members. This would lead to poor performance and the cooperative, in this case, is more likely to be 'pushed out' of the market, by other more efficient organizations or players. This would call for the election of visionary leaders and a transparent election process, without candidates getting votes by manipulation (Fulton, 2001).

Competent leadership will encourage members to make decisions, based on their values and it should be able to balance the internal and external tensions, in order to create enduring groups. This would also call for empowerment of the people, in order to maintain the transparency arid accountability of the leaders. Empowerment, according to Birchall (2004), is defined as "the expansion of assets and capabilities of poor people to participate in, negotiate with, influence, control, and hold accountable institutions that affect their lives".

Creation of strong groups can also be developed through the building of interpersonal relationships, as a source of strength (Bhuyan, 2007). However, members will participate if they are involved and motivated through efficient communication skills (Borgen, 2001). Competent leadership should be able to engage the group in an efficient *communication process* to ensure members expresses their views.

1. **Communication:** This involves the transmission of information through different means such is speech, writing or behaviour. An efficient communication process would encourage member participation and ensure the members are aware of what is going on in the cooperative and that they feel they are a part of the organization. Competent leadership would ensure an efficient transfer of information from the cooperative organization to its members: and vice versa. Borgen (2001) found that the more the farmers identified themselves with their cooperative, the more confidence they had in the management of their cooperative. An efficient communication process would also enhance leadership accountability, which is an important factor in the establishment of a strong and independent cooperative (Poulton, Kydd, & Dorward, 2006).

2.4.1.3 Managerial Skills

The other important factor identified in the literature as contributing to success or failure of cooperatives is the managerial skills of management. These include the hired staff as well as the board. There is growing evidence that the NGOs projects, which promote farmers' cooperation, do not always produce cooperatives which are viable. The underlying factor is that the level of organization and managerial capacity of these cooperatives do not match the skills of management required (Stringfellow, Coulter, Lucey, Mckone & Hussain, 1997). Cook (1995) identified the principal reason for the difficulties in managing agricultural cooperatives, as the challenge to bring into line conflicting membership interest, in addition to being responsive to

the market, which is unique characteristic of cooperative enterprise. He further suggested that this requires more organizational, communication, resource allocation and other leadership skills, than is required by lOFs in the same market.

Nyoro and Ngugi (2007) identified that successful cooperatives had staff and a management committee, with relatively higher qualifications than the unsuccessful cooperatives. Management with required skills will be able to strategize on business volume; type of product and product quality; and for competing with other players in the market

1. **Business Volume:** The motivation for a cooperative's type of business strategy is constructed, in order to attain large volumes of business and thereby reap economies of scale. This is because, as the volume increases, the cost of transaction per unit item is expected to decrease. The level of transaction can also be reduced, by increasing the frequency of the transaction and the more frequently the transaction takes place, the lower the fixed costs per unit Banaszak (2008). Banaszak (2008) indicated that this frequency can be increased by increasing its membership. The reduction in costs would consequently lead to increased amount of earnings available for distribution to its members, hence increasing their income. It is therefore essential for cooperatives to be handling sufficient business volumes in order to reduce costs and remain economically viable. Nyoro and Ngugi (2007) conducted a study on dairy and coffee cooperatives in the Central Province of Kenya and their qualitative analysis found that the cooperatives, which had more members and handled large volumes, were the more successful ones.

2. **Competitive Strategy:** The main incentive to form cooperatives has been to address market failure. However, as time passes, new players emerge which result in increased competition. The success of the cooperatives will eventually depend on their competitive strategies.

A strong business focus contributes to the sustainability of cooperatives (Stringfellow, *et al.*, 1997). This can be in the form of commercial relationships between cooperatives and formal markets; non-price factors, such as reputation: and commercial efficiency. Cooperatives that are involved in alliances with other cooperatives or firms have a higher chance of success. Several studies have suggested that alliances generate competitive advantage. Some of the factors that contribute to this competitive advantage include information sharing and the lowering of transaction costs, rather than competitor alliances due to effective governance mechanisms. The alliances would also depend on the cooperative's commitment to maintaining the alliance. Several studies have indicated the importance of trust and commitment in such relationships (Kwon & Suh, 2004).

Fulton (2001) explored joint ventures and strategic alliance agreements, in which local cooperatives in eastern Colorado were involved in using insights from the prisoners' dilemma' and 'assurance problem' models in game theory and they concluded that, whilst it is necessary to have control of the financial and operational components of the business agreements, "interpersonal dynamics are at least as important, and may be more important, than the operational logistics" (Fulton, 2001).

The other strategy a cooperative can use, to improve its returns, is through vertical or horizontal integration. Several studies in the literature point at the importance of vertical integration in strengthening cooperatives' market position, over purchasers and suppliers (Sexton & Iskow, 1988). They further argued that (by integration) cooperatives can enforce volume to a marketing stage, where significant economies of size exist and fix assets are a barrier to entry.

3. **Risk Management**: Agricultural production is prone to several risks, such as price volatility and natural disasters. Natural disasters include drought, floods and the outbreak of pests and diseases. Strategies to mitigate the risks associated with the production and marketing of agricultural produce will prevent cooperatives from sinking or losing a year's margin. (KA Zeuli, 1999) proposed three strategies, which cooperatives can use to mitigate price and through-put risks. *Firstly*, cooperatives can strive for larger, more diverse and geographically dispersed memberships. *Secondly*, they can diversify their product line in order to avoid relying on the supply and revenue of one raw product. *Lastly*, they can go into joint ventures and strategic alliances.

However, these strategies would have a cost attached to them and their importance will depend on whether the mitigation effects are valuable to the farmer members; and also the ease of implementation. Poulton, Kydd and Dorward (2006) argued that it is difficult for farmers, especially the poor, to pay for insurance, since their loans tend to be large, in relation to their income and assets and this may place them in a dire situation of needing to finance the loan, without any increased assets or income from the venture.

2.5.2 External Factors

The external factors, considered essential in the sustainability of cooperative, include assistance that act as motivation for farmers in a cooperative, government policies, regulatory frameworks and market factors. These factors can affect the competitiveness of cooperatives, especially in developing countries, where cooperatives are still underdeveloped.

2.5.2.1 External Assistance

Cooperatives in developing countries are comprised of resource poor farmers, which make external assistance necessary, especially in the formation process, for the group to achieve any economic gains. Hill, Nel and Illgner (2007), in a study on the impact of external support, identified that support had significantly improved the rural livelihood of the community and it had facilitated cooperatives' access to markets for their produce.

However, external interference in the organization's management can have a significant impact on the sustainability of a cooperative. Chambo (2009) argued that cooperative policy and legislation, in Africa, is not participative, since the state is generally the promoter of cooperatives. This situation results in a small amount of ownership, with minimal share contribution from members and it is seen as being state controlled. The author further argued that such type of cooperatives finds it difficult to be competitive and attract qualified management.

External assistance also can create a 'dependency syndrome' which can then affect the success and sustainability of the cooperative. Government or donor funding may compromise control, by the imposition of agendas and by politicization and this may lower commitment on the part of members (COPAC, 1995). Rankin and Russell (2005) argued that cooperatives are being pushed into different directions by interested stakeholder, including farmers, governments, business interests and various agencies. The author further argued that this may result in the interest of smallholders being lost in competitive rush-induced market activity. Studies have warned of cooperatives engaging in too many, or over-ambitious activities (Stringfellow, *et al*., 1997), which encourage them to scale-up too quickly, in addition to interference that interacts with them as development agents, rather than as private enterprises (Chirwa, *et al.*, 2005; Dorward, Kydd, & Poulton, 2008).

In addition, assistance may also contribute to free-rider and adverse selection problems as this may attract members that are after the benefit and not committed to cooperative success. (Chibanda, *et al*., 2009) observed that some farmers were forming cooperatives as a way of accessing government's grants other than forming a business organization.

2.5.2.2 Contextual Factors

1. Government Policies: In developing countries, most of the population is poor. In attempting to address consumer needs, governments may come up with policies that may harm cooperatives. A government's policy and intervention may affect the pricing of products, depress producer prices and which would have an adverse effect on food production. Such policies include price ceilings, pan-territorial or uniform pricing, pan-seasonal pricing, marketing margin controls, high import and export taxes and parastatal marketing monopolies (Meyer & Larson, 1997).

The implementation of a pricing policy, especially in developing countries, has been undertaken with a variety of contradictory motives aimed at protecting consumers (as well as producers) from price instabilities (Dorward, *et al*., 2008). The critics of government intervention in pricing argue that this may lead to a failure to realize the benefit of competition, by rewarding inefficient operations (Timmer, 1989). White (1985) claimed that uniform pricing for all economic regions would increase regional income differentials, by disadvantaging those areas with less favorable natural and infrastructural conditions and rewarding better endowed areas. Another point of criticism is that government failure to set efficient prices, due to a lack of adequate information, may negatively affect producers (Dorward, *et al*., 2008). Those who argue for the interventions are more interested in the effects of food security, nutrition and economic growth (Myers, 2006), which may be biased towards consumers, rather than producers.

2. Regulatory Framework: Which rarely enforce contracts or punish those who breach contracts, affects the farmers' cooperatives (Nyoro & Ngugi, 2007). This opens up to corrupt and manipulative behavior, and a weak regulatory environment also makes cooperatives vulnerable to exploitation by deceitful businessmen. Fafchamps (1996) identified that, due to weak formal contract enforcement mechanisms, there is a great deal of mistrust amongst the players. This increases the transaction costs, since business firms are tempted to screen every single firm or individual with whom they deal. Gabre-Madhin (2006) argued that information asymmetry and opportunistic behaviour, which act as determinants of transaction costs related to contract enforcements, lead to enforcement related costs. Fafchamps and Gabre-Madhin (2001) conducted extensive survey of traders in Malawi and Benin, found high incidences of contract non-performance, by up to 41% in Malawi. In addition, they also identified that the lack of a supportive regulatory framework and disabling policies are amongst the issues that affect the development of market institutions, such as cooperatives.

3. Marketing System and Infrastructure: The context in which a cooperative operates will have a greater impact on the participation of farmers within that cooperative. Evidence from the literature indicates that market failure contributed to the success of most agricultural cooperatives (Cook, 1995; Hansrnann, 1999). Cooperatives that operate under less competition are, therefore, more likely to succeed.

Whilst some form of market failure is a necessary condition for cooperative formation and success, the extent of that market failure can also be a hindrance to the cooperative's success. Depending on the type of market failure, especially in developing countries, the formation of a cooperative may not provide the solution on its own, without other interventions. A market

which is not transparent and without any price discovery mechanisms may be more complicated for a primary cooperative to pick up (Dorward, *et al.*, 2008).

Gabre-Madhin (2006) emphasized that 'getting the markets right' requires a plan, in which incentives, institutions and infrastructures, are aligned. Sexton (1986) identified several forces that shape agricultural markets, with financial crisis as the most significant. The other factors included price and income volatility, due to reduced government involvement, an increase in competition and fewer and larger marketing firm sectors. As a result of these external forces, cooperatives would have to evolve with changing times and environment as argued by Cook and Burress, (2009).

2.6 THEOROTICAL FRAMEWORK

2.6.1 Theory of Social Capital

1. Introduction

Regarding the dependence and possession of social capital, however, the agricultural cooperative is an organization having much more social capital than any other business organizations. By design the cooperative is a network organization. It is formed with the motivation of mutual benefit and the expectation of collective actions among members. Therefore, the agricultural cooperative is an organization that depends on social capital and consequently possesses an abundance of social capital.

2. Social Capital

In the traditional cooperatives, relationship between members and the cooperatives can be characterized by information asymmetry since members usually have small amount of equity investment and are not obliged to use any or all of the cooperatives' business. This information

asymmetry may give rise to members' opportunistic behaviors, increase the transaction cost and consequently harm the cooperatives' business Gabre-Madhin (2001).

In order for the cooperatives to overcome the information asymmetry and be effective in the business, there must be social capital to sustain members' reliable relationship. To use social capital explicitly reducing transaction cost as well as creating other values in the cooperative, measurement is prerequisite to manage it. To measure social capital in a consistent and coherent way across agricultural cooperatives, definitional issues are important.

Social capital is categorized into bonding and bridging. These distinctions not only help clarify the concept of social capital but also help suggest metrics for the measurement of social capital.

Bonding social capital describes the links between individuals or groups with similar goals within the network. It is a form of social capital that results in tightening the internal relationships, which reinforce identities and maintain homogeneity. Bridging social capital describes the capacity of individuals or groups to make links with others outside their organization, particularly across social networks. It is a form of social capital that results in connecting external resources horizontally and brings together less homogeneous people across diverse social divisions. Heterogeneity or diversity of network members is argued to enhance the bridging capabilities of social capital (Gittell and Vidal, 1998; Woolcock, 2001).

3. Why social capital matters in the agricultural cooperative?

Formal organizations are designed explicitly to bring members together to undertake a primary task, to coordinate resources and to supervise activities. By design, they rely on social capital as well as generate it. The agricultural cooperative system is designed to be the network structure.

Member farmers running their farms independently for their own benefits are banded together voluntarily as one entity, a cooperative for their mutual benefits, participating in cooperative

business as customers and owners and acting collectively. In doing so, they make commitments to marketing their products and purchasing their raw materials through their cooperative.

These commitments are based on the expectation that they can take advantage of collective actions, in which other members also are expected to participate. Without trust and reciprocity among members, these commitments are futile. The cooperative spirit is widely accepted as the main force of the cooperative. This can be interpreted as cooperative's social capital. The strength of a cooperative lies in its ability to cultivate a feeling of trust and confidence among its members and in a strong commitment.

To examine how social capital works latently in the agricultural cooperatives, the cooperatives' success factors are explored by the roles of social capital with the view of Sexton and Iskow (2005).

First, Social capital can help enable and sustain collective action among potential members and community to establish an agricultural cooperative. However, the incentives to join the agricultural cooperative are farmers' economic needs and expectation in terms of improving their economic situation Collective action can represent a form of integration for members' businesses, especially important where market failure is occurring and to reduce transaction costs. By exploiting market failure a successful cooperative can provide its members with appropriate profit. In other viewpoints, social capital enhances the flow of information inside the agricultural cooperative and help cooperative's decision-making with members' voting by efficient collective actions.

Second, Financial keys to success. Agricultural cooperatives with some minimal level of social capital can reduce the occurrence of free-riding problems, although they cannot be completely eliminated. To maintain enough capital, Cooperatives charge 'per-unit capital retain' by the

value or quantity of products marketed and redeem the capital after the specific period. The per-unit retains and the redeeming periods are important, not only for the capital structure of the cooperative but also for member relations. If members trust and are loyal to a cooperative, they will agree to set aside as much retain as they can afford and the term of redemption will be longer.

To make up for the shortage of the financial resource, it is inevitable to raise more capital through debt finance. However, they are not well introduced into the financial markets and their real value, the power of collective actions, are not well presented either. Like access to the available work positions, social capital can be helpful in finding financial sources. Social capital available to the agricultural cooperative can affect the decision making of the financial organization in terms and amount of loan (Portes and Sensenbrenner, 1993).

Last, Operational keys to success. It is critical to set price optimally to balance the members' profit and the cooperative's operation in long-term perspective. If the members who market their products through a cooperative cannot trust the price received, it is not possible to maintain collective marketing. Especially in bad times, members hurt economically and might estrange themselves from the cooperative. Members' trust in management can help unite members and overcome these short-term trials. Social capital is the resource to facilitate long-term perspective in agricultural cooperatives.

Traditionally cooperatives act as a home for members' production. However, cooperatives actively control members' output to gain bargaining power in the market. Without this policy, it is not easy for cooperatives just to rely on market situations and consequent economic gains which cannot be guaranteed. To lead members and to make them follow output control policy; cooperatives should acquire and keep loyalty and trust from members. In the quality control,

social capital can help improve the quality of the product by encouraging member to disseminate the information on farming technologies, enhancing the trust on the decision of the product quality. This is one of the organizational advantages of cooperatives with the superior communication and information flow.

If agricultural cooperatives have an adequate amount of social capital, it can be presumed that collective actions are made easily and businesses are operated harmoniously in and out of the organization. Then it is possible to predict the success of agricultural cooperatives. It is reasonable to assume that organizations with relatively high social capital will be more effective and efficient than those with low social capital (Gilson, 2003).

4. Measuring Social Capital in the Agricultural Cooperatives

Despite differences in culture, ethnicity and nationality agricultural cooperatives around the world are organized and operated based on the same Cooperative Principles. The Principles govern behavior in business and cooperative life. The activities of agricultural cooperatives worldwide are centered on supporting member farmers businesses. Therefore, member farmers and other constituents of the agricultural cooperatives have "cooperative culture," a system of common values and procedures. These shared values and procedures allow for a standard system of measurement to be more easily constructed in agricultural societies as opposed to industrial societies. For simplicity and consistency, the following criteria are used to measure social capital:

•where is social capital?

•what types of social capital should be measured?, and

•how far the relationship extends?

Krishna and Uphoff (1999) argue that a valid and accurate tool for measuring social capital must consider both its structural and cognitive dimensions while other argued that social capital can be assessed only with network density or purely with measure of trust and other cognitive proxies. Grootaert's concept captured the structural and cognitive dimensions as well as collective actions of social capital. Krishna and Uphoff (1999) assess the collective actions aspect as the benefits flowing from social capital.

5. Concluding Remarks

It is generally accepted that social capital can contribute to the economic performance and growth. As they are an efficient factor in business activities and a critical source for the success of the cooperatives, management should focus on developing and maintaining social capital.

Social capital can be a good barometer to evaluate the unrealized long-term performance. It helps transition from the short-term goals of the cooperative business of the cooperation to pursue the longer-term goals of trust and reciprocity among cooperative players. Although management can produce favorable results in business, it is almost impossible to sustain the success without participating of members in the cooperative business.

Social capital can be used not only to enhance members' collective actions, but also to compensate for shortages of equity. Additionally, social capital serves to signal the success of the cooperative as a leading indicator or an evaluation criterion for business projects.

2.7 REVIEW OF EMPIRICAL STUDIES

Several researches/ studies have conducted within and outside Nigeria to identify the roles of Farmer Cooperative Societies (FCSs) and possible factors effecting sustainability of FCSs. The researcher reviewed some of these studies as they relate to the study.

Sexton and Iskow (1988) identified three critical key factors necessary for sustainability of Farmer Cooperatives, as organizational, financial and operational. The author, after surveying 61 USA agricultural cooperatives, identified factors, such as open membership, accepting non-member business and employing full time management, correlated with self-understood success. Banaszak (2008), for instance, conducted an empirical survey with 62 Polish farmer cooperative organizations, whose main aim was to organize joint sales of output produced individually by their members. The authors identified four factors that contributed to cooperatives success as leadership strength; group size; business relationship amongst members and a member selection process during the group's formation. Financial performance, such as net margins, member commodity prices, returns on equity and sales growth factors reported (Cook & Burress, 2009).

Empirical research has found strong evidence that market orientation is the key to a firm's long-term competitive position (Kyriakopoulos, Meulenberg, & Nilsson, 2004). This would also apply to a cooperative, as a business enterprise. Narver and Slater (1990) argued that being market orientated involves being competitor orientated; customer oriented; and having inter-functional coordination efforts. A cooperative's success and sustainability will be influenced by its ability to acquire information about its competitors and customers in the target market, apart from its internal coordination functions (Kyriakopoulos, *et al.*, 2004).

From the review of a broad range of literature, Agnes (2011) proposed that factors for a cooperative's success or failure would be in four categories: market environment factors; incentives; managerial skills; and governance issues.

In their findings Agnes and Daniel (2011) in a study Unsustainable cooperative conducted in Malawi identified that, the factors that have contributed to the lack of sustainability of the

cooperatives can be classified in four major categories which are: complexity of the market environment, incentives for starting a cooperative, managerial skills, and governance.

In a study titled factors for successful development of farmer cooperatives in northwest China, Elena, Guozhong and Nicol, (2011), revealed a successful farmer cooperative as follows: society that runs regular all-member meetings by following a democratic control principle; its members are able to regularly access the cooperative's financial reports and there are bye-laws in place to guide the management in the areas of marketing, financial management and staff management; it provides a standard service for all its members and demonstrates stable relationships with its members; it offers technical training and it guides the process of production and marketing; it implements a united production system and products are marketed together; the total service and annual business income of the cooperative should be more than one million yuan; it has a close business relationship with local farmers (non-cooperative members) and plays a leading role in the improvement of the local agriculture industry.

In related studies conducted in Nigeria. Chukwu (1990) on the factors affecting the performance of cooperative societies in Kaduna state of Nigeria revealed that the major factors affecting the performance of cooperatives in the state is inability of cooperative federation to carry out their essential roles as the obvious lapses in cooperative movement in the state as majority of the primary cooperatives are just clutching to life (Yahaya, 2001).

CHAPTER THREE

3.0 METHODOLOGY

3.1 DESCRIPTION OF THE STUDY AREA

The study was conducted in Kano State. Kano State was created in 1967 situated in the Sudan Savannah agro-ecological zone of Nigeria. It lies between Latitude 11°30"N and Longitudes 8°30"E and has a total land area of about 20, 131Km^2, with arable land of about 90% (Sani & Sulaiman, 2010). There are two distinct seasons: wet season (May – September) with an average rainfall ranging from 600mm - 1000mm annually and dry season period (October - April) and the maximum temperature ranges from 21°C – 39°C (KNSG, 2009). The state is one of the most populous in Nigeria and had a population of about 9,383,682 people (NPC, 2006) and its population growth rate is estimated at 3.5% per annum. Based on this, estimate of the state population stands at 12,356,571 (GEMS3, 2013). Kano State has 44 Local Government Areas (LGAs) which are classified into three administrative zones by Kano State Agricultural and Rural Development Authority (KNARDA, 1995);

Zone I Rano: comprises of 14 LGAs which are Rano, Tudunwada, Doguwa, Bebeji, Kiru, GarunMallam, Kura, Kumbotso, Madobi, Gwarzo, Karaye, Rogo, Kibiya and Bunkure.

Zone II Danbatta: with 13 LGAs include; Danbatta, Bchi, Bagwai, Shanono, Tsanyawa, Kunchi, Kabo, RiminGado, Tofa, DawakinTofa, Makoda, Minjibir, and Ungogo.

Zone III Gaya: with 17 LGAs include**;** Gaya, Ajingi,Wudil, Albasu, Garko, Takai, Sumaila, Dawakin Kudu, Warawa, Gezawa, Gabasawa, Kano Municipal, Gwale, Tarauni, Dala, Fagge, and Nassarawa.

The people of Kano state engage in agriculture as means of sustenance and commercial purposes. However, they also engage in other economic activities such as civil service, petty

trading, carpentry, auto mobile works and other vocational business activities. Availability of many earth dams in the state makes it possible for irrigation farming and perhaps all year round farming activities.

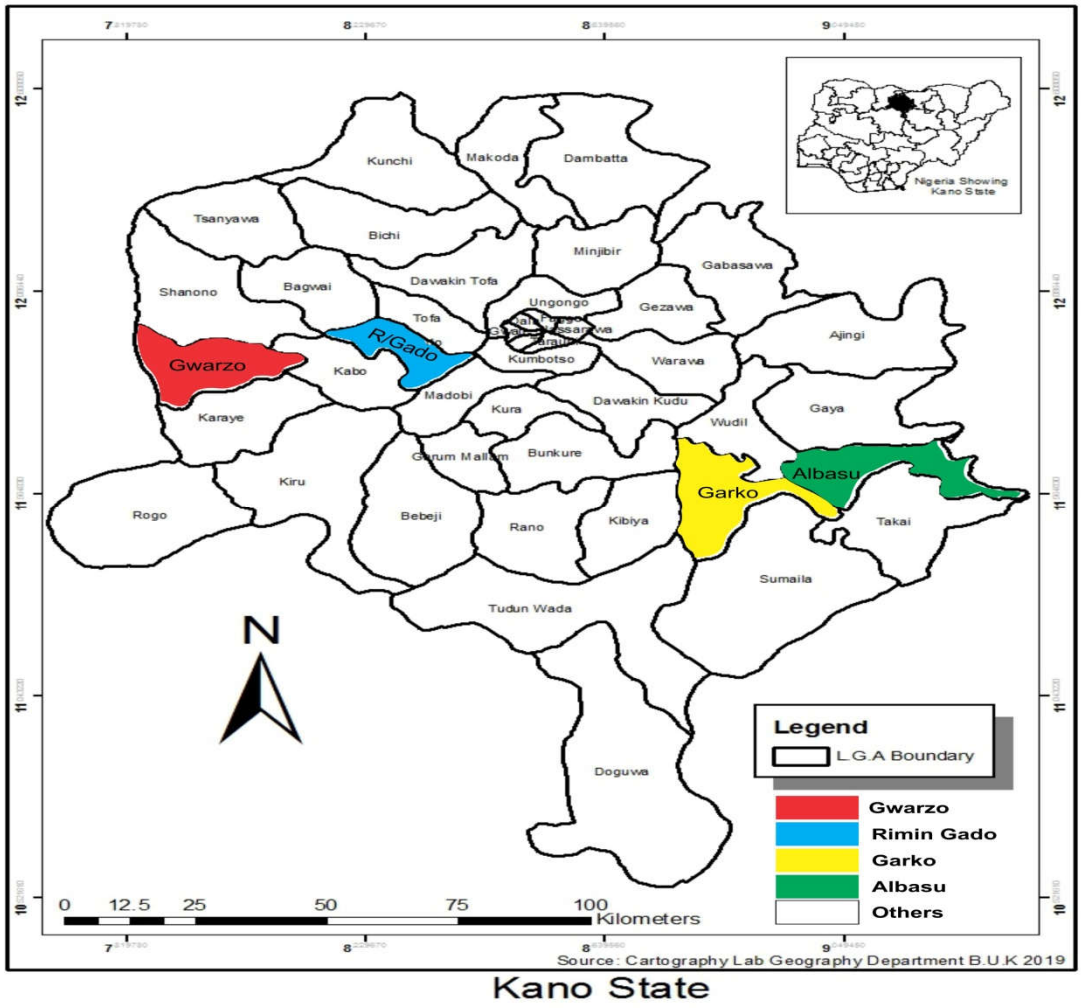

Figure 3.1: Map of Kano State showing the study area

Cooperative Movement in Kano State operates on three structures: Primary societies formed at the village/ local level affiliated to secondary society and secondary societies are formed at Local Government level affiliated to tertiary society and tertiary societies formed at the State level. As at 2007 there were over seven thousand (7000) registered primary societies, forty four (44) secondary societies and two (2) tertiary societies in the State, the two tertiary societies are Kano

Cooperative Federation limited (KCF) and Kano Cooperative Financing Agency limited (KCFA) (Yahaya, 2012) and now there are over forty four thousand four hundred (44,400) registered cooperative societies and 70% of them are agricultural cooperative types that perform single or multi-purpose functions in production, processing, marketing, distribution, and financing of agricultural products. But predominantly are farmers' multi-purpose cooperative societies. Other types of the registered cooperative societies in the state are marketers, consumers, saving, thrift and credit/ loan societies among others (Cooperative Department, 2016).

3.2 SAMPLING PROCEDURE AND SAMPLE SIZE

A multi stage sampling procedure was used to select the representative members of FCSs for this study. Since the State is classified into 3ADP administrative zones by KNARDA. The first stage involved a random selection of 10% of Local Government Areas (LGAs) from each zone which give a total of 4 LGAs using random table method. Gwarzo, Rimingado, Albasu, Garko, were selected. The second stage involved a random selection of 20% of wards from each of the 4 selected LGAs which give a total of 8 wards. The third stage involved a purposive selection of 30% of FCSs from each selected wards based on the high concentration of most functioning societies in the area while the final stage involved the selection of 25% members from each society comprising at least one leader (Chairman, Secretary or Treasurer) were randomly selected from the list of each society using random table to give a total of 181 members of FCSs constitute the sample size for study.

Table 1: Summary of the sample frame and sample size

Zones	10% of LGAs	20% of Wards Selected	Reg. FCSs	30% of FCSs	Estimated members population	25% members of FCSs
Rano I	Gwarzo	Madadi	17	5	99	25
(14 LGAs)	(10 wards)	Mainika	14	4	81	20
Danbatta II	Rimingado	Zangon Dan				
(13 LGAs)	(10 wards)	Audu	15	5	97	24
		Butubutu	13	4	80	20
Gaya III	Garko	Kafin malamai	14	4	84	21
(17 LGAs)	(10 wards)	Sarina	17	5	101	25
	Albasu	Fanda	15	5	103	26
	(10 wards)	Faragai	13	4	80	20
Total			**118**	**36**	**725**	**181**

Source: Preliminary Survey, 2017

3.3 METHOD OF DATA COLLECTION

Primary data was used for the study. Primary data were collected from members of registered FCSs through the use of questionnaire with the help of trained enumerators. Data collected include the socio-economic characteristics of the members including Gender, Age, Marital status, Educational level, Occupation, Household size, Farm size, Years of FCS experience, FCS membership, FCSs leadership, Leaders selection process, etc., the effectiveness of FCSs, linkages of FCSs with Government and other organizations, level of sustainability of FCSs, factors responsible for FCSs sustainability, and the constraints associated with sustaining FCSs.

3.4 ANALYTICAL TECHNIQUES

Statistical package for social scientist (SPSS) was used to analyze the data. Both descriptive and inferential statistics were used in the analysis. Descriptive (frequency, percentages, minimum, maximum, mean and standard deviation) were used to achieve objectives 1 and 6, and part of objective 2,3 and 4; Social Network Analysis (SNA) was used to achieve objective 3; Sustainability Indicators were used to achieve objective 4 while Exploratory Factor Analysis was

used to achieve objective 5. The depended variable in this study is Sustainability of FCSs.

3.4.1. Descriptive statistics

1. To achieve objective 2 (the effectiveness of FCSs in improving the livelihoods of the members) Mean Score was used. The average scores of individual respondents to particular question (roles of fCSs) on five point Likert scale of Highly Effective =5, Effective =4, Undecided =3, Ineffective =2 and Highly Ineffective =1were determined.

2. Sustainability Indicator (SI)

SI was used to achieve Obj. 4 (Sustainability Level of FCSs). FAO reported that experience has shown that building a network of sustainable self-help groups is not an easy task usually takes time. However, it is vital that to recognize when groups have reached a point of sustainability through the numbers of indicator to measures their progress include:

-Regularity of group meeting & high level of member attendance,

-Shared leadership & member participation,

-Continuous growth of group saving,

-High rates of loans/ credit repayment,

-Capacitating in group problems-solving,

-Effective links with development services, and

-Income generation activities (enterprises) (FAO, 2000).

The average scores of the members respondents to particular questions on sustainability index/ indicators using five point Likert scale (strongly agree 5 –strongly disagree 1) were used to achieved objective (4); the level of sustainability of FCSs in the area.

3.5.2. Social Network Analysis (SNA)

SNA was used to achieve objective 5 (Linkages of FCSs with government). The SNA is a research technique that focuses on identifying and comparing the relationships within and between individuals, groups and systems in order to model the real world interactions at the heart of organizational knowledge and learning processes. Essentially, SNA aims at illuminating informal relationships: 'who knows whom' and 'who shares with whom'. This allows leaders to visualize and understand the diverse relationships that either facilitate or impede knowledge sharing.

The process involves;

Collecting information about relationships within a defined network of member of FCSs;

– Identifying the target members of FCS network (e.g. FCS, team, group, ADP, department etc.)

– Collecting data by interviewing leaders and members regarding specific needs and problems.

– Outlining and clarifying objectives and the scope of analysis.

– Determining the level of reporting required.

– Formulating hypotheses and questions.

– Developing a survey methodology and the questionnaire.

– Interviewing individuals in the network to identify relationships and knowledge flows.

- Mapping out the network visually: mapping responses either manually or by using a software tool designed for the purpose.
- Generating a baseline through the analysis of data from the survey responses.

- Using this baseline for planning and prioritizing changes and interventions to improve social connections and knowledge flows within the group or network.

– Designing and implementing actions to bring about desired changes.

– Mapping the network again after an appropriate period of time (EC-FAO, 2006).

3.5.3. Exploratory Factor Analysis (EFA)

EFA was used to achieve objective (5) In order to determine the perception of members on possible factors influencing the sustainability of FCSs in the study area EFA was used.

In the first step, an extensive literature review was conducted to identify relevant constructs. On the basis of previous studies, a pool of items was generated. For the purpose of this study, 14 items (Sustainability index) were taken for further analysis and the followings constitute the reason for employing EFA according to Pallant (2007):

i. to determine the underlying factors;
ii. to establish construct validity; and
iii. to reduce the number of items of the questionnaire.

Construct Validity Indicators are:

i. Communalities – for each individual item
ii. Eigen value.
iii. Anti-Image Matrix.
iv. Rotated Component Matrix (Factor loading)
v. Keiser Meyer Olkin (KMO) - For all variables
vi. Bartlett's test of Sphericity- For all variables
vii. Variance explained- For constructs

Table 2: Validity Indicators of the possible factors influencing sustainability

SN	Sustainability Index	Communalities	Eigen value	Anti-Image Matrix	Factor loading
1	Inputs & training support given to farmer	✓	✓	✓	✓
2	Start up incentives	✓	✓	✓	✓
3	Promoting technical skills &knowledge to member	✓	✓	✓	✓
4	Market information given to farmer	✓	✓	✓	✓
5	FCSs integration& affiliation with other groups	✓	✓	✓	✓
6	FCSs connecting members with other farmers & development agencies	✓	✓	✓	✓
7	Hire qualified secretary	✓	✓	✓	✓
8	Member selection process	✓	✓	✓	✓
9	well-defined income generation activities/ diversification	✓	✓	✓	✓
10	High degree of solidarity& participation among the members	✓	✓	✓	✓
11	Financial self-sufficiency & autonomy	✓	✓	✓	✓
12	High percentage of literate members	✓	✓	✓	✓
13	Democratic leadership change/ dynamism	✓	✓	✓	✓
14	Government policy& regulatory framework	✓	✓	✓	✓

KMO_____
Bartlett's test of Sphericity_____
Variance explained_____

Source: Pallant (2007).

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 SOCIO-ECONOMIC CHARACTERISTICS OF THE MEMBERS OF FARMER COOPERATIVE SOCIETIES (FCSS)

This section describes the socio-economic characteristics of the respondents that usually assist in getting a clear understanding of their behavior as well as providing a hint towards explaining their disposition that could improve their productivity (Ayinde, *et al.,* 2007). The socio-economic variables identified for this study include; gender, age, marital status, educational level, occupation, household size, farm size, FCS initiator, years of FCS experience, FCS membership, FCSs leadership, leaders selection process, leadership changes. These socio-economic characteristics are presented in table 3and 4.

Table 3: Socio-economic characteristics of the members

Variable	Frequency	Percentage	Min	Max	Mean
Age of the member (years)					
20-30	4	2.2	20	75	44
31-45	84	46.2			
46-59	77	42.3			
60-75	16	8.8			
Household Size (No.)					
2 -5	29	15.9	2	27	12
6-10	46	25.3			
11-15	60	33.0			
16-20	34	18.7			
21-27	12	6.6			
Farm Size (Ha)					
0.5- 1.9	111	61.0	0.5	6	2.5
2- 4.9	57	31.3			
5- 6	13	7.1			
Year for joining FCSs					
2 -5	26	14.3	2	15	9
6-10	68	37.4			
11-15	87	47.8			

Source: Field Survey, 2017

4.1.1 Age Distribution among the Members of FCSs

The result from Table 3 revealed that almost half (46%) of the members were within the age bracket of 31–45 years. The average age of members was found to be 44years with a minimum of 20 and maximum of 75 years. This implies that most of the members fall within their active age which may lead to FCSs sustainability and increasing their productivity; and may likely be related to cooperative membership condition of at least 16 years of age as bench mark (Nigerian Cooperative Society Decree, NCSD, 1993). This finding is closely related with findings of Ibitoye (2012) who reported that majority (77%) of FCSs members in Kogi State were within the age bracket of 25 – 50 years.

4.1.2 Household Size Distribution among the Members

The result from Table 3 revealed that the average household size in the study area was 12 persons with a minimum of 2 and maximum of 27 persons per household which was far above the national average (5/7 persons per household). This implies that family size constitute a major source of labour and information sources. This result agrees with the findings of Kurimoto (2002) who recorded a similar trend in his work for mortem region and very high when compared with the findings of Ibitoye (2012) who reported the household mean of 6 persons in Kogi State.

4.1.3 Farm Size of the Members

The results from the Table 3 indicated that majority (61%) of members cultivated less than 2 hectares of farm land. The average farm size was found to be 2.5 hectares with a minimum of 0.5 and maximum of 6 hectares. This implies that most of the farmers in the study area were subsistence farmers that find it difficult to practice commercialization and large scale production. This is closely in line with the findings of Ibitoye (2012) who reported that about 47% members operated in less than 3 hectares of farmland in Kogi State.

4.1.4 Years of Membership Experience

Table 3 indicated that almost half (47.8%) of the members join/ forms their FCS ranged from 11–15 years. The average years of membership experience was found to be 9 years with minimum of 2 and maximum of 15 years. The large number of membership for the past 11–15 years may be due to the State government decision to provide loans (animal traction, water and subsidize agricultural inputs) to farmers through cooperative societies and other intervention programs. This finding agrees with Ibitoye (2012) who reported that the average years of farmers cooperative experience in Kogi State was 9 years. Continuer

Table 4: Socio-economic characteristics of the members (*Cont.*)

Variable	Frequency	Percentage
Sex of the Member:		
Male	161	88.5
Female	20	11.0
Marital status:		
Married	168	92.3
Widow	13	7.1
Educational Level:		
never been to school	1	0.5
Primary	35	19.2
Secondary	27	14.8
Tertiary	8	4.4
adult education	27	14.8
Qur'anic	83	45.6
Primary Occupation of the respondents:		
Trading	8	4.4
Farming	148	81.3
Artisan	14	7.7
Civil servant	10	5.5
Others	1	.5
FCSs group Promoter/ Initiator:		
Member	16	8.8
Govt. extension agent	161	88.5
Community leader	4	2.2
Composition of FCSs membership:		
Male only	146	80.2
Female only	15	8.2
Mixed members	20	11.0
Selection Process of the Leaders:		
Election	54	29.7
Nomination	122	67.0
Care takers	5	2.7
Change of Leadership:		
Change	53	29.1
Not change	128	70.3

Source: Field Survey, 2017

4.1.5 Sex of the Members

The results from Table 4 revealed that most (89%) of the members were males while 11% were females. This indicated males dominated group activities than their female counterparts. The dominance of males can be attributed to the norms and cultural orientation in relation to sex differences particularly in respect to roles and responsibilities. This agrees with the findings of Bulama (2011) who reported majority (75%) of the farmer-members in Jigawa State were males.

4.1.6 Marital Status of the Members

It can be seen in Table 4 that majority (93%) of the respondents were married; while 7% of the respondents were widows. The result further shows that the members in the study area have high responsibilities and expectations in meeting up with the family demand. This finding is similar with that of Ibrahim (2016) who reported that 98% of the farmers in most households in Nigeria were married. This also agreed with United Nations (UN) (2009) findings which reported that, different ethno- religious groups continue to attach prestige to marriage as an indicator to social responsibility, trust and achievement.

4.1.7 Educational Level of Members

Table 4 indicated that more than half (54%) of the members in the study area had one form of formal education or another at different levels; while 46% of the members went through Qur'anic education (informal). Education improves awareness of problems and benefits of taking an action. This justifies that substantial members were literate they could easily be guided and assisted toward achieving their goals which may positively influence sustainability. This finding is similar with that of Aminu (2016) who found that in Kano State about 54% of the farmers have attended western education at different levels.

4.1.8 Primary Occupation of the Members

Table 4 revealed that, majority (81%) of the members was mainly involved in farming as their primary occupation. This could be due to the fact that FCS membership is eligible for farmers only and this implies that, members with similar occupation are more likely to trust each other and accept joint liability for their group activity. This finding is in line with the findings of Kurimoto (2002) who said that majority of rural members are predominantly farmers.

4.1.9 Farmer Cooperatives Groups Promoter/ Initiator

Table 4 further revealed that most (89%) of FCSs have being influenced their formation by extension agents. The finding also in line with FAO (2000) on Group promoter resource book which reported that, in developing countries it is difficult for cooperative to emerge without a promoter (i.e. extension agent) and such promoter can be a government or non-government official. Anoh (2007) indicated that, Cooperatives create more impact when the initiator of its formation comes from the members themselves rather than from the government or outsider.

4.1.10 Composition of FCSs Membership

Table 4 also indicated that majority (80.2%) of FCSs were formed by male members; 8.2% of FCSs were formed by female members; while 11% of FCSs comprised both male and female as members of the group. FAO (2000) reported that, men generally dominated groups in rural Africa, because women are generally more home-bound than men. The implication is that in the mixed groups because women participation in groups with men members around them can be difficult and men generally dominate such groups.

4.1.11 Selection Process of Leaders

The results from Table 4 shows that most (67%) of FCSs have selected their leaders by nomination; 30% of FCSs have elected leaders while 3% of FCSs have care takers. Onuoha (2007) stated that cooperative is a school of leadership so that their affairs should be managed and controlled by elected members. This result is in consistent with the findings by Bulama (2011) who reported a similar report of cooperative leader selection process (by nomination) in Jigawa State.

4.1.12 Changes of FCSs Leaders

The results from Table 4 revealed that majority (70.3%) of FCSs have never changed their leaders while 29.1% of FCSs have changed their leaders. FAO (2000) reported that, changing leaders frequently can be unsettling and make long-term planning difficult. On the other hand, rotating leadership more frequently within the group provides all members with the chance to develop organizational and leadership skills. So a balance approach is needed to ensure sustainability.

4.2 EFFECTIVENESS OF FCSs IN IMPROVING THE LIVELIHOOD OF MEMBERS

The livelihood of farmers largely depends on agriculture and allied activities. The agriculture depends on inputs, credits, extension services, market information, decision making process, innovation, problems solving skills, linkages with others, better price, knowledge based, savings, storage facilities. In view of this members were asked to evaluate the degree of their society success against the mentioned activities and their "satisfaction". The results obtained are presented in Table 5:

Table 5: Effectiveness of FCSs in Improving the Livelihood of Members

SN	Item Statement (Roles)	HI	I	U	E	HE	M	SD	Rank
1	FCS activities to provide easy access to agricultural loan/ credit to members	2 (1%)	40 (22%)	43 (24%)	94 (52%)	2 (1%)	3.30	.862	11
2	FCS activities to provide access to subsidize agricultural inputs	3 (2%)	5 (3%)	10 (6%)	159 (87%)	4 (2%)	3.86	.565	3
3	Activities to provide access to extension services	-	1 (.5%)	7 (4%)	151 (83%)	22 (12%)	4.07	.422	1
4	Activities to provide market information	2 (1%)	62 (34%)	80 (44%)	37 (20%)	-	2.92	.728	12
5	Carry all member in decision making	-	7 (4%)	64 (19%)	82 (75%)	28 (2%)	3.76	.554	4
6	Activities to equip member with new agricultural innovation	-	2 (1%)	14 (8%)	159 (87%)	6 (3%)	3.93	.389	2
7	Activities to help member learn problems solving skills	-	15 (8%)	58 (32%)	108 (59%)	-	3.51	.646	8
8	Activities to provide linkage with other groups and development agencies	-	27 (15%)	46 (25%)	108 (59%)	-	3.45	.741	10
9	Activities to help members have more income & better price	3 (2%)	11 (6%)	34 (19%)	132 (73%)	1 (.5%)	3.65	.681	6
10	Activities to enlightening & educating member	-	8 (4%)	35 (19%)	137 (75%)	1 (.5%)	3.72	.549	5
11	Expose members to saving habit	-	19 (10%)	59 (32%)	103 (57%)	-	3.46	.679	9
12	Activities to provide community project	-	18 (10%)	42 (23%)	114 (63%)	7 (4%)	3.61	.719	7
13	Activities to provide storage facilities	1 (.5%)	70 (39%)	78 (43%)	32 (18%)	-	2.78	.735	13

Source: Field survey, 2017

Key: HI= Highly Ineffective; I= Ineffective; U= Undecided; E= Effective; HE= Highly Effective.

The scores in respect of the effectiveness roles/ activities of FCSs in improving the livelihood of their members in study areas were presented in Table 4. There was a divergent opinion expressed by sampled members.

As shown in Table 5 the mean and standard of the responses were computed and ranked according to the degree of the most effective roles of FCSs. Indeed, the table revealed that, 'FCS activities to provide easy access to extension services' (M=4.07; SD =.422) was ranked first; followed by "equip members with new agricultural innovation" (M =3.93; SD =.389); the third was 'FCSs activities provide members access to subsidize agricultural inputs' (M =3.86; SD =.565) were also effective; other roles identified as effective by members were: including members in decision making (M =3.76; SD =.554); 'enlighten & educating members' (M =3.72; SD =.549); 'help members have more income and better price'(M =3.65; SD =.381); community project (M= 3.61; SD = .719); members learn problems solving skills (M= 3.51, SD= .646); expose members to saving habit (M= 3.46; SD= .679); linkages with other groups and development agencies (M= 3.45; SD= .741); lastly, 'access to agricultural credit to members' (M =3.30; SD =.862) while FCSs activities to provide market information (M= 2.92; SD= .728) and provision of storage facilities (M= 2.78; SD= .735) were found to be ineffective since they were below the mean value. The results obtained justified the potency of using FCSs in providing agricultural services and new innovation to members with highest mean of 4.07 and 3.93 respectively above average mean of 3.17 which may likely increase their productivity and income for better livelihood while the implication of these findings is that FCSs roles in the study area did not cover the post-harvest activities such as; provision of market information and storage facilities which may likely affect the sustainability of FCSs.

4.3 FARMER COOPERATIVES SOCIAL NETWORK/ LINKAGES WITH OTHER

The chart in Figure 4:1 shows intensity of relationship members of FCSs have with Government and other organization to share information and knowledge in order to conduct agricultural

activities. The arrow in the chart indicating who initiates the contact and feedback most of the time between them in terms of Strong (S), Moderate (M) and Weak (W) links of relation.

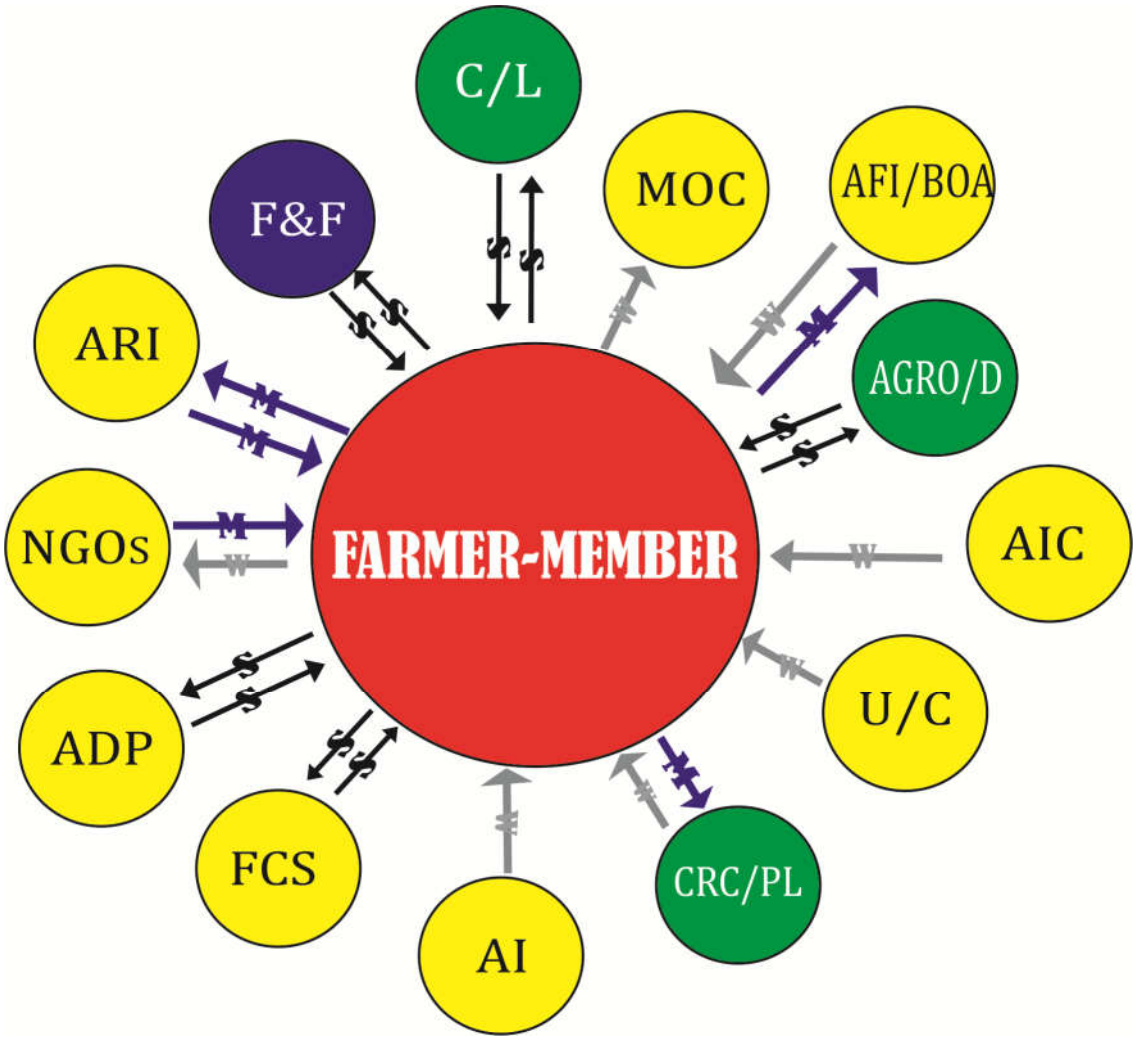

Figure 4.1: Farmer-Members Social Network Mapping
Scales: Weak (1-33%); Moderate (34-66%) and Strong linkage (67-100%).

Source: Field survey, 2017

Key: C.L= Community Leaders; F & F= Family and Friends; ARI= Agricultural Research Institute, ADP= Agricultural Development Program; FCS= Farmers' Cooperative Society; AI= Agricultural Industries; CRC/PL = Community Re-Orientation Center/ Political Leaders; U/C= Universities and Colleges; AIC = Agricultural Insurance Company; AGRO/D= Agro Dealers; AFI/BOA= Agricultural Financing Agency/Bank of Agric; MOC= Ministry of Commerce.

Figure 4:1 Present social network mapping and the results visualized Strong (S) links of relationship made in order to conduct agricultural production activities between farmer-members with such actors that include; community leaders, family and friends, ADP, FCSs, and Agro dealers which visualized two way communication and interaction in terms of contact initiation among them.

However, Moderate (M) links of relationship was visualized between farmer-members with ARIs. Meanwhile, one way of communication and Weak (W) links of relationship was visualized between farmer-members with Agricultural Industry, University/ Colleges, AIC and MOC. This implies that there is sense of isolation in terms of contact initiation between them.

Finally, dual links of relationship was visualized in terms of contact initiation between farmer-members with NGOs, CRC/ Pol L and AFI/ BOA. This implies in balance of communication between them.

This finding disagrees with Ani (2007) and Danguguwa (2018) who reported weak linkages in agricultural contact between farmers and ADP in Kano state. This is probably due to the fact that ADP preferred to work with farmer-members than individual farmers. This in line with FAO (2000) reported that, self sufficiency (sustainability) of FCSs is largely depends on its ability to maintain links with government and other development services. Linkages also can protect individual groups against political or economic difficulties which may likely ensure sustainability.

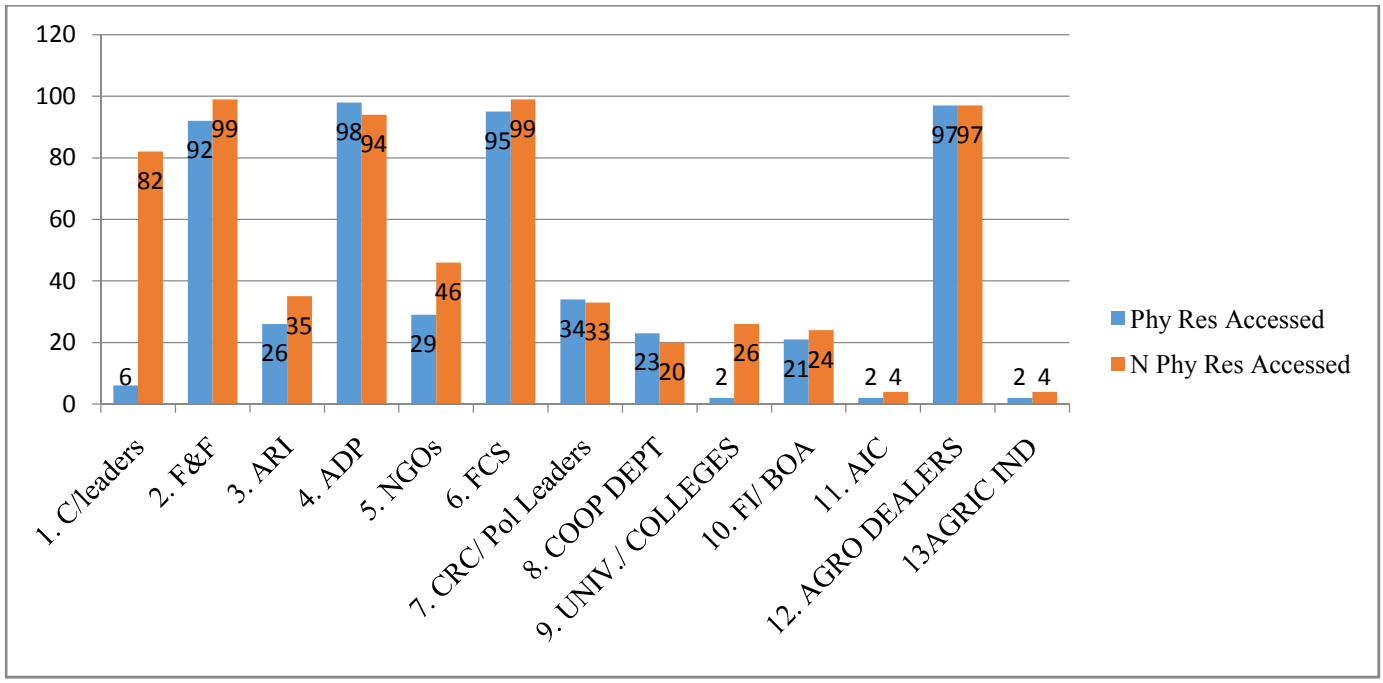

Figure 4.2 showing the extent to which linkages enables member's access to agric resources. Sources: fieldwork data, 2017

The results from Figure 4.2, demonstrates a percentages of resources accessed by members through interaction with other actors in order to conduct agricultural production activities. The finding shows that, access to physical resources (seeds, fertilizers, pesticides, loans/ credits, etc.) is high in family and friends (92%), ADP (98%), FCSs (95%) and Agro dealers (97%) and moderate access with CRC/ political leaders (34%) was found while those that indicate weak access were Community Leaders (6%), Agric. Research Inst. (26%), NGOs (29%), Cooperative Department (23%), University/ Colleges (2%), Financial Institutions/ BOA (21%), Agric. Insurance Companies (2%), and Agric. Industries (2%).

However, the results further shows that, access with non physical resources (information, innovation and knowledge sharing) by members in order to conduct agricultural activities are high in linkages with Community Leaders (82%), Family and Friends (98%), ADP (98%), FCSs (99%) and Agro Dealers (97%) and moderate access with Agric. Research Inst. (35%), NGOs (46%), CRC/ Pol Leaders (33%) was found; while Cooperative department (20%), University/

Colleges (26%), FI/ BOA (24%), Agric. Industries (4%) shows weak access. The overall result therefore justifies the potency of using FC by its members in accessing agricultural resources and knowledge sharing via interaction with government and other development agencies. This also consistent with finding of Fischer and Qaim (2012) who's reported that agricultural cooperatives have emerged as institutional vehicles to facilitate information exchange, improve collaboration, disseminate innovation, and market information and many donor-countries and development agencies are increasingly using these vehicles to deliver externally funded programmes for poverty alleviation.

4.5 LEVEL OF SUSTAINABILITY OF FCSs IN THE STUDY AREA

In order to determine FCSs sustainability level a total of seven indicators were included in the model and the results obtained are presented in Table 6.

Table 6: Members' Perception according to FCS Sustainability Level

Sustainability Indicators	Min	Max	Mean	Std. Dev	Position
1 Regularity of group meeting & high level of member attendance	1	4	3.13	.826	NAS
2 Shared leadership & member participation	2	4	2.85	.822	NAS
3 Continuous growth of group saving	2	4	3.09	.777	NAS
4 High rates of loans/ credit repayment	1	5	3.34	.634	AS
5 Capacitating in group problems-solving	1	4	3.40	.744	AS
6 Effective links with development services	2	4	2.96	.773	NAS
7 Income generation activities (enterprises)	2	4	3.48	.719	AS
Average Total	**2**	**4**	**3.17**	**.405**	

Source: Survey Data, 2017 AS = Adequately Sustained NAS = Not Adequately Sustained
N = 181

As shown in Table 6 that capacitating in group problem solving (M =3.40; SD =.744); High rates of loans/ credit repayment (M =3.34; SD =.634) and income generation activities (enterprises) (M =3.48; SD = .719) were the only indicators of sustainability that are adequately sustained. However, other indicators that comprise of regularity of group meeting & high level of member attendance (M =3.13; SD =.826); Shared leadership & member participation (M =2.85; SD =.822); Continuous growth of group saving (M =3.13; SD =.826) and Effective links with development services (M =2.96; SD =.773) was not adequately sustained. The overall findings portray that FCSs in the study area were not sustainable since 4 out of 7 indicators are below the mean average value of 3.17.

Table 7: FCS Sustainability Level (Indicators) in the LGAs

LGA	N	Min	Max	Mean	Std. Dev
Gwarzo	45	2.14	4.00	3.02	.470
Rimingado	44	2.29	4.00	3.15	.417
Garko	46	2.71	3.86	3.28	.315
Albasu	46	2.43	4.00	3.23	.370
Average Total Mean	181	2.14	4.00	3.17	.405

Source: Survey Data, 2017

Table 7 presents the sustainability level in the four local government areas under the study. The results indicated that FCSs in Garko (M =3.28; SD =.315) and Albasu (M =3.23; SD =.370) LGAs have the highest level of sustainability with mean values above the average total mean (M =3.17; SD =.405) based on the seven indicators on table 5. However, Gwarzo (M =3.02; SD =.470) and Rimingado (M =3.15; SD =.417) have low level of sustainability. The finding implies that in Garko and Albasu had more intervention programs and more linkages with development agency than in Gwarzo and Rimingado which make their societies active.

4.4 FACTORS THAT INFLUENCE THE SUSTAINABILITY OF FCSs

In order to determine the perception of members on possible factors influencing the sustainability of FCSs in the study area EFA was used. The results were elicited in Table 8.

Table 8: Factors influencing Sustainability of FCSs base on Members Perception.

SN	Sustainability Index	1	2	3	4	5	6
1	Provision of inputs & training support given to farmer	-	-	.541	-	-	-
2	Start up incentives	-	-	-	-	.762	-
3	Promoting technical skills & knowledge to member	-	-	-	-	-	.775
4	Market information given to farmer	-	-	.798	-	-	-
5	FCSs integration & affiliation with other groups	-	-	.512	-	-	-
6	External linkages with others	-	.822	-	-	-	-
7	Hire qualified secretary	-	-	-	.739	-	-
8	Member selection process	-	-	-	.734	-	-
9	Well-defined income generation activities/ diversification	.623	-	-	-	-	-
10	High degree of solidarity & participation among the members	.699	-	-	-	-	-
11	Financials self-sufficiency & autonomy	-	.558	-	-	-	-
12	High percentage of literate members	.652	-	-	-	-	-
13	Democratic leadership change/ dynamism	-	-	-	-	.648	-
14	Government policy & regulatory framework	-	-	-	-	-	.623

Source: Survey Data, 2017

Table 8 presents the result of Factor Analysis and illustrates that indicators such as Keiser Meyer Olkin (KMO) (0.577) and Bartlett test of sphericity (268.512, p = .000) are all adequate and significant. However, other validity indicators such communalities, anti-Image and rotated component matrix are all within the limit of 0.5 and above. A saturation level or cut-off point of

0.4 was used by Nwibo and Maman (2015) 0.6 Makinta (2017) respectively. For this study 0.5 was used.

Based on the results above revealed that, well-defined income generation activities and diversification has a factor of (0.623); high degree of solidarity and participation among the members (0.699) and high percentage of literate members (0.652) fall under F1 (diversity & participation) that ensure sustainability of FCSs in the area. External linkages (0.822) and financials self-sufficiency and autonomy (0.558) falls under F2 (autonomy & linkages) which can also influence FCSs sustainability. Under F3 (group development), inputs and training support given to farmers (0.541); market information given to farmers (0.798) and cooperative integration and affiliation with other groups (0.512) also contribute much for FCSs sustainability. Those falls under factor 4 (Managerial) include hire qualified secretary (0.739) and members selection process (0.734) can also contribute to sustainability of FCSs. Factor 5 (Incentive & Democracy) also comprises of start-up incentives (0.762) and high percentage of literate members (0.648). So, promoting technical skills and knowledge to members (0.775) and government policy and regulatory framework (0.623) fall under F6 which can also influence FCSs sustainability.

Table 9: Most important factors retained that can influence the sustainability of FCSs

Factor Name	No of items	E. V	Percentage Variance
Diversity & Participation (Loyalty)	3	2.268	16.198
Autonomy & Linkage	2	1.547	11.050
Group Development	3	1.388	9.913
Managerial	2	1.274	9.098
Incentive & Democracy	2	1.201	8.576
Policies & Competences	2	1.026	7.326

Source: Survey Data, 2017

This rule according to Vincent (1997) states that the number of factors retained should be equal to or greater than one (=>1). Moreover, principal component analysis was employed for 14 initial factors which have loaded into six factors that account for 62.16%.

Meanwhile, the results in Table 9 shows individual EV were demonstrated as follows: Factor 1 named as Loyalty containing 3 items, item 9, 10 and 12 (EV= 2.268) followed by Factor 2 with items 6 and 11 which named as Autonomy and linkages (EV= 1.547); Factor 3 named as Group development with item 1, 4 and 5 (EV= 1.388); Factor 4 with items 7 and 8 which named as Managerial factor (EV= 1.274); Factor 5 with 2 and 13 items named as Incentive and democracy factor (EV= 1.201) while Factor 6 (Policies & Competences) containing remaining 2 items, item 3 and 14 (EV= 1.026). The overall result portray that diversity and participation; autonomy and linkage; and group development factors are perceived as the top three most significant factors that influence sustainability compared to other factors in the study area.

4.6 CONSTRAINTS ASSOCIATED WITH SUSTAINING FCSs

Table 10: Constraints associated with Sustainability of FCSs

Constraint	Frequency	Percentage	Rank
Low capital accumulation/ financing	106	59	1th
Inadequate government support	99	55	2th
Poor participation of members	85	47	3th
Mismanagement/ incompetency among the leader	80	44	4th
Corrupt fraudulent officers/ staffs	61	34	5th
Unfavorable government policy	52	29	6th
Poor information network	49	27	7th
Political interference	41	23	8th
Wrong notion of cooperative	35	19	9th
Inadequate supervision from the government	32	18	10th
Inadequate awareness about the importance of cooperative	30	17	11th
Disloyalty among the members	27	15	12th
Weak cooperative legislation	4	2	13th
Lack of cooperative education	4	2	13th

Source: Survey Data, 2017 N= 181 *Multiple responses Exist

The result from Table 10 shows the most important constraints associated with sustainability of FCSs in the study area as indicated by the members are; Low capital accumulation (59%); inadequate government support (55%), poor participation of members (47%), has rated as highest constraints while the least constraints comprise lack of cooperative education (2%) and weak cooperative legislation (2%) as a problems militating against the sustainability of FCSs in the study area. This finding is consistent to that of Ibitoye (2012) in his study to Survey of the performance of agricultural cooperative societies in Kogi State, Nigeria and that of Nkhoma (2011) in Malawi who's asserted these among major constraints facing agricultural cooperative societies.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY

The study analyses the factors influencing sustainability of Farmer Cooperative Societies (FCSs) in Kano State, Nigeria. Multi-stage sampling procedure was used in selection 181 members of FCSs for the study.

The result from the analysis revealed that majority of members of FCSs were male (86%), married (93%) and farming as major occupation (81%), and most (54%) with formal education (primary 19%, secondary 15%, tertiary 4% & adult education 15%), the mean ages members was 44 years old, the average farm land hold was 2.5 hectares with a average household size of 9 persons. The mean years of cooperative membership experience was 9 years and the formation of 89% of FCSs have being influenced by extension agents, majority (80.2%) of FCSs membership were males only, 67% of FCSs have selected their leaders by nomination and also 70% of the FCSs have never changed their leaders.

Similarly, the result of effectiveness of FCSs in improving the livelihood of members revealed that majority of members agreed with statement that access to extension services , activities to equip member with new agricultural innovation with a highest mean value of 4.07 and 3.93 respectively as the most effective factors followed by activities to provide access to subsidize agricultural inputs, including members in decision making, enlightening and educating member, help members have more income and better price, activities to provide community project, activities to help member learn problems solving skills, expose members to saving habit, linkage with other groups and development agencies, and activities to provide easy access to agricultural

loan/ credit to member while activities to provide market information and activities to provide storage facilities were identified as ineffective.

Moreover, the social network mapping results visualized strong links of relationship made between farmer-members with community leaders, family and friends, ADP, FCSs, and Agro dealers, which also show two ways of communication and interaction in terms of contact initiation among them. The links of relationship with agricultural industry, University/ colleges, agricultural insurance company and Ministry of commerce was found weak. However, with regard to the resources accessed via linkages also shows that, access of physical resources is high in family and friends (92%), ADP (98%), FCSs (95%) and Agro dealers (97%) and moderate access with CRC/ political leaders (34%) was found while linkages that indicate weak access were with Community Leaders (6%), Agric. Research Inst. (26%), NGOs (29%), Cooperative Department (23%), University/ Colleges (2%), Financial Institutions/ BOA (21%), Agric. Insurance Companies (2%), and Agric. Industries (2%). However, with regard to access non physical resources by FCSs members high links was found with Community Leaders (82%), Family and Friends (98%), ADP (98%), FCSs (99%) and Agro Dealers (97%) and moderate access with Agric. Research Inst. (35%), NGOs (46%), CRC/ Political Leaders (33%) was found; while Cooperative department (20%), University/ Colleges (26%), FI/ BOA (24%), Agric. Industries (4%) shows weak access.

Furthermore, the result for level of FCSs sustainability revealed that capacitating in group problem solving (M =3.40; SD =.744); High rates of loans/ credit repayment (M =3.34; SD =.634) and income generation activities (enterprises) (M =3.48; SD = .719) were the only indicators of sustainability that are adequately sustained while other indicators that comprise of regularity of group meeting and high level of member attendance; Shared leadership & member

participation; Continuous growth of group saving and Effective links with development services was not adequately sustained. The overall findings portray that FCSs in the study area were not sustainable since 4 out of 7 indicators are below the mean average mean value of 3.17.

However, the result from FCSs sustainability level in the four selected local government areas under the study further revealed that Garko (M =3.28; SD =.315) and Albasu (M =3.23; SD =.370) LGAs have the highest level of sustainability with mean values above the average total mean (M =3.17; SD =.405) while Gwarzo (M =3.02; SD =.470) and Rimingado (M =3.15; SD =.417) have low level of sustainability.

In addition to that, the result of Factor Analysis computed through Principal Component Analysis shows that 6 factors were identified with satisfactory indicators such Anti image matrix, Communalities, rotated component matrix (Factor loading) were all above 0.5. The variance explained accounted for 62% with satisfactory Eigen values ranging from 2.268 to 1.026. Moreover, the result identified the major constraints facing sustainability of FCSs in the study area as: low capital accumulation/ financing and it was ranked first. Follow by inadequate government support; poor participation of members; mismanagement (incompetency) among the leaders and the least constraints include; disloyalty among the members, lack of cooperative education and weak cooperative legislation.

5.2 CONCLUSION

In conclusion, the results of the study was explicit that most of FCSs were initiated by government extension agents for their formation and males dominated their membership and they usually select their leaders through nomination and rigidity in change of leadership. The extension services and agricultural innovation were effective while storage facilities and market information were ineffective. Also, Farmer-members had strong social network with F & F,

Community Leaders, ADP, FCSs and agro dealers while with regard to AI, AIC, Universities and MOC had weak linkages. Majority of members accessed their physical resources (inputs) from ADP, agro dealers , FCSs and F&F with 98%, 97%, 95%, and 92% respectively while non physical resources (information) from FCSs, F&F, ADP, Agro dealers and Community leaders with 99%, 98%,98%, 97% and 82% respectively.

Furthermore, the study also concluded that FCSs in the study area were not sustainable since 4 indicators comprises; member participation, effective links with development services, continuous group saving and regularity of group meeting were not adequately sustained for FCSs sustainability in the study area. Also, Diversity and participation; autonomy and linkages; and group development factors are perceived as the top three most significant factors that influence sustainability compared to other factors in the study area.

Therefore, null hypothesis is rejected since the results shows that there is significant relationship between the farmers socio-economic characteristics and FCSs membership in the study area.

5.3 RECOMMENDATIONS

Based on the research findings of the study, the following recommendations are made:

- It was found out in the study that members usually select their leaders through nomination and there rigidity in change of leadership. It is therefore, recommended that FCSs should embrace democratic leadership control and rotating their leadership within the groups to provide their members chance to develop organizational and leadership skills.
- There was a clear proven ineffective provision of market information and storage facilities from FCSs. So effort should be made by FCSs leaders to extend their services to cover post harvest activities in the areas of storage and marketing for their members.

- It was also proven weak links of relationship between members with cooperative department, University/ Colleges, Insurance company, BOA/ FI. It also recommended that, the policy-makers and change agents to visualize farmer's social network mapping this would enables them to identified and improve relevant social relationships that could be utilized strategically to increase the capacities of poor farming communities. and also there is need for mapping the network again after appropriate period of time by other researchers to identified the improvement or otherwise.
- It was also proven that, FCSs in the study area were not sustainable since 4 out of 7 indicators are below the average mean value. So More sensitization programmes should be introduced to provide capacity for FCS members to increase their commitment toward their societies and more linkages and affiliation should be enhanced to expand the scope of FCS activities beyond local context and strengthen their structure.
- It is confirmed that diversity and participation; autonomy and linkage; and group development factors were the most influencing factors for FCSs sustainability. The sensitization programme should be embarked by leadership of FCSs in order to improve member participation, linkage to development services, regular group meeting etc, among members.
- It also finds out that, low capital accumulation, inadequate government support and poor participation of members are major constraints associated with sustaining FCSs in area. Although cooperatives are intended to be autonomous organizations, but government must support them with technical and financial support especially at the early stage of their formation.

REFERENCES

Abdul-Rahman, S. (2015). Agricultural Project and National Development. A lead paper presented at the 16th annual National Conference of the Nigerian Association of Agricultural Economics held at Kano University and Science and Technology, Wudil, Kano.

Agbenyour, I. Y. (2014). Farmers' cooperatives and agricultural development in Kwali Area Council.Federal Capital Territory. Abuja.An Unpublished M.Sc. Thesis. Department of Geography.Ahmadu Bello University. Zaria.

Ajayi, A. R. and Akinnagbe, O. M (2010) Challenges of Farmer-Led Extension Approaches in Nigeria. *World journal of Agricultural science 6 (4): 353-359. IDOSI publications.*

Aminu, A.I (2017). Effect of Climate Change on Livelihood and Adoption Strategies among Farmers in the Kano State, Nigeria. An Unpublish Ph.D. thesis, Department of Agricultural Economics and Extension, Bayero University Kano.

Banaszak, I. (2008). Determinants of Successful Cooperation in Agricultural Markets: evidence from producer groups in Poland. Strategy and Governance of Networks, Heidelberg: Physica-Verlag.

Banaszak, I., and Beckmann, V. (2006). The role of leadership in the process of establishing and sustaining cooperation: IDARI Working paper, Humboldt University Barlin.

Bhuyan, S (2007). The "people" factor in cooperatives: An analysis of members' attitudes and behaviour. *Canadian Journal of Agricultural Economics/Revue canadienned'agroeconmoie, 55(3): 275-298.*

Bibby, A., and Show, L. (2005). Making difference: cooperative solution to Global poverty. Manchester, UK: Cooperative College for the department of international Development.

Brichall J. (2003). Rediscovering the Cooperatives Advantage, Poverty Reduction through Self-help. Cooperatives Branch, International Labour Office, Geneva.

Birchall, J. (2004). "Cooperatives and the millennium development goals". ILO Accessed at http://community-wealth.org/_pdfs/articles-publications/outside-us/book-birchall. pdf.

Borgen, S. (2001). Identification as a trust-generating mechanism in cooperatives. *Annals of Public and Cooperative Economics, 72(2):209-228.*

Bruynis, C.L. Goldsmith, P.D. Hahn, D.E. and Taylor, W.J. (2007). Key Success Factors for Emerging Agricultural Marketing Cooperatives. *Journal of Cooperatives, 16 19-24.*

Chambo, S. (2009) Agricultural cooperatives: Role in Food Security and Rural Development: Paper presented to expert group meeting on cooperatives. 28-29 April, 2009 New York. December 2006.

Chibanda, M., Ortmann, G., & Lyne, M. (2009). Institutional and governance factors influencing the performance of selected smallholder agricultural cooperatives in KwaZulu-Natal. *Agrekon, 48(**3**): 293-315.*

Chirwa, E.; Dorward, A.; Kachule, R.; Kumwenda, I.; Kydd, J.; Poole, N.; Poulton, C. and Stockbridge, M. (2005) "Walking Tightropes: Supporting farmer organizations for market access" in *ODI Natural resource perspectives, Vol. 99, pp. 2-6*

Chukwu, S.K. (1990). **Economics of the Cooperative Business Enterprise.** Marburg, Germany.

Clegg, J. (2006). Rural cooperatives in China: policy and practice. *Journal of Small Business and Enterprise Development 13(**2**):219-234*

Cook M.L (1995). The future of U.S. agricultural cooperatives: A neo-institutional approach. *American Journal of Agric. Economics, 77(**5**): 1153-1159.*

Cook, M., and Burress, M. (2009). A Cooperative Life Cycle Framework.

COPAC. (1995). Capital Formation in Agricultural Cooperatives. [Report of COPAC International Technical meeting, Rome].

Cornforth, C. (2004). The governance of cooperatives and mutual associations: a paradox perspective. *Annals of Public and Cooperative Economics, 75(**1**):11-32.*

Dejene, E., and Getachew D. (2015). Factors affecting Success of Agricultural Marketing Cooperatives in Becho Woredo, Oromia regional State of Ethiopia Movement. *International Journal of cooperative studies.* Axum University, Ethiopia

Develtere, P., Pollet, I., and Wanyama, F. (eds). (2008). Cooperating out of Poverty: the Renaissance of the African Cooperative Movement. Geneva: ILO and the World Bank Institute.

Ebonyi, V. and Jimoh, O. B., (2002) **Cooperative Movements; A way out of Poverty**. Lagos, Lonman Publishers.

EC-FAO (2006) Food Security Information for Action Programme e-learning course: Collaboration and Advocacy Techniques www.foodsec.org/DL

Epetimehin, F. M. (2006). Understanding the Dynamics of Cooperatives, Tadon Publishers, Ibadan.

Fafchams, M. & Gabre-Madhin, E. (2006). Agricultural markets in Benin and Malawi: *African Journal of Agricultural Economic, 1:67-94.*

FAO (2000). The Group Promoters' resource book. Publishers Viale delle terme di Caracalla, 00100 Rome, Italy.

Fischer, E., and M. Qaim. (2012). Linking Smallholders to Markets: Determinants and impacts of farmer collective action in Kenya. *World Development, 40 (**6**), 1255-1268*

Flygare, S. (2007). The Cooperative Challenge. Farmer Cooperation and the Politics of Agricultural Modernisation in 21st Century Uganda, Uppsala: Uppsala University Department of Economic History.

Fulton, J. (2004). Understanding Cooperative Behaviour: The Prisoners' Dilemma Approach. New York: M. E. Sharpe.

Fulton, M. (2001). Leadership in democratic and participatory organizations. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroeconomie, 49(**4**), 381-394.*

Fulton, M., & Giannakas, K. (2001). Organizational Commitment in a mixed oligopoly: Agricultural cooperatives and investor-owned firms. *American Journal of Agricultural Economics. 83(**5**):1258-1265.*

Gabre-Madhin, E. G. (2001). Market Institutions, Transaction Costs, and Social Capital in the Ethiopian Grain Market, Research Report 124, International Food Policy Research Institute, Washington, D.C.

Gertler, M. (2001): Rural Cooperatives and Sustainable Development, Saskatoon SK: Centre for the Study of Cooperatives, University of Saskatchewan.

Gilson, L. (2003). "Trust and the development of health care as a social institution," Social Science & Medicine 56:7, pp. 1453–1468.

Gittell, R. and Vidal, A. (1998). Community Organizing: Building Social Capital as a Development Strategy. Newbury Park, CA: Sage Publications.

Growth and Employment in State (GEMS3). (2013). Kano State Investors' Handbook 2013. www.gemsnigeria.com/kano - state - Investors – Handbook.

Hansmann, H. (2006). Cooperatives firms in theory and practice. LTA, 48(**4**), 404-417.

Henry, M. (2005). Cooperative life cycle and goals. *Journal of agricultural economics, v. 50, iss. 3 pp. 536-48.*

Henry, H. and Schimmel, C. (2011) Cooperative for People-Centred Rural Development. International Labour Office Rural Policy Briefs.

Hill, T., Nel, E., and Illgner, P. (2007). Partnership for Successful Community-based economic development: a case study of Ngolowindo Cooperative, Malawi. Environment and Planning C: Government and Policy, 25, 573-590.

Holloway, G., Nicholson, C., Delgado, C., Staal, S., & Ehui, S. (2000). Agro industrialization through institutional innovation transaction costs, cooperatives and milk-market development in the East-African highlands. *Agricultural Economics. 23(**3**):279-288.*

Hovhannisyan, V., Urutyan, V, and Dunn, D (2005). The role of cooperatives in milk marketing: the case of Amernia.

Ibitoye, S.J. (2012). Survey of the performance of Agricultural Cooperative Societies in Kogi State, Nigeria. *European Scientific Journal October edition volume 8. No. 24 ISSN: 1857 -7881 (Print) e – ISSN 1857 – 7431.*

ICA. (2007).Values of cooperative. Retrieved April 26, 2010, from http://www.ica.coop/principles.html.

ICA. (2010). International Cooperative Alliance. Retrieved 1, October, 2011 from http://www.ica.coop/.ss

ICA (2013), Co-operatives and Sustainability: An investigation into the relationship, Brussels: ICA. Available at *http://ica.coop/sites/default/files/attachments/Sustainability%20* Scan%202013-12-17%20EN_0.pdf

ICA/ILO (2003). The role of cooperatives in designing and implementing poverty reduction strategies. Geneva.

Ilu, I. Y. (2007). Formation and Management of Farmer Cooperatives. A Training Manual for Orientation/Refresher course on extension workers in the ADPs/LGAs in the North West Zone. Sponsor: NAERLS, ABU, Zaria.

Investopedia (2009), Retrieved from *https://www.investopedia.com*

International Co-operative Alliance (ICA). (1995). Statement of Co-operative Identity. Retrieved from: www.icacoop.org.

Johnson, H. and Shaw, L. (2014). Re thinking rural co-operatives in development: Introduction to the policy arena. *Journal of International Development, 26 (**5**), 668-682*

Jones, E. (2004). Wealth-based trust and the development of collective action. *World Development, 32(**4**), 691-711.*

Juliana, R. (2015). Strengthening Farmers' Organizations and Civil Society Organizations. Action plan for African Agricultural Transformation. Sasakawa African Association (SAA).

Kano State Agricultural and Rural Development (KNARDA). (1995). Kano Geographical information. Kano: Kano State Agricultural and Rural Development Authority.

Keeling, J., Carter, C., & Sexton, R. (2004). Lessons in Cooperatives Failure: The Rice Growers Association Experience. *ARE Update. 75(**3**):1-5.*

Kirsten, J., and Sartorius, K. (2002). Linking agribusiness and small-scale farmers in developing countries: is there a new role for contract farming? *Development Southern Africa, 19(**4**), 503-529.*

Kodama, Y. (2007). New role of cooperatives in Ethiopia: the case of Ethiopian coffee farmers' cooperatives: *African Study Monographs, 35:87-108*

Kyriakopoulos K, Meulenberg M and Nilsson J (2004). The impact of cooperative structure and firm culture on market orientation and performance. *Agribusiness 20(**4**):379-396.*

Krishna, A. and Uphoff, N (1999). Mapping and Measuring Social Capital: A Conceptual and Empirical Study of Collective Action for Conserving and Developing Watersheds in Rajasthan, India, Social Capital Initiative Working Paper 13. World Bank, Social Development, Washington, D.C.

Kwon, I., and Suh, T. (2004). Factors affecting the level of trust and commitment in supply chain relationships. *Journal of Supply Chain Management, 40(**2**), 4-14.*

Makinta, U, (2016): Assessment of the sustainability of Supervisory Experience Projects (SEPs) conducted in Kano state. Unpublished M.Sc. theses, Department of Agricultural Economics and Extension. Bayero University, Kano.

Meyers, R. (2006). On the costs of food price fluctuations in low-income countries. Food Policy, 31(4): 288-301.

Meyer, R., and Larson, D. (1997). Issues in providing agricultural services in developing countries. Promoting Third-World Development and Food Security, Luther G. Tweeten y Donald McClelland (eds.), Westport: Praeger Publishers, 119-151.

Mohammed, F. A. S. (2004). Role of Agricultural Cooperatives in Agricultural Development: The Case of Menoufiya Governorate, Egypt.

National Population Commission (2006). Provisional Census Figure for Kano State, Federal Government of Nigeria, Abuja.

Nkhoma, A. and Daniel, C. (2011). Unsustainable Cooperatives: lessons from Malawi. University IFAMA Symposium, Frankfurt.

Nyoro, J., and Ngugi, I (2007). 2 A Qualitative Analysis of Success and Failure Factors of Agricultural Cooperatives in Central Kenya. Decentralization and the Social Economics of Development: Lessons from Kenya, 13.

Omotesho, O. A. (2008). "Global Food Crises and National Food Security: Strategic options for Nigeria". Paper presented at the 2008 Annual conference of the Development Finance Department of Central Bank of Nigeria (CBN), held at Orchid Hotel, Asaba, Delta State. 15th - 8th, October.

Onje, S. O. (2003). **Introduction to Cooperative Studies**. Lokoja: Howard Publishers. Pp 68.

Onoh, F. A (2007). **Co-operative Administration and Management.** Computer Edge publishers, Ogui Layout Enugu. Nigeria.

Onouha, E (2002). A critique of the drafts of cooperative policy for Nigeria. *Nigeria Journal of Cooperative Studies, 2 (**1**): 10-17.*

Ortmann, G., and King, R. (2007). Agricultural cooperatives II: Can they facilitate access of small-scale farmers in South Africa to input and product markets? *Agrekon, 46(**2**), 219-244.*

Osterberg, P., and Nilsson, J. (2009). Members' perception of their participation in the governance of cooperatives. *Agribusiness (New York), 25(**2**) 181-197.*

Pallant, J. (2007). Survival manual: A step by step guide to data analysis using SPSS for windows (3rded). Berkshire: open university press: Mc Grand – Hill.

Portes, A., Sensenbrenner, J. (1993). "Embeddedness and Immigration: Notes on the Social Determinants of Economic Action" *American Journal of Sociology (1993), Vol. 98 Issue 6, p1320*

Poulton, C., Kydd, J., and Dorward, A. (2006). Overcoming market constraints on pro-poor agricultural growth in sub-Saharan Africa. *Development Policy Review, 24(**3**), 243-277.*

Rankin, M. K., and Russell, I. (2005). Building Sustainable Farmer Cooperatives in the Mekong Delta. Is Social Capital the Key? Vietnam

Rhodes, R. (2007). Understanding governance: ten years on. *Organization studies. 28(**8**):1243.*

SAA / SAFE (2012). Strengthening farmers' organizations in Ethiopia, Mali, Nigeria and Uganda.A study of farmers' institutions. SAA / SAFE report 2012.

Sani, B. M. And Sulaiman, S. (2010). The Structure of Kano Economy.www.kanoonline.com

Scott, J. (2000). Social Network Analysis: A Handbook, 2nd edition. London: Sage.

Sexton, R., and Iskow, J. (2005). Factors critical to success or failure of emerging agricultural cooperatives. Giannini Foundation Information series, 88(3).

Stringfellow, R., Coulter, J., Lucey, T., Mckone, C., &Hussain, A. (1997). Improving the access of mallholders to agricultural services in sub-Saharan Africa: Farmer cooperation and the role of the donor community. Natural Resource Perspectives, 20.

Sugden, R. A. (2003), "Environmental Cooperatives and Sustainability: Exploring the Cooperative as a Community Tool to Support Sustainability in Montreal, Canada." Master of Science Thesis, Central European University, Budapest

UN (2005), Sustainability Development General Assembly "48"World Submit: *http://www.un-documents.net.com*

UN (2009), Cooperatives in Social Development, United Nations General Assembly (No. A/64/132).

Valentinov, V. (2007). Why are cooperatives important in agriculture? An organizational economics perspective.*Journal of Institutional Economics, 3(**01**), 55-69.*

Wanyama, F. O., P. Develtere and I. Pollet (2009). "Reinventing the Wheel? African Cooperatives in a Liberalized Economic Environment", *Annals of Public and Cooperative Economics, Vol. 80, No. 3, pp. 361-392.*

Wayama, F.O. Develtere, P. and Pollet, I (2008). Preventing the Wheel of African Cooperatives in a liberalized Economic Environment‖. June 2008. www.hivourby, 2008

Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes. *Canadian Journal of Policy Research, 2(**1**), 11-17.*

Woolcock, M. (2010). The rise and routinization of social capital, 1988-2008. Annual review of Political Science, 13, 469-487.

World Bank (2000). World Development Report Washington, DC: World Bank.

World Bank (2005). World Development Report Washington, DC: World Bank.

Yahaya, I. (2001). **Basic Aspects of Cooperative Studies**. Munawwar Books international, Karkasara, Kano.

Yahaya, I. (2012). **Advanced Studies in Modern Cooperation**. Munawwar Books international, Karkasara, Kano.

Ziegenhorn, R. (2003). Networking the Farm. The Social Structure of Cooperation and Competition in Iowa Agriculture. Aldershot, Vermont: Asgate.

Appendix

DEPARTMENT OF AGRICULTURAL ECONOMICS AND EXTENSION BAYERO UNIVERSITY, KANO

QUESTIONNAIRE SURVEY FOR FARMER COOPERATIVE MEMBERS

Analysis of the factors affecting the sustainability of Farmer Cooperative societies (FCSs) in Kano state, Nigeria

This questionnaire is designed to obtain information for the above titled research study. I solicit your support to provide adequate and accurate information as all information provided will be used for academic purpose only and confidential.

Thank You

Yusuf Yusha'u Habib
MSc. Agricultural Extension

SECTION A: SOCIO-ECONOMIC CHARACTERISTICS OF THE RESPONDENTS
Please provide information or tick [/] where appropriate

PERSONAL IDENTIFICATION

1. KNARDA Zone: …….. 2. LGA……

3. Ward: ……..

4. Name Cooperative Society: ……

RESPONDENTS' PROFILE

5. Gender of respondent: (a) Male [ ], (b) Female [ ]

6. Age of respondent: …….

8. Marital status: (a) Single [ ], (b) Married [ ], (c) Divorced [ ], (d) Widowed [ ]

9. Educational level: (a) Never been to School [ ] (b) Primary educ. [ ], (c) Secondary education [ ], (d) Tertiary education [ ] (e) Adult educ. [ ] (f) Qur'anic education [ ]

10. Primary occupation: (a) Trading [ ], (b) Farming [ ], (c) Artisan [ ], (d) Civil servant [ ], (e) Others specify_____

11. Household size: …….

12. Total farm size (ha): ……

13. Who initiate the formation of your cooperative society? (a) Member [ ], (b) Govt. extension agent [ ], (c) Community leaders [ ], (d) NGOs [ ], (e) Others specify_____

14. When did you join the Cooperative society? ……..

15. Who constitutes the membership of your cooperative society?
(a) Male only [ ], (b) Female only [ ], (c) Mixed members [ ]

16. Who constitutes the leadership of your society? (a) Chairman [ ], (b) Secretary [ ], (c) Treasurer [ ], (d) Management committee [ ], (d) Supervisory committee [ ]

17. How is the selection process of the leadership? (a) Election [ ], (b) Nomination [ ], (c) Care takers [ ]

18. Any change of leadership? (a) Yes (b) No

SECTION B: EFFECTIVENESS OF FCSs IN IMPROVING THE LIVELIHOOD OF MEMBERS

18. How do you measure the effectiveness of your society activities in improving the member's livelihood?

	1- Highly Ineffective, 2- Ineffective, 3-Undecided, 4- Effective, 5- Highly Effective.					
S/N	**Role/ activities of Farmer Cooperative Societies**	**HI 1**	**I 2**	**U 3**	**E 4**	**HE 5**
1	Activity to provide easy access to agricultural loan or credit to member					
2	Activity to provide easy access to subsidize agricultural inputs					
3	Activity to provide easy access to extension services					
4	Activity to provide market information available					
5	Carry all member in decision making process					
6	Activity to equip member with new agricultural innovation/ farming system					
7	Activity to help member learn problems solving skill					
8	Activity to provide linkage with other groups and development agencies					
9	Activities to help members have more Income & better price					
10	Activities to enlightening and educating members					
11	Help member inculcate culture of saving habit					
12	Activities to provide community project					
13	Activities to provide storage facilities					

SECTION C: THE FACTORS RESPONSIBLE FOR FCSs SUSTAINABILITY IN THE AREA

19. How do you measure the under listed factors for Farmer Cooperative Societies sustainability in your area?

1. Strongly Dis Agree, 2. Dis Agree, 3. Undecided, 4. Agree, 5. Strongly Agree						
S/N	**Responsible factors for FCSs sustainability**	**1 SD**	**2 D**	**3 U**	**4 A**	**5 SA**
1	FCSs remain active due to inputs and training support given to farmer					
2	Due to the start up incentive					
3	Due to promoting technical skills & knowledge to member					
4	Remain active due to information given to member (market,)					
5	Due to cooperative integration and affiliation with other groups					
6	FCSs connecting members with other farmers & development agencies					
7	Protecting members interest keep members active					
8	Members selection process					
9	Well-defined Income generation activities/ diversification					
10	High degree of solidarity and participation among the members					
11	Due to the financial self-sufficiency & autonomy					
12	Due to high percentage of literate members					
13	Democratic leadership change/ dynamism					

SECTION D: LEVEL OF SUSTAINABILITY OF FCSs IN THE AREA.

20. In your opinion, how do you measure the performance your cooperative society with under listed sustainability indicators?

1. Strongly Dis Agree, 2. Dis Agree, 3. Undecided, 4. Agree, 5. Strongly Agree						
S/N	**FCSs Sustainability indicators**	**1 SD**	**2 D**	**3 U**	**4 A**	**5 SA**
1	Regularity of group meeting & high level of member attendance					
2	Shared leadership and member participation in group decision making					
3	Continuous growth of group savings.					
4	High rates of loan/ credit repayment					
5	Capacitating in group problems-solving					
6	Effective links with development services					
7	Income generation activities (enterprises)					

SECTION E: Identification of the quality of relations within the farmer cooperative society's network

21. Farmer Cooperative Societies linkages with others/ Social interaction.

For both resource questions and the location and events question, only record the first response or primary interaction. If no resource or information (none) is accessed through interaction with a particular individual, code none and then go to the next individual.

People with which contact is made in order to conduct agricultural production activities (if no agricultural interaction, leave row blank	a. What physical resources are accessed through interaction?	b. What form of information is accessed through interaction?	c. Who Initiates the contact most of the time?	d. location &Events: Where do you interact?	e. frequency : How often do you interact?	f. Quality: Can you trust resources /information from this source?	g. Gender
	0. None 1. Seed 2. Fertilizer 3. Pesticide 4. Herbicide 5. Tractor 6. Agric. loan/ credit 7. Vet services 8. Other_	0. None 1. Advice/ Consultation/ training 2. Only information	0. N/A 1. Always them. 2. Mostly them. 3. 50/50 4. Mostly farmers. 5. Always farmers.	0. N/A 1. Farm 2. Store 3. Office 4. Market 5. Home 6.Community center/ hall 7. Farmer field day/event 8. Radio 9. Religious centers. 10. Town crayer. Other____	0. Never 1.Weekly 2.Fortnightly 3.Monthly 4.seasonally 5. Yearly	0. N/A 1. Always 2. Most of the time 3.Some what 4. Rarely 5. Never	0. N/A 1. All male 2. Mostly male 3. 50/50 4. Mostly female 5. All female
1. Village/ Community leaders							
2. Family member/ Friends							
3. Agric. Research Institute							
4.ADP (KNARDA) Extension agent							
5. NGOs/ Development Agent							
6. Farmer Cooperative Society							
7. Local Political leaders/ CRC							
8. State Cooperative department (Min of commerce)							
9. Universities/ Colleges							
10. Agric. Finance agency/ BOA							
11. Agric Insurance							

company.							
12. Agro coy/ dealers							
13. Other Civil Society organization							
14. Agric. Manufacturers/ industries							
15. Other to be determine ……							

SECTION F: CONSTRAINTS ASSOCIATED WITH SUSTAINING FARMERS COOPERATIVE SOCIETIES IN THE AREA

1. Rank the most important problems that farmer' cooperatives face today and what are your suggestions for solving these problems?

The problems and obstacles	Rank	Suggestion for solving these problems
1. Disloyalty among the members		
2. Mismanagement/ incompetency among the leaders		
3. Corrupt fraudulent officers/ staffs		
4. Inadequate awareness of the importance Cooperative		
5. Inadequate supervision from the government		
6. Wrong notion of cooperative		
7. Poor participation of the members		
8. Inadequate government support		
9. Unfavorable government policy		
10. Poor information network		
11. Inadequate funding/ financing agencies		
12. Political interference		
13. Weak cooperative legislation		
14. Lack of cooperative education		
15. Other specify ……		