IMPACT OF COOPERATIVES BASED LOCAL SEED BUSINESS IN ENHANCING SMALL SCALE FARMERS' LIVELIHOOD, ***THE CASE OF CHERCHER ODA BULTUM FARMERS' COOPERATIVES UNION***

A thesis Submitted to the School Graduate Studies of Jimma University Partial Fulfillment of the Award of the Degree of Masters of Business Administration (MBA)

BY:

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JIMMA UNIVERSITY COLLEGE OF

BUSINESS & ECONOMICS

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And

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CERTIFICATE

This is to certify that the thesis entitles " Impact of cooperatives based local seed business in enhancing small scale farmers' livelihood the case of Chercher oda Bultum Farmers' Cooperatives Union", submitted to Jimma University for the award of the degree of Master of Business Administration (MBA) research work carried out by Sintayehu Kassahun Zeleke, Under our guidance and supervision.

Therefore, we hereby declare that no part of this thesis has been submitted to any other university or institute for the award or any degree or diploma

Main Adviser's Name	*Date*	*Signature*
_____	_____	_____
Co-Advisor's Name	*Date*	*Signature*
_____	_____	_____

DECLARATION

I hereby declare that this thesis entitled *"Impact of cooperatives based local seed business in enhancing small scale farmers' livelihood the case of Chercher Oda Bultum Farmers' Cooperatives Union"*, has been carried out by me under the guidance and supervision of Dr Reta Megersa and Lelise Kumera (MBA).

The thesis is original and has not been submitted for the award of any degree or diploma to any university or institution.

Researcher's Name	Date	Signature
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Abstract

This study evaluated the impact of Cooperatives based local Seed business to enhance Farmers' livelihood 'the case of Chercher Oda Bultum Farmers' cooperatives union.. This study provides empirical evidence of impact of haricot bean seed production cooperatives in the area. The study employed explanatory and descriptive research design used as an attempt to connect ideas and understand cause and effect on dependent and independent variables from both primary and secondary data by using binary logistic regression model. Based on Taro Yemane (1973) research sample size calculation population were considered in which 154 from cooperative members were proportional stratified both Descriptive statistics and Binary Logistic regression model were applied for data analysis. The result was showed that haricot bean seed producing cooperatives member household have a better access to cultivated land, access to seed, access to fertilizer, access to credit, access to insurance and access to information than non -accessed in the study area. In the second Stage binary logistic regression result indicates at households (Cox &Snell R^2 = 0.609, suggests that 60.9% of the variation in the dependent variable was explained by the logistic regression model. Chi-square =144.745, P<000, with df 7, Naglkerke R^2 value was 0.844 which means the independent variables entered in the model explained 84.4% of variance dependent variable, or indicated a highly relationship between prediction and predictors. The Wald statistics value of access to Credit that is 10.442 was the highest statically significance at the 0.1% (P=0.001) The implication of this finding the farmers who have access credit more likely improve farmers' livelihood compared to those which no access to credit. Access to information was the second predictors of the independent variables which a Wald statistics 7.669, (B) value 64.081, (P=0.006).This shows that access to information is the second most important factors influencing positively to farmers' livelihood. From the study the researcher concluded that 62% the impact assessment of this study was positive and statistically significant impact of haricot bean seed production cooperatives on farmers' livelihood. Therefore, the government and other non -government like ISSD, Chercher Oda Bultum Farmers' cooperative unions should provide more support to expand haricot bean producing Cooperatives in order to increase production and farmers' livelihood.

***Key words**: Haricot bean seed, Livelihood, Binary logistic regression.*

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ACRONYM

ATA Agricultural transformation agency

COU Cooperative Union

COBFCU Chercher Oda Bultum Farmers‟ cooperatives union

CSA Central statics Agency

DIFID Department of International development

EARI Ethiopia Agricultural research institute

EDRI Ethiopian Development regional institution

ESE Ethiopian seed enterprise

FAO Food and Agricultural Organization

FCU Farmers‟ cooperatives Union

FDER Federal Democratic Republic of Ethiopia

GDP Gross Domestic Product

GTP Growth and transformation plan

IAIA International Association for impact assessment

ICA International cooperative Alliance

ILO International labor organization

IMF International Money Found

ISSD Integrated seed sector development

HH Household

HU Haramaya University

LSB Local seed business

LSPCs Local seed producer cooperative

MOA Ministry of Agriculture

MOARD	Ministry of Agriculture and Rural development
NGOs	Non-government Organizations
PCs	Primary cooperatives
PSNP	Productive seft-net program
SPCs	Seed producer cooperative
SPSS	Statistics package for Social science

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CHAPTER ONE

1. INTRODUCTION

1.1. BACKGROND OF THE STUDY

Agriculture is one of the pillars of Ethiopia economy in which overall economies of the country is highly correlated. It is also the prime contributing sector to food security. However, this sector is facing the great challenge of not fulfilling the food requirement of the nation in which, over 8.3 million people suffer from chronically food insecurity and targeted with productive safety-net program (CSA, 2009). This forced the country to depend on foreign food aid in order to feed its people accordingly (IMF2011, Henoc, et. al., 2012).

Efforts to improve food security has failed, not even keeping up population growth and insufficient energy in the diet from grain but also generation and transfer of new technologies are critical for agricultural development particularly for agrarian based economy like Ethiopia. In fact Ethiopia playing the role in producing agricultural products which have the highest demand in the global market, for example, Ethiopian coffee, Livestock, oil crops, haricot beans and chat has the highest value in the world markets(FAO,)

Improving the genetic and physical properties of seeds can activate yield increase and lead to improvement in the agricultural production and food security. Seed was acting as the key catalyst in agricultural transformation. However, most farmers till do not have access to commercially processed seeds at nearby retail channel on sustainable bases. Furthermore, many of the released varieties have never been wildly disseminated to the growers (Hirpha, et. Al., 2012).

In Ethiopia, different production systems do exists: informal seed systems, community based seed system, formal seed systems and commercial seed systems. The informal seed systems (self- saved seed or farmers to farmers‟ seed exchange) accounts for 80-90% of the seed by small holders farmers (Amsalu, et. Al., 2014). In the formal seed systems, ministry of Agriculture and Rural Development (MOARD),Ethiopia

Agriculture and research institute (EARI), Ethiopia Seed Enterprise(ESE) and regional seed enterprise (Oromia seed enterprise, Amahara seed enterprise, Tigray seed enterprise, south regional seed enterprise) have crucial role in breeding, releasing and production of different seeds (breeder seed, pre-basic and basic seeds).

On the other hand, Cooperatives unions, private sector, NGOs and other organizations are playing a great role in multiplication of certified seeds. However, the gap between supply and demand are unchanged (Dawit, et. Al., 2011).

For developing and agricultural based economic countries like Ethiopia, where fragmented and small land holding in usual cooperative based local seed business is recommended as a solution to promote fair income distribution, reduce poverty and vulnerability, and improve quality of life and social welfare. To overcome the problem the government of Ethiopia demonstrated strong commitment to agriculture and rural development through the allocation 10% of national budget to deliver enhanced production technologies and support services through organization mechanisms(FDER:2010). Cooperatives plays an important role in organizing smallholders farmers by providing inputs and output market services.

More than 80% of the population lives in rural areas and their main sources of income is agriculture, this sector is critically important to the overall economic performance, food security and poverty alleviation to the country. The AGP focuses on farmer cooperatives union (FCUs) and primary cooperatives (PCs) to improve Productivity, capacity development, technology introduction and market linkages to improve the competitiveness of the members and thereby benefits the smallholder farmers at large (USID,2014). The GTP also envisions the development of cooperative as a key path way by which the agricultural sectors and the economy as whole will developed (MOFED,2010).

Agriculture cooperatives help farmers to solve a collective action problem, specifically how to procure inputs most efficiently and market their output on more favorable terms than they could achieve by themselves (Bezabeh, 2011). More than 85% the inputs supplied to the rural community are through cooperatives. Through cooperatives unions, primary cooperatives have access to inputs at reasonable price (with sustainable price reductions) and have attained strong bargaining positions in marketing their

outputs. In general cooperatives are moving toward financial self-sustainability (Aaronson, 2012).

Improved seeds, fertilizers and pesticides are supplied through different channels. The role of unions in importing and distributing inputs is growing. The regional government deal and facilitate input supply through the unions to members cooperatives and then to farmers. The Agricultural inputs supply enterprise (AISE) is a major public institution involved in inputs importing, collecting and distributing through the branch offices at district level.

Agricultural cooperatives help farmers in increasing their yields, incomes, improving saving habits of farmers and reduced input costs by pooling their resources in order to support collective service provision that leading economic empowerment. About 900,000 people in agriculture sectors are estimated to generate most of the income through their cooperatives (MOA and ATA, 2012; ILO and ICA 2013). Moreover, agriculture cooperatives enhance members' technical efficiency reduction access top productive inputs and facilitating extension linkages. The active involvements of farmers in cooperatives further enhances production, productivity and the main driving forces in modernizing the market channels and in creating consumer and producer benefits (EAS,2013; Gashaw et. Al., 2014).

One of the challenges facing agricultural sector is to increase the number of sustainable agricultural enterprise. Seed producers cooperatives (SPCs) are one of agricultural organized farmer groups business enterprise in seed production and marketing of locally demanded varieties and will targeted doubling agricultural production through improving access to and use of quality seed productions for which there are less commercial interest (Dawit, 2011). However, no empirical study has been conducted to evaluate impact of cooperative based local seed business enhancing farmers‟ livelihood the case of Chercher Oda Bultum farmers‟ cooperative Union.

1.2. Background of the Organization

Chercher Oda Bultum Farmers cooperatives union is established on January 10,2005, based on the ICA Principles of cooperatives and Ethiopian Cooperatives Societies art (proclamation No. (147/98) which is located Oromia regional states, on West Hararghe Zone, Oda Bultum district of Ethiopia at the distance of 35 kilometers from Chiro zonal town and 362 kilometers from Addis Abeba. It takes its name from the former province Hararghe name 'Chercher' and Oromo historical place of 'Oda Bultum' which is located in Oda Bultum wereda. The working area of this Cooperatives union is involved 8(eight) rural districts wordas of Oda Bultum, Habro, Daro Labu, Guba Koricha, Anchar, Boke, Burka Dhintu and Hawi Gudina. The altitude of the area is ranged from 1780 to 2500 above sea level and the average temperature of the area is about 26^0c with average Rainfall is 1700. The beneficiaries of the primary Cooperatives union are 126 which involve 43249 individual members in which 4004 are male and 3245 of them are female. While 253,100 householders are direct or indirect beneficiaries of this cooperatives unions. (www.chercheroda.com).

Chercher oda Bultum Farmers Cooperatives union is making a meaning full contribution in transforming Ethiopia's agriculture and manufacturing sub-sectors. Primarily engaged agricultural inputs supply and distribution, involve National and Global level Agricultural marketing such as organic coffee and Haricot bean. The most interesting issue and strengthen of the cooperative is that all seed producers cooperatives are the member of Chercher Oda Bultum farmers' cooperatives union. The union have a program in changing the lives of farmers in the area through coordinating efforts of:

(1). Changing the attitude of the SPCs towards producing quality seed of superior varieties in an attempt to contribute to agricultural for food security and economic growth. (2). Facilitate the linkage with other partners for technology transfer (3). Provide extension service and market information. (3). Provide Basic seed in order to producing marketable quality seeds. (4) Used as the potential consumer to whom the seed producers can sell their seeds (Neguse legese 2013). (www.Chercherda.com)

1.2.1. Integrated seed sector development (ISSD)

ISSD is a local seed business (LSBs) recent Dutch- supported project that aims to accelerate the transition from farmer to community or cooperative based seed production towards formal commercial approach to seed production. The second phase of ISSD program was implemented from 2012-2015 mainly through LSB project with 34 seed producers‟ cooperatives (SPCS) in the Country in four regions (Oromia, Amahara, Tigray and Southern Nations and Nationalities and peoples‟ Region (SNNP).Under Partnership of Haramaya University-Integrated Seed Sector Development (ISSD) and Charcher Oda Bultum Farmers Cooperatives Union has requested to scale up local Seed Business model developed by ISSD program from 2012-2015.At the implementation program under the umbrella of chercher Oda Bultum farmers‟ cooperatives Union, 5 LSBs (Burka Gudina, Oda Meda, Misoma Gudina, Milkesa lafto Goba and Daro Gora) are selected. Some of the selection criteria for membership are availability of land, good knowledge and experience about Haricot Bean seed production, motivated to adopt new technologies and better participation and market linkage with its unions. The expected outcome of the project was to improve the livelihood status of the rural households by strengthening the development of a pluralistic seed sector in Ethiopia (www.haramaya.edu.et.issd-Ethiopia).

1.3. Statement of the problem.

The majority of the world's poor is smallholder farmers who are dependent on agricultural production. Securing market access for agricultural product has been identified as one of the most important strategies towards rural development and poverty alleviation. Like any other developing country, Ethiopia is a poor agriculture-based economy with nearly 85% of the population dependent on agriculture (Bezabeh, 2011). Agricultural production is typically in the form of small-scale farming systems in all regions of the country and specifically in the study area.

Due to a number of reasons such as small areas of production land, limited skills and resources and lack of market information, the smallholder farmers are facing various challenges in production, market access, producer - trader relationships, high production costs, inconsistent quality of produce and competitiveness of agricultural produce have become major obstacles in agribusiness (Aaronson, 2012). To achieve the objectives of improving agricultural productivity and to develop self-reliance among small scale farmer/members quality seed production project is among diversified activities of this cooperatives union. COBFCU and ISSD-HU have been inter-veining on local seed business through primary cooperatives (Local Seed Cooperatives) involved under the umbrella of COBFCU as a member to contribute in solving the shortage of quality seed in the area as well as in the country by developing access of small scale farmers to quality, affordable seed of the crop in which they depend for food security and livelihood and to adopt seed production as a business in the area.

However, there are still limitations in increasing the number of members in the cooperatives that may help in addressing local seed business scale up among the majority of the farmers in the area (Nigusie Legesse, 2013). Hence, to advocate and promote cooperatives based local seed business in the area, the impact of agricultural cooperatives based local seed business on enhancing small scale farmers‟ livelihood of haricot bean seed producers in the area has not been studied yet.

Therefore, the assessment of the impact of local seed business on enhancing small scale farmers‟ (members) livelihood of haricot bean seed producers was help as an instrument in awareness creation to the society in order to improve farmers‟ livelihood of members in primary cooperatives, as well as the indicator in motivating governmental and Non-governmental organizations' attention toward supporting cooperatives in provision of finance, education, training and consultancy service for the cooperatives. Moreover, the study was elaborated the impact of cooperatives based local seed business in enhancing small scale farmers‟ livelihood by studied impact of access to farm land, access to haricot bean seed , access to market, access to credit, access to insurance and access to information in improving farmers‟ livelihood status of seed producers cooperatives in the area.

1.3.1 RESEARCH QUESTIONS

1. What are the impact of cooperatives based seed production on in enhancing productivity in respective districts?
2. What are the impact of access of farm land, improved seed, fertilizer, market, insurance and information on farmers‟ livelihood?
3. What are the impact of seed producer cooperatives on farmers‟ livelihood in respective district?

1.4. OBJECTIVE OF THE STUDY

1.4.1. General Objective

The general objective of this study is to investigate the impact of cooperatives based local Seed business to enhance Farmers‟ livelihood the case of Chercher Oda Bultum Farmers‟ cooperatives Union.

1.4.2. Specific Objectives

The specific objectives of the study are

1. To explain the impact of cooperative based seed production on in enhancing productivity in respective districts.
2. To explain the impact of access to farm land, improved seed, fertilizer, market, credit, insurance and information on farmers‟ livelihood in selective districts.
3. To elaborate the impact of seed producer cooperatives on farmers livelihood in respective districts.

1.5. Significance of the study

The impact study provides empirical evidence cooperative based local seed business enhancing farmers‟ livelihood haricot bean seed producers through membership of cooperatives affects the livelihoods of the rural households. The study also provide supportive information for government, non- government organizations, primary

cooperatives, cooperatives unions, ISSD and other stockholders to have a better understanding of quality high value haricot bean seed production on the livelihoods of the society and thereby enables them to work hard to design their future work accordingly and take timely corrective measures. Further the research could be put recommendation to better support cooperatives providing services, capacity building and investment in a way that it complement innovation process in market oriented agriculture that can improve small scale farmers‟ livelihood.

1.6. The scope of the study

The research was delimited geographically and study content wise to conducted the study on Chercher Oda Bultum farmers‟ cooperatives union primary Cooperative members of (Burka Gudina, Oda Meda, Misoma Gudina, Daro Gora and Milkesa Lafto Goba) primary cooperatives‟ in Oromia Regional State, West Hararghe Zone.However, the primary seed producers' cooperatives (PSPCs) have started production and marketing of seeds of different crops and varieties. Such as, Maize, Teff, Sorghum and Haricot Bean, this impact study focuses on only seed production cooperatives effect on production, Access of technology, market access, credit access, information and crop insurance in improving farmers‟ livelihood. The information was carried out in close consultation with primary cooperatives, Weredas and Zone Cooperative promoting office, Chercher Oda Bultum Farmers‟ Cooperatives union and ISSD.

1.7. The limitation of the study

In the study area, Chercher Oda Bultum Farmers' Cooperatives Union of West Hararghe, the study was accomplished with the following limitation: Firstly, there was shortage of references materials related to cooperative based local seed business to enhance farmers' livelihood. Secondly, Lack of current and most relevant secondary data related to land use, market information and population size rather than obtained from Central statistics agency.

1.8. Organization of the study

This study constitute of five major chapters. In the first and introductory chapter background, statement of the problem, objective of the study, research questions, scope of the study, significant of the study, limitations of the study, definition of study variables and organization of the study are already presented. The remaining part of the thesis is organized as follows, chapter two reviews literature which includes, introduction, theoretical review and basic concepts and theoretical frame works are presented. Chapter three introduces the research design, sampling technique and sample size, Source of data and method of data collection, dependent and independent variable, viability and reliability of the instrument and data analysis techniques are discussed. Chapter four the results and discussion of the research out comes and finally Section five presents summary, conclusion and recommendations of the study.

CHAPTER TWO

2. LITERATURE REVIEW

2.1. Introduction

The purpose of this chapter is to review previous study of cooperatives, local, international, focusing on investigating the evolution, movement and some general concepts and practices. As to the researcher knowledge, no detailed impact of cooperatives based local seed business Farmers livelihood of Haricot Bean seed producers practical study had been conducted on the cooperative societies in West Harerghe of Oromia region. Therefore, the study anticipates to fill the gap and review on the relevant literature is presents in this chapter.

2.2 Theoretical review and basic concepts

Over the years, various definitions have been given for cooperation. It has been the very basis of human civilization. The inter-dependence and the mutual help among human beings have been the base of social life. It is the lesson of universal social history that man cannot live by himself and for himself alone. The spirit of association is essential to human progress. Since the beginnings of human society individual have found advantage in working together and helping one another; first in foraging, then in hunting, later in agriculture and still in manufacture. Cooperation has been real meaning of social life and human progress. Therefore, the spontaneous cooperation that follows from social feeling coupled with the economic rationale of synergic effect of collective action, has led the genesis of formal cooperatives. (Pitchai, 2006)

Among the definitions available in literature, Dooren (1986) defined as a cooperative an association of members, either personal or corporate, which have voluntarily come together in pursuit of common economic objectives. The international cooperative Alliance (ICA; 1995) defined cooperative as an autonomous association of persons united voluntarily to meet their common economic, Social, and cultural needs and aspirations through jointly owned and democratically controlled enterprise.

In general, according to Chambo (2009) the definition of cooperative is built on four major catch words; first they are formed by group of people, who have specified need or problem; second the organization is formed freely by members after contributing to its assets. Thirdly the organization formed, is governed democratically in order to achieve the desired objectives on equitable norms. Lastly, it is independent enterprise promoted, owned and controlled by people to meet their needs. So, the latter is used in the present study as it provides a comprehensive definition of cooperatives.

2.2.1 Cooperative's values and principle.

2.2.2. Values: According to the ICA (1995) cooperatives are based on the value of self-help, self-responsibility, democracy, equality and solidarity. In this tradition of their founders, a cooperatives member believes in the ethical value of honesty, openness, social responsibility and careening of others.

2.2.3. Principles of cooperatives:

Ortmann and King (2007) indicates there are seven cooperatives principles which include:

1st Principle: Voluntary and open membership

Cooperatives are voluntary organizations, open to all persons able to use their services and willing to accept the responsibilities to membership, without social, political discrimination.

2nd Principle: Democratic members control:

Cooperatives are democratic organizations controlled by their members, who actively participate in setting their policies and market decisions.

3rd Principle: Members economic participation.

Members equitably to and democratically control, the capital cooperative. Members allocate surpluses for any or all the following purpose: developing the cooperatives

possibly by setting up reserves part of which least would be indivisible; benefiting members in proportion to their transaction with the cooperatives.

4th Principle: Autonomy and independence

Cooperatives are autonomous, self- help organizations controlled by their members. If they enter in to agreements with other organizations, including governments or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their cooperative autonomy.

5th Principle: Education, training and information

Cooperatives provide education and training for their members, elected representatives managers and employees. So they can contribute effectively to the development of their cooperatives. They inform the general public-particularly young people and option leaders about the nature and benefits of cooperation.

6th Principle: Cooperation among Cooperatives:

Cooperatives serve their members most effectively and strengthen the cooperative movement by working together through local, National and International structures.

7th Principle: Concern for community

Cooperatives work for the sustainable development of their communities through policies approved by their members (C.Pitichai, 2006)

2.2.3. Classification of cooperatives

Cooperatives can be classified according to their purposes as single purpose or multiple purpose or specialized organizations (Chukwu, 1990). On the other hand, cooperative can be classified based on their operation and function as: Agricultural marketing cooperatives, Workers Cooperatives, Hand craft cooperatives, Housing cooperatives, Fishers cooperatives, multipurpose cooperatives and saving and Credit Cooperatives (Singh and pundir, 2000).

Cooperative can be classified based on organizational level. The smallest individuals‟

setups in cooperative organizational level are primary cooperatives. They usually cover a limited area of operation. They have individual persons as a member. The working capital is obtained from paid up shares each member. The other organizational form is secondary cooperatives (cooperatives‟ Union) that strive to meet the interest of member cooperatives. The working capital is collected from paid up shares of the constituent primary cooperatives. The third layer in the organizational setup is the tertiary cooperatives (Federation). These type of cooperatives are usually formed by the secondary cooperatives and the working capital obtained from paid up shares of the constituent secondary cooperatives (Chukwu, 1990)

2.2.4. Functions of cooperatives

Cooperative has a higher comparatives advantage over other forms of organizations. This is though involving people in their activities. In mobilizing people‟s resource and political power in achieving their goal, in identifying and developing local leaders through democratic processing In securing vertical and horizontal integration of production, procurement, processing, and marketing functions and facilitating equitable distribution of benefits(Singh and pundir,2000).

Agricultural cooperatives helps their members to increase their yield and incomes by pooling the resource to support collective service provision and economic empowerment. In Ethiopia Agricultural cooperatives play a major role in providing farmers with inputs, while ensuring members‟ social cohesion and economic improvement (ATA2012).

According to (Minilik, et. al., 2012) Seed producer cooperatives has a great functions in up lifting the socio economic conditions of the members and their local communities. They also undertake the problem of food insecurity through provision of basic seed to farmers which are high yielding and marketable Crop varieties.

2.2.5. History of cooperatives in Ethiopia.

Ethiopia had long-existed indigenous institutions organized to solve social and economic problems. These institutions promote mutual benefits and have democratic and unrestricted structure, voluntary formation, more or less transparent decision making and

flexibility of rules and operational modalities. They have by laws and leaders often work on voluntary basis.

Among the main indigenous institutions are „Eder" which is a form of informal organization establish to solve social and economic problems. Principally, this organization performs burial ceremonies and provides financial and other support for the deceased family. It is highly structured and the most valued organization that is available in every part of the country. It is founded by mandatory monthly contribution, and often has legal status. It also now evolved in to an economic institution apart from providing Social services (Veerakumaran, 2007)

The other one is "Equb", which is a form of informal saving and credit institution organized by a group of people with more or less/nearly similar earning position. Members contribute money on a periodic basis. Rather, members use the money to solve their immediate economic and social problems.(Veerakumaran,2007).There, is also „Debo‟ or „Wenfel‟ or „Guza‟ or „Jigie‟) practices limited to rural areas where people living in the nearby areas pull their labor and other working capital such as Oxen and forms of equipment to perform farming activities in rotation. (Nigusie Legesse, 2013)

2.2.5.1 Modern cooperative movement in Ethiopia.

The first cooperative organization in Ethiopia were formed in 1950‟s with the objective of improving the living condition, providing social services and offering all the citizens on equal opportunity of contributing to the economic and social progress of the country(Danail,2006). Unfortunately, as a cooperative were subjected to state control, they did not register significance performance in terms of democratic management and autonomous power.

In 1960s during imperial regime, two cooperative acts were adopted. These are the decree No.44/1960, called „farm workers cooperative‟ and the 1966‟s cooperative society proclamation No.241/66 to facilitate the organization of land less people in to cooperatives. However, they could not enhance the democratic and autonomous development capabilities within the cooperative while, the latter has contributed to the today‟s proclamation No.147/1998 (Nigusie Legesse, 2013)

During the military rule , which is started in 1974 and lasted in 1991 different types of cooperatives are created and the guiding ideology was changed in to socialism. At first proclamation No.71/1975 was passed and gave the local framework for the formation of peasant associations, Agricultural producer organization and service cooperatives. This proclamation was later replaced by proclamation No. 138/1978, which greatly contributed to the creation of different forms of cooperative throughout the country (like Housing). However, those Cooperatives were managed in accordance with socialist style. The majority of the multipurpose agricultural cooperatives, especially producers cooperatives survived without being profitable as their existence were maintained to government subsidiaries. In general as several studies indicated, the factors contributed to the failure of socialist economy oriented cooperative, development include: (1).Involuntary membership (2).The cooperative leadership was fixed, (3). Unfair regulated output price offer and quota basis and (4). Service provision was not directed from individual members of the cooperatives.

The Federal government of Ethiopia has identified the cooperatives form of business organizations as instrumental for socio economic development of the rural country. It has also provided support to its development by opening the structure like cooperative agency, at Federal. Regional, Zone and at district levels. Cooperatives were refreshed first by proclamationNo.85/1994 and later by the more comprehensive cooperatives society proclamations No.147/98 and 402/2004, are created a fertile ground for the present day cooperative structuring and strengthening all types and level of cooperatives (FDRE, 2002). These proclamations have raised not only self-interest of cooperative members, but also improving the participation of members to operate efficiently in forming viable organization (Tadese, 2012).

2.2.6. Seed system and seed producers' cooperatives in Ethiopia

Seed is a key input for improving crop production and productivity. Increasing the quality of seeds can increase the yield potential of the crop by significant fold up and thus, is one of the most economical and efficient inputs to agriculture development (FAO, 2006).Generation and transfer of improved technologies are the basic for agricultural development particularly for agriculture base economy such as of Ethiopia. Despite of the

release of several seed technologies, particularly improved crops varieties, there has been limited use of improved seeds by the majority of farmers (CSA, 2010). Among others, unavailability of quality seeds at a right place and time combined with poor promotion system is one of the key factors accounting for limited use of improved seeds, which is further contributing for low agricultural productivity. The poor availability and promotion of improved seeds is due to inefficiency of seed system of the country.

2.2.6.1 Seed System in Ethiopia.

Seed systems can be defined as the way in which farmers produce, select, save and acquire seeds (Sthapit et. al; 2008). Seed system in Ethiopia represents the entire complex Organizational, institutional and individual, operations associated with the production, multiplication, processing, Storage, distribution and marketing of seed in the country. Farmers Particularly Smallholders ones which is organized as primary cooperative level are involved in multiple kinds of seed systems, which can guarantee them in obtaining the quantity and quality of seeds they needs and the market they produce. Many authors classify seed systems in to different types. Endale and his colleagues (2008) classified seed systems in to informal and formal. While, others classified in to local and informal (World Bank, 2009) or Farmers‟ and formal. The formal seed systems cover seed production and supply mechanisms operated by public or private sector specialists in different aspects of the seed system, ruled by well-defined methodologies, with controlled multiplication, and in most cases regulated by national legislation and international standardization methodologies. There is also a system that interact the two systems referred to as integrated seed system.

2.2.6.2. Formal seed system

The formal seed system is called formal because, it is mainly government supported system and several public institutions are also involved on it. It also includes private producers, cooperative unions, and private seed companies. The producers and companies are legally licensed to produce seed as foods and cash crops. (Tesfaye et. al, 2012)

2.2.6.3. Informal seed system

Informal seed systems includes farmer- saved and exchange seeds of important seed crops comparing both and local and improved varieties that have been accessed through the formal distribution system (Tesfaye, et al,2012).The seed production- distribution chain in the informal seed system is short and Simple, without any regulation. There are five features distinguish the informal from formal system. These are, the informal system is traditional, and semi structured, operate at the individual community level, uses a wide range of exchange mechanisms, and usually deal with small quantities of seeds often demanded by farmers.

2.2.6.4. Integrated Seed System

The line between the formal and informal seed sectors can become somewhat unclear, as seeds of improved varieties can be saved by farmers and eventually considered as "Local variety" or "Local Seed" In addition, in Ethiopia there have been attempts made by the government and NGOs to promote quality seed production and distribution through market channels for land race varieties, although until now the volume they represent is quite small (Lipper *et al*.,2005).Thus, the formal and local seed systems are not always as distinct or separated as the two labels may imply something to integrate and synergize both systems.

2.2.7. History of Haricot bean

Haricot beans the common name (Phaseolus Vulgaris) is originated in Peru, were introduced in Africa by Spanish and Portuguese traders during the 15^{th} century. The bean is widely grown throughout the continent, particularly in medium and high elevation areas. Cultivation of haricot beans is gaining importance in countries, such as Cameron, Guinea and Senegal Central and West Africa. Its short maturity period(less than three month), high nutritional value, relative short shelf life and law input requirements justify its importance even for poorer farmers to produce and consume. Due to this critical role for increasing food security, export earnings and employment creation for the national economy (FAO, 2012).

2.2.7.1. Haricot bean production and function in Ethiopia

Over the last two decades Ethiopia had tremendous efforts to improve production, productivity, marketing and export. Towards this end, the government improved agricultural extension service, issued high yielding seeds, established agricultural marketing institutions, like the Ethiopian Commodity Exchange, initiated agricultural marketing centers and information exchange system at the national level. These efforts resulted considerable improvement in the haricot bean production productivity (FAO 2005).

2.2.7.2. Haricot bean production

Haricot beans are among the most important grain legumes produced by small- scale farmers, for both subsistence and cash. They are usually intercropped with complementary crops such as maize, sorghum and „enset" owing to increase populations" pressure on agriculture land and pared nutrient needs in the soil. On average haricot beans accounts for 16.3 percent of pulse production in Ethiopia (FAO, 2005), and are mainly produced in the law lands and in the Rift Valley areas, where they are source of income, employment and food. Virtually, all bean production is carried out by about 3.1 million smallholder farmers, on small plots with minimum inputs (CSA, 2012). There are two types of beans, red and white. Small holders" farmers typically grow the red bean types for household consumption, while white haricot beans are produced almost exclusively for the export market (Ferris and Kaganzi, 2008).

2.2.7.2. Utilization of Haricot bean

Haricot bean have a high nutritional value, are rich in calcium, phosphorus and iron, and are thus considered a key crop of for improving food security. Haricot bean in Ethiopia are traditionally seen as a poor man"s food by the medium to high income Urban and rural consumers, and thus urban demand is low. Consumption of haricot bean is are common for Rural poor in the major producing areas. However with the food price spike and increased awareness about its nutritional value. (FAO, 2005)

2.2.7.3. Market access of haricot bean

The supply market of haricot bean is fragmented, as a result of the low volume supplied by small holders and handled by small traders at a different levels. The flow of haricot bean trades in domestic market can be viewed as a stream. Small amount of haricot beans are produced by millions of small holders over a wide area. The beans are collected at dispersed primary market centers by licensed or unlicensed village traders or small traders in the urban centers. Then they are delivered to district level wholesalers (suppliers) or to the agents, where those small lots are bulked and transported to whole seller market and the pure haricot beans have been dedicated to export.(FAO, 2005)

2.2.7.4. Problems observed in haricot bean sectors in Ethiopia (FAO, 2005*)*

1. Low Availability of improved seeds: The varieties of haricot beans most suitable for Ethiopia‟s climate and soil have been most tasted for productivity. They produce higher yields and are more resistant to disease and drought. Nevertheless, the seeds for those varieties are in short supply. Because the majority of farmers are not able to obtain those seeds, due to this they plant conventional ones that are lower yielding and less disease.

2. Problems with quality of improved seeds: Even if improved seeds are available in some areas of Ethiopia, the quality tends to inferior due to frequent mixing of types of seeds(improved with unproved ones, healthy seeds mixed with disease infected seeds and lack of proper labeling to indicate which variety farmers are purchasing.

3. Low access to fertilizers and pesticides: small-scale farmers have limited access to fertilizers and pesticides due to their low availability at the local level, lack of knowledge regarding the type and quantity of fertilizer (pesticide) needed for the production of haricot beans, and scarcity of financial resources,

4. Lack of Training Regarding proper cultivation of haricot beans: Small scale farmers use traditional method of land preparation and are un aware of improved method that have the potential to positively influence there haricot bean yields.(e. g: optimal quantity of plowing ,weeding, proper sawing rate, and proper cultivation).

5. Problems with access of microloans for purchase of seeds: the micro finance institutions are reluctant to provide micro credit of seeds, because they see farming as a risky business. Small-scale farmers have almost no access to such financial resources; consequently, their access to inputs necessary to improve their crop yields is limited.

6. In efficient marketing system, lack of market information regarding export market preferences for different varieties of haricot beans and poor storage systems: Farmers often unaware of the preferences for certain varieties haricot beans in export markets. Without such information they end up with excess quantities of less - desired crop that can‟t be exported. In addition, small scale farmers usually do not have storage facilities that allow them to safely store beans when needed, so they experience significant post-harvest losses. Cyclical changes in price patterns in the world market sand changing export opportunities: Like all commodities traded internationally pulse are influenced by commodity cycles. Their price are influenced by commodities demand and supply in the given year in the world markets (FAO, 2005)

2.2.8. Development of seed producer cooperatives in Ethiopia.

Seed producer cooperatives, as economic enterprises play a great role in improving the socioeconomic conditions of their members and their local communities through addressing the problem of food insecurity by provision of basic seed to farmers which are high yielding and marketable varieties. Formal seed producer cooperative started in Ethiopia before 10 years by organizing informal seed producer groups in collaboration with governmental and non-governmental organizations. Informal seed producer groups were functioning without a legal ground and vision, mission and strategic plans. Therefore to increase a supply of seed in accountable and sustainable manner legal groups became important and seed producer cooperatives did emerge (Minilek et al., 2012). Since 2009 a number of seed producers and marketing cooperatives have been established in different parts of the country following the support provided by the local seed business project and other partners.

2.2.9. Local Seed Business (LSB)

Local Seed business (LSBs) are recent Dutch-Supported Project that aims to accelerate the transition from farmers‟ community or cooperative based seed production towards a formal commercial approach to seed production. The initiative is piloting and promoting farmer- led LSBs in four regions in Ethiopia, it also seeks to support them in becoming autonomous in their operations within the Ethiopian seed system. During their initial set- up stage, LSBs may operate within a community/local setting where commercialization takes place at kebele or district levels. At those levels, the seed quality may be an informal status or it may be quality declared. However at the status of LSBs increase they may be gradually commercialize seed beyond district levels and entire the formal system, producing certified or other forms of quality- declared seed. In essence, the project aims to strength both farmers‟ organizationally independent role and the commercial orientation of local seed production within the local seed system (Fitiwy and Abay, 2010).Prior the LSB establishment many farmers‟ seed production groups or cooperatives are approached by the bureau of agriculture and rural development (BoARD) or seed enterprises or unions to produce seed on contractual agreement. Also identified as a means of entering seed business in the future, those contacts may not come regularly, and therefore, may often be seen by farmers as a simply an alternative livelihood activity. The major goal of LSBs project, there is formally organize those farmers groups and cooperatives in to legal business units, referred to seed producers cooperatives (SPCs).LSBs classified as SPCs, the legally-established business are able to be supported on technical seed production, cooperative management and business development. The seed producers‟ cooperatives prepared seed production business plan for each cooperative and approved the plan by general assembly (LSB, 2009).

2.2.10. Livelihood Definition, Concepts and Characteristics

2.2.10.1. Definition and concepts of livelihood

A livelihood includes the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stress and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Chambers & Conway, 1991). Livelihood does not just mean the activities that people carry out to earn a living. It means all the different elements that contribute to, or affect, their ability to ensure a living for themselves and their household. This includes: the assets that the household owns or is able to gain access to- human, natural, social, financial and physical; the activities that allow the household to use those assets to satisfy basic needs; the different factors that the household itself may not be able to control directly, like the seasons, natural disasters or economic trends, that affect its vulnerability; policies, institutions and processes that may help them, or make it more difficult for them, to achieve an adequate livelihood. The livelihood strategies that households develop to ensure their livelihoods will depend on how they can combine their livelihood assets, take into account the vulnerability context in which they live, and the policies, institutions and processes that affect them (DFID, 2000).

2.2.10.2. Important characteristic of livelihoods

Poverty analyses have shown that people's ability to escape from poverty is critically dependent upon their access to assets. Different assets are required to achieve different livelihood outcomes. For example, some people may consider a minimum level of social capital to be essential if they are to achieve a sense of well- being or, in remote area people may feel they require a certain level of access to natural capital to provide security.

2.2.10.3. Livelihood assets

Assets may be tangible, such as food stores and cash savings, as well as trees, land, livestock, tools, and other resources. Assets may also be intangible such as claims one can make for food, work, and assistance as well as access to materials, information, education, health services and employment opportunities (Balgis et al., 2005). Livelihood

assets can be classified into human, natural, physical, financial, social and political capital.

Human capital: People‟s health and ability to work, and the knowledge and skills they have acquired over generation of experience and observation, constitute their human capital. Education can help to improve people‟s capacity to use existing assets better and create new assets and opportunities (DFID, 1999).

Natural capital: for people living in rural areas, natural capital, including assets, such as land, water, forest resources and livestock, are obviously of key importance for the production of food and income. The ways in which people have access to these resources ownership, rental, common pool, etc. need to be considered as well as the condition of the resources themselves, their productivity, and how they may be changing over time (Kollmair, 2002).

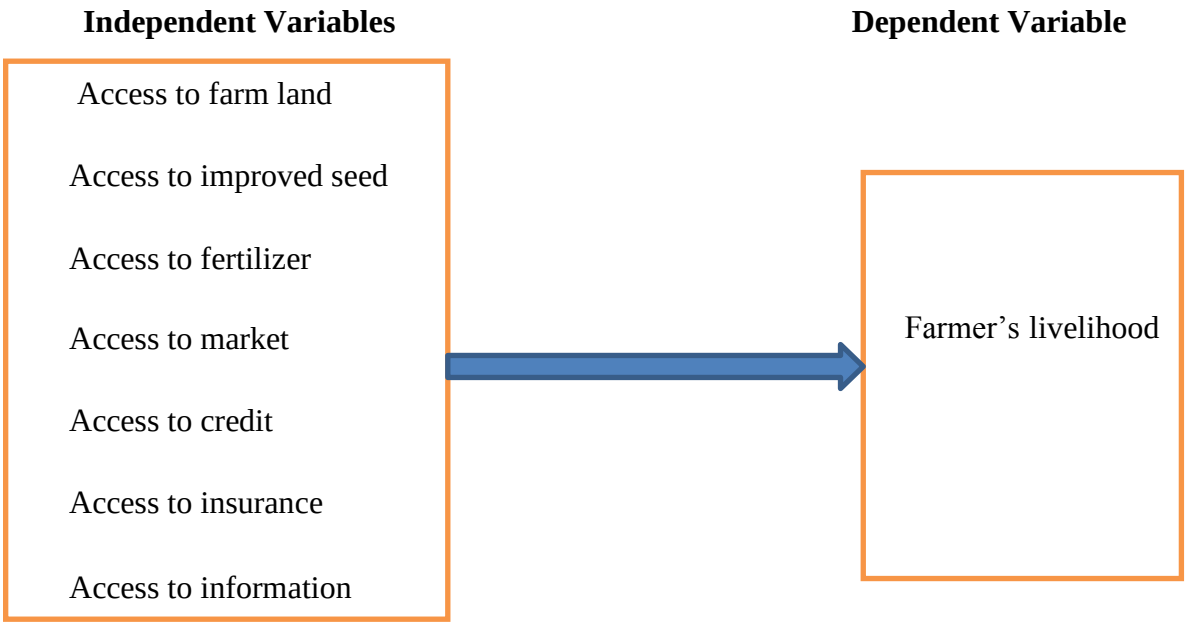
Physical capital: physical capital may include tools and equipment, as well as infrastructure such roads, ports and landing places, and market facilities. Access to these, as well as other forms of infrastructure, such as water supply or health care facilities, will influence people‟s ability to earn an adequate livelihood (DFID, 1999).

Financial Capital: financial capital available to rural households may come from the conversion of production into cash in order to cover periods when production is less to invest in other activities. They may make use of formal and informal credit to supplement their own financial resources. Two main source of financial capital can be:

Social capital: the way in which people work together, both within the household and in the wider community, is of key importance for household livelihoods.).

Political capital: refers to the trust, goodwill and influence by a politician with the public and other political figures. This form of capital is accumulated by maintaining consistent policy positions and ideological views through experience, seniority and serving in leadership positions (Casey, 2008).

Figure: 1 Conceptual Framework of the study developed by researcher



Source: from own survey, 2017.

2.3 Conceptual framework of the study

The Farmers‟ livelihood cooperative based Haricot bean seed producers‟ cooperatives household determined by independent variables. Access to farm land the farmers owns the higher would be the output result and aa higher income to available to exploit the opportunity to buy and used improved seed and chemical fertilizers determine the yield level of haricot bean productivity this improve the income of livelihood. The farmers‟ gets livelihood from the use of agricultural inputs motivated to adopt technologies, (Kraenzle, 1989 Klien et. al., 1997)

The farmers‟ household who had access agricultural inputs like fertilizer and improved seeds are expected more production and improve their livelihood. (Gezahagn, 2008). Technology contributes positively to Haricot bean seed production and enhance livelihood.

Access to market was indicates that the awareness of key market information to increase the bargaining strength, removal of intermediaries and direct interaction with consumers, they used cooperative channel to sale their haricot bean seed (Neguse, 2013). High access to market integration have an opportunity to use inputs and sale of large proportion of agricultural commodities and this leads improved agricultural technologies created good opportunities for haricot bean seed production and marketing in order to get high income and enhance farmers‟ livelihood(Gezahany, 2008).

Economic constraints related to input supply and input output price which is linkages from household level is depend on agricultural lack of capital and credit facilities. Access to credit is indicates that the cooperative members have access to credit to improve farmers‟ access to new production technology. Access of credit increases the farmers‟ purchasing power to purchase improved seed, fertilizer and other input new technology and able to enhance their livelihood. (Tesfaye et. al., 2001)

Access of insurance is committed to work with farmers to manage the risk associated with haricot bean production. Accessibility of crop insurance of haricot been and other crops reduced risk of crop fail promoting more intensive use of land improve the livelihood of members (Neguse, 2013).

Access to information and knowledge exchange increases farmers knowledge of production techniques improved overtime, acquisition of agricultural inputs from cooperative and the extension department creates opportunities to meet with people and discuss development issues. Farmers‟ have an access and aware of key information of market and extension services by mobilizing their members and help them to organize for sustainable livelihood (ICA, 2010).

CHAPTER THREE

3. RESEARCH DESIGN AND METHODOLOGY

3.1. Introduction

This chapter deals with the methodology used to carry out the study. The contents included in this methodology are research design, sample technique, sample size, sample size determination, source of data and method of data collection, dependent and independent variables, validity and reliability of the instrument and data analysis technique are discussed.

3.2. Research Design

The study was employed explanatory and descriptive research design used as attempt to connect ideas and understand cause and effect on independent and dependent variables. The researcher design to study the impact of cooperatives based local seed business in enhancing small scale farmers' livelihood the case of Cherchrer Oda Bultum farmers‟ cooperatives union.

3.3. Sampling Technique and Sample Size

3.3.1 Sampling Technique

For the purpose of assessing impact of seed producers‟ cooperatives and identification of factors influencing the productivity of cooperatives, the three stage stratified random sampling was used in four districts. In the first stage: Oda Bulttom, Habro, Guba Koricha and Anchar are purposefully selected based on potential Haricot been seed producers cooperatives which are members of Chercher Oda Bultum Farmers‟ Cooperatives Union Burka Gudina from Oda Bultum, Oda Mada from Habro , Misoma Gudina from Gubba Koricha and Daro Gora and6+ Milkesa Lafto Goba from Anchar. In the second stage, from 2678 total household in the study area, 1186 households are members of cooperatives. Based on Taro Yemane (1973) research sample size calculation method 348 households from overall population were considered in which 154 households from Cooperatives members are selected. Moreover, to decide the sample size among each 5

seed producer cooperatives stratified random sampling was employed in which (51, from Burka Gudina,13 from Oda Meda, 38 from Misoma Gudina, 24 from Daro Gora and 28 from milkeesaa Laftto Goba) were randomly selected for questionnaire from the four Strata.

3.3.2. Sample Size determination

The Sample of the research were calculated and determined based on Taro Yamane (1973) formula with 95% Confidence level. The Calculation formula of Taro Yamane, is presented as fallows,

$$n = \frac{N}{1 + N(e)^2}$$

Where n= Sample Size Require

N= Number of people in the population

e = Allowable error (5%)

n=N/1+N (e2)

n= 2678/1+2678 (0.05)2

n=2678/2678(2.5)-03

n= 2678/7.695

n= 348

About of total 348 total population household members sample had been calculated. There are 1186 seed producers‟ cooperatives in four districts.

In Stratified Sampling after identifying the same size using the above equation the researcher allocated the estimated sample size to the strata under the study. It was used when the size of the sample from a given of strata were proportional to the size of strata. That is the proportional allocation a small sample taken from small strata and large sample from large strata and the simple size in each strata was fixed.

For Members household (MH) $= \frac{nNH}{N}$ MH = 348X1186/2678=154

N1. Burka Gudina Haricot bean SPCs

N2. Oda mada Haricot bean SPCs

N3. Misoma Gudina Haricot bean SPCs

N4. Daro Gora Haricot Bean SPCs

N5. Milkesa Lafto Goba Haricot Bean SPCs

MH = $\frac{nNH}{N}$

N1 =154X397/1186 =51

N2 =154X98/1186 =13

N3 =154X295/1186 =38

N4 =154X214/1186 =28

N5=154X182/1186=24

N5 = 194X292/1492=38

Table.3.1. Sample of Households and Numbers of respondents

Name of SPCs	Total Population.		Samples of HH	
	N	Total Members	n	Sample HH
Burk Gudna	750	297	97	51
Oda Mada	620	98	81	13
MisomaGudina	398	295	51	38
Daro Gura	404	214	53	24
Milkes L /Goba	506	182	66	28
Total	2678	1186	348	154

Source: by own estimation of, 2017 survey data

3.4. Sources of Data and Methods of Data Collection.

In this study primary and secondary sources of data were used. The primary data was collected using questionnaire and the secondary data were collected from published and un published researches, books, and literature review. In this research quantitative data was used.

3.5. Dependent and Independent variables

This study has one dependent variable which is farmers" livelihood. This variable was measured on category scaling which is, Yes or No. This study has also seven independent variables. Namely: Access to farm land, access to improved seed, access to fertilizer, access to market , access to credit, access to insurance and access to information. These variables were also measured on category which is, Yes or No.

3.5.1. Discussion of the variables

Sex of the household head (SEX): The variable indicate that female-headed households have less access to improved technologies, land, and extension services as compared to male headed households (Green & Ngongola, 1993). If the household head is male, he has enough time compared to female headed to get more information about cooperative. This variable is expected to have indeterminate effect on participation in cooperative.

Age: This is discrete variable, the age of the household, which considered as a proxy of experience in farming, measured in years. However the household head gets older his managerial ability is expected to decrease. The age is hypothesized to have a positive impact in haricot Bean seed production (Balay, 2004).

Education: - This Variable is a continuous Variable, and that refers the household head had literate or illiterate. If the household head is literate, the better would be the knowledge of the farmer towards the cooperative and acquire news and understanding about the benefits of the cooperative easily (Kraenzle, 1989; Klien et. al., 1997). Hence, those farmers with higher formal education are expected to be in a better position to know the benefits of cooperative and they are more likely to take part in Haricot Bean seed production joining other members of the cooperatives. So this variable is expected to influence production positively.

Family size: - This variable is a discrete variable and refers to the total number of family members in the household. The size of economically active family members within a given farming household affects the crop production activities positively (Million and Belay, 2004). In this study, if the majority of the family members are in active labor force age, the household will have enough labor force and the probability to participate in varied income earning opportunities and cooperatives becomes higher. In such cases family size is expected to have positive effect on participation in cooperative. Otherwise, if the majority is dependent, the effect becomes negative.

Access to farm land: - This variable is a continuous variable and refers to the total area of Farm land that a farmer owns measured in hectares. It is assumed that the larger area of the farm land the farmer owns, the higher would be the output and as a result higher income to buy different farm inputs like improved seed (Kraenzle, 1989 Klien, et. al., 1997). Farmers with higher level of output are expected to take part in cooperative

compared to those who have not. Therefore, it is expected that this variable would have positive influence on participation in the cooperative.

Access of technology: - The farm households who had access agricultural inputs like fertilizer and improved seeds are expected more productive and enhance their livelihood (Gezahagn, 2008). Technology contributes positively to Haricot bean seed production.

Access to market

Access of market was indicates that the awareness of key market information to increase the bargaining strength, removal of intermediaries and direct interaction with consumers, they used cooperative channel to sale their haricot bean seed (Neguse, 2013).

Access to Credit

Access of credit was indicates that the cooperative members have access to credit to improve farmers‟ access to new production technology. Access of credit increases the farmers‟ economy to purchase improved seed, fertilizer and other input (Tesfaye, et. al., 2001).

Access to Insurance

Access of insurance was indicates the majority of the seed producer members have an access of insurance in order to avoid risks seed producer cooperatives used contract farming and crop insurance (Neguse,2013).

Access to information

Access of information was indicates the more percentage of seed producer cooperative members have an access and aware of key information of market and extension services by mobilizing their members and help them to organize for sustainable livelihood (ICA, 2010).

3.6. Validity and Reliability of the Instrument

3.6.1. Validity of the Instrument

Validity, refers to the extent to which a measurement procedure actually measures what it is intended to measure rather than measuring something else, or nothing at all"(Andy Field, 2009). To maintain the validity of study instruments, care was taken during questionnaire development so as to make the set of items to be clearly understood by respondents. The researcher first checked whether respondents could easily

understand the items in the questionnaire by taking feedback from colleagues. Then actual questionnaires were distributed incorporating feedbacks from the colleagues and selected respondents and questionnaires covered all issues related to impact of the determinants on improving farmers‟ livelihood construction as much as possible. In this study five enumerators were recruited, who have good knowledge and experience on farming system and they were given training for two days on the objectives of the data collection at Chercher Oda Bultum Framers' cooperative Office. The Data Collection was carried out November1- December 30, 2017 at Oda Bulttom, Habro, Guba Koricha and Anchar distric.

3.6.2. Reliability of the Instruments

Reliability test is used to determine the extent to which the items in the questionnaires are related to each other. In order to test the reliability of the instrument the researcher used Cronbach‟s Alpha values of multi-item scale. Alpha normally has values between 0 and 1; the higher the value the greater the internal consistency of the scale. Scales were considered reliable if their Cronbach alpha value reached at least 0.70 (Andy Field, 2009). For all questionnaires used in the study SPSS Alpha statistical tool of version (16) was employed to determine whether the questions were reliable or not.

Table 3.2. Reliability Analysis for over all items used

Number of items	Cronbach Alpha
7	0.783

Source: from own survey result, 2017

As the above table 2, shows the reliability of items used in this research was about 78.3%. This indicates that there was high internal consistency between the questions used, which was by far greater than the acceptable standard which signifies as an indication of reliability

3.7. Data Analysis Techniques

The data was basically analyzed by using descriptive, Correlation and regression model. Simple descriptive statistical methods of data analysis such as mean, standard deviation, and frequency distribution employed using the Statistical Package for Social Science (SPSS, Version 16,) software. In order to study impact of Cooperatives based local seed enhancing small scale farmers‟ livelihood of the study area, correlation and binary logistic regression analysis techniques were used.

3.7.1 Descriptive Statistics.

Descriptive statistics: Statistics concern with the development of certain induces from the raw data and used to describe the socioeconomics and demographic characteristics of the member households. The basic statistical measure and analysis the research data are Central tendency and measure of dispersion, (Kothari, 2004)

3.7.1.1 Measure of Central tendency

Measure of central tendency (statistical average) tells us point about which items have tendency to cluster. Such measure is considered as the most representative figure for the entire mass of data. The most measure of central tendency used are averages mean, media and percentile (Kothari, 2004)

3.7.1.2 Measure of dispersion

An average represent a series only as a best simple as a single figure in order to measure the scatter statistical data. The important measure used are .mean deviation and standard deviation. Mean deviation is the average difference of the values of the values of items from same average of the sires. Such a difference is technically described as a deviations was measured dispassion of a series.

3.7.2. Binary Logistic regression analysis

Regression analysis is a form predictive modeling techniques which investigates the relationship between dependent (target) and independent (predictor). The technique used for finding of cause effect and significant relationship between two variables and strength of impact of multiple independent and dependent regression. Logistic regression is a multiple regression, but with an outcome variable that is a categorical variable and predictor variable that are continuous or categorical. In its simplest form, this means that we can predict which of two categories a person is likely to given certain other information. The binary logistic regression model was specified as follows:

Logit (pi) = log (pi/1-pi) = b0 + b1x1 + b2x2 + … + $b_k x_k$ (Agresti, 2002), whereby:

Logit (pi) = ln (odds (event), that is the natural log of the odds of an event (Impact of cooperative based local seed enhancing farmers‟ livelihood) occurring

p_i= Probability (event), that is the probability that the event will occur

$1-p_i$ = Probability (non-event), that is the probability that the event will not occur

b_0 = constant of the equation

b_1 to b_k = coefficients of the independent (predictor, response) variables

k = number of independent variables

x_1 to x_i = independent variables entered in the model, which were:

x_1 = Access to farm land

x_2 = Access to improved seed

x_3 = Access to fertilizer

x_4 = Access to market

x_5 = Access to credit

X_6 = Access to insurance

X_7 = Access to information

CHAPTER FOUR

RESULT AND DISCUSSION

This chapter deals with the empirical findings and discussion of the result obtained from descriptive, correlation and regression model. It has three major parts: In the first part of the household demographic and socioeconomic-factors of seed producers‟ cooperatives were analyzed, presented and discussed under descriptive statistics, by using statistical package for social science (SPSS), in the second part correlation and Binary logistic regression analysis techniques were used to determine the proportion of respondents to choose the different responses.

4.1. Descriptive Results

4.1.1 Descriptive statistics

In this study both continuous and discrete variables were used to describe the sample households. The survey administered to sample households with structured in Haricot Bean Seed producers Cooperatives in Oda Bultum, Habro, Guba Koricha, and Habro districts with the objectives of to investigate the impact of Cooperatives based local Seed business to enhance farmers‟ livelihood the case of Chercher Oda Bultum Farmers Cooperatives Union. A total of 154 respondents were selected. In this section impact of cooperative based local seed business to enhance farmers‟ livelihood, on selected factors are presented and discussed.

4.1.2. Household Characteristics

4.1.2.1. Sex of the household head

According to the survey result, 5.2 percent the sample households are headed by females and the rest 94.8 percent are headed by male are participates in Haricot bean seed production. This indicates female-headed households have less access to being haricot bean seed cooperative members as compared to male headed households (Green & Ngongola,1993), If the household head is male, he has enough time compared to female headed to get more information about cooperative. This variable is positive relationship to haricot bean seed productivity.

Table 4. 1. Sex of the Household head					
Respondents Sex		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	146	94.8	94.8	94.8
	Female	8	5.2	5.2	100.0
	Total	154	100.0	100.0	

Source: from own survey, 2017

4.1.1.2. Age of Household Head

From the survey result the major Household age ranges seen in the table 4.2. About 52.6 percent are young and 39 percent of the householders are Adult. Totally 91. 6 percent of the respondents are economically active group. This indicates the majority of the respondents were capable to do farming practice and improve the livelihood status. This is supported by (Belay, 2004). Who argue that younger farmers would most likely to be willing to spend more time to obtained information on improved technology compared to the elder farmers.

Table 4.2. Ages of household head					
	Age respondents	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15-39(Young)	81	52.6	52.6	52.6
	40-60(Adult)	60	39.0	39.0	91.6
	>60(elder)	13	8.4	8.4	100.0
	Total	154	100.0	100.0	

Source computed from survey data,2017

4.1.1. 3. Level of education of household head

In the study area about 27.9 percent of the respondents are illiterate, while 72.1 percent are literate. From this 47.4 percent are under primary school (1-6), 18 percent of the respondents are 6-10 and 5.8 percent of the respondents are under secondary school. This implies the major household head Seed producers cooperatives are literate and have a better knowledge of how to make living standards (Belay, 2004).

Table 4.3. Educational level of the respondents.

Education Respondents		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Illiterate	43	27.9	27.9	27.9
	1-6	73	47.4	47.4	75.3
	6-10	28	18.2	18.2	93.5
	10-12	9	5.8	5.8	99.4
	>12	1	.6	.6	100.0
	Total	154	100.0	100.0	

Source: computed from own survey, 2017

4.2. Descriptive and frequency distribution Analysis

Table 4.4 Frequency distribution of dependent and independent Variables

No.	Factors	Total sample	Response		Valid percent		Cumulative percent	Total percentage
			Yes	No	Yes	No		
1	Access to Farm Land	154	97	57	63	37	63	100
2	Access to Seed	154	104	50	67.5	32.5	67.5	100
3	Access to Fertilizer	154	109	45	70.8	29.2	70.8	100
4	Access t0 Market	154	97	57	63	37	63	100
5	Access to credit	154	77	77	50	50	50	100
6	Access to Insurance	154	95	59	61.7	38.3	61.7	100
7	Access to information	154	105	49	68.2	31.8	68.2	100
8	Livelihood	154	102	52	66.2	33.8	66.2	100

Source from own survey, 2017

Table 4.5. Descriptive Statistics			
Independent variables	N	Mean	Std. Deviation
Access to farm land	154	1.37	.484
Access to improved seed	154	1.32	.470
Access to fertilizer	154	1.29	.456
Access to market	154	1.37	.484
Access to Credit	154	1.50	.502
Access to Insurance	154	1.38	.488
Access to information	154	1.32	.467
Valid N (list wise)	154		

Source from own survey, 2017

4.2.1. Access of farm land

From 154 respondents. About 63 percent of the households answer the question, yes and 37 percent of the respondents No; with mean score 1.37.This indicated that the majority of cooperative members which have an access to farm land are more likely to be produce haricot bean seed and increase their livelihood. This is supported (Mulugeta, 2002). Access to farm land is positively relationship with production.

4.2.2. Access to improved Seed

As based on the above table, From 154 household respondents about 67.5 percent of the respondents‟ were an access to improved seeds and 32.5 percent of the respondents have no, with mean values scored 1.32.This indicates the cooperatives membership have an access to improved seed have more productive and improve their livelihood (Gezahany, 2008).

4.2.3. Access to fertilizer

From 154 sample households 70.8 percent of seed producers cooperatives members have an access to fertilizer and 29.2 percent of the respondents are not access with mean score value 1.29. This indicates the major members have an access fertilizer and improve their livelihood than who have no access to fertilizer (Gezahany, 2008).

4.2.4. Access to market

As indicated in table 6, regarding the market access from the total respondents 63 percent of the respondents answer yes, while, 37 percent of the respondents No, and mean score of 1.37.This indicates that the more percentage of seed producer cooperatives aware of key market information to increase the bargaining strength, removal of intermediaries and direct interaction with consumers, they used cooperative channel to sale their haricot bean seed (Neguse, 2013).

4.2.5. Access to credit

As indicated in the above table, regarding access to credit from the total respondents the seed producers‟ cooperatives 50 percent of the cooperatives members‟ answers yes, with mean score of 1.5. This indicates half of the cooperative members have access to credit to improve farmers‟ livelihood by using new production technology. Access of credit increases the farmers‟ economy to purchase improved seed, fertilizer and other input (Tesfaye, et. al., 2001)

4.2.6. Access to insurance

Based on the above table, regarding to access to insurance from 154 household sample about 61.7 percent of the seed cooperatives members yes and 38.7 percent of the respondents answers no, and mean score of 1.38. This indicates the majority of the seed producer members have an access of insurance and avoided risks seed by using contract farming and crop insurance on improve their livelihoods (Neguse, 2013).

4.2.7. Access to information

As indicated the above table regarding to access to information from the total respondents 68.2 percent of cooperatives members answered yes, and 32.8 percent were answered No, with the mean score 1.32.This indicates the more percentage of seed producer cooperative members awarded of information of market and extension services by mobilizing their members and help them to organize for sustainable livelihood (ICA, 2010)

4.3. Assumptions of logistic regression

1. The Dependent variable must be dichotomy (2 categories)
2. The independent variable need not be interval, nor normally distributed, nor of equal variance in each group.
3. The categories (groups) must exclusive and exhaustive, a case can only be in one group and every case must be a number of one of a groups.
4. Logistic regression determine the impact of multiple independent variables presented simultaneously to predict membership of one or other of the two dependent variable categories.
5. Large Sample are needed than of linear regressions, because maximum likelihood coefficients are a large sample estimates.

4.4. Analysis factors by significant test

In this section, the standardization and the relationship between the variables were measured by using correlation to understand the direction and magnitude of the variables and the multiple regression identifies the best predictable are presented. For the purpose assessing of the study Pearson product-moment correlation coefficient and multiple regression analysis were performed. According to Miles & Banyard, 2007) and also invited by Karl Pearson, the correlation coefficient can range from -1 to +1. A coefficient +1 indicates that two variables are perfectly positively correlated, so as one variable increases, the other increases by proportionate amount. Conversely a coefficient of -1 perfectly negative relationship. If one variable increase, the other decrease, by proportionate amount. A coefficient of zero indicates no linear relationship at all and so if one variable changes, the other stay the same. The

multiple correlation coefficient R and the corresponding R^2- value were use full measure of how well the model fits the data. Multiple Linear regressions model was used because of more than two independent variables and as the parametric nature of the variables and also the variables that are statistically significant for this research when the P value < 0.05.

4.4.1Multicollinearity among independent factors

Table 4.6.Multicollinearity of independent variables

Factors		Access to farm land	Access to Seed	Access to Fertilizer	Access to Market	Access to Credit	Access to Insurance	Access to Information
Access to farm land	Pearson C.	1						
	P-value							
	N	154						
Access to Seed	Pearson C.	.368**	1					
	P-value	.000						
	N	154	154					
Access to fertilizer	Pearson C.	.497**	.524**	1				
	P-value	.000	.000					
	N	154	154	154				
Access to market	Pearson C.	.497**	.523**	.618**	1			
	P-value	.000	.000	.000				
	N	154	154	154	154			
Access to credit	Pearson C.	.461**	.671**	.540**	.565**	1		
	P-value	.000	.000	.000	.000			
	N	154	154	154	154	154		
Access to insurance	Pearson C.	.402**	.563**	.654**	.715**	.633**	1	
	P-value	.000	.000	.000	.000	.000		
	N	154	154	154	154	154	154	
Access to information	Pearson C.	.537**	.404**	.579**	.529**	.472**	.567**	1
	P-value	.000	.000	.000	.000	.000	.000	
	N	154	154	154	154	154	154	154

**. Correlation is significant at the 0.01 level (1-tailed).

Source: from own survey, 2017

The above table indicated that the relationship between each independent factor with other is positively correlated and Pearson correlation coefficient range from 0.368 to 0.737. It shows the multicollinearity of the variables are acceptable.

4.4.2. Pearson product moment correlation coefficient

The following section presents the results of Pearson's Product Moment Correlation on the relationship between independent variables with dependent variable. The table below indicates that the correlation coefficients for the relationships between Cooperatives based local seed business enhancing small scale farmers‟ livelihood the case of Chercher Oda Bultum Farmers cooperatives union and its independent variables are linear and positive ranging from low to very strong positive correlation coefficients. In this regard the value of correlation coefficient determines the strength of the correlation. Correlation is an effect size, and so we can variably described the strength of the correlation using the guide that Evans, (1996) suggests for the absolute value of r = 0.00 - 0.19 "very week", 0.2-0.39, weak", 0.40-0.59: "moderate", 0.6-0.79: "Strong", 0.80-1.0 "very Strong".

4.4.3. The relationship between factors and farmers' Livelihood

Table 4.7. The relationship between dependent and independent Variables.

Factors		Livelihood
Livelihood	Pearson Correlation	1
	Sig. (1-tailed)	
	N	154
Access to farm land	Pearson Correlation	.633**
	Sig. (1-tailed)	.000
	N	154
Access to Seed	Pearson Correlation	.471**
	Sig. (1-tailed)	.000
	N	154
Access to Fertilizer	Pearson Correlation	.602**
	Sig. (1-tailed)	.000
	N	154
Access to Market	Pearson Correlation	.562**
	Sig. (1-tailed)	.000
	N	154
Access to Credit	Pearson Correlation	.572**
	Sig. (1-tailed)	.000
	N	154
Access to insurance	Pearson Correlation	.737**
	Sig. (1-tailed)	.000
	N	154
Access to information	Pearson Correlation	.523**
	Sig. (1-tailed)	.000
	N	154

**. Correlation is significant at the 0.01 level 1-ailed).

Source own survey, 2017.

The Pearson product moment correlation coefficient of the above table shows: Access to farm land, r = 0.633, P= 0.000, fertilizer, r = 0.602, P=0.000, and insurance r=0.737, P=0.000, are positive and strongly correlated with farmers‟ livelihood. However, Access of seed, r=0.471, P= 0.000, information, r = 0.523, p= 0.000, Market r= 0.562, P= 0.000 and Credit r=0.562, P = 0.000, are moderately explained farmer‟ livelihood.

4.4.4. Binary logistic regression good fitness test analysis.

This analysis is used to estimate the probability of binary response based on the independent variables. It can determine the level to which variables explain the variance in the dependent variables. In other words multiple logistic regression analysis shows the relative predictive influence of each variable on dependent variables (Andy Field, 2004)

Interpretation of the print out logistic regression model tables;

4.4.4.1. Classification Table:

Table 4.8. Classification Table

Observed		Predicted		
		Livelihood		
		Yes	No	Percentage Correct
Step 0	Livelihood Yes	102	0	100.0
	No	52	0	.0
	Overall Percentage			66.2

Source own survey, 2017.

a. Constant is included in the model.

b. The cut value is .500

In Step 0, the above classification table this table: the logistic regression compares this model with this model including all predictors to determine whether the latter model is appropriate. The logistic regression on classification table indicates the predictors determine the livelihood determined by 66.2 percent.

4.4.4.2. Variable in the equation

Table 4.9. Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	-.674	.170	15.633	1	.000	.510

Source own survey 2017.

Under Variable in the equation we see the intercept in (odds) = -6.74. By exponentiation both side of the expression the predicted odds {Exp. (β)} =0.501. That is the predicted odds of deciding to Predicted the livelihood is .501. Science, 52 of our house holds responds answer No, and 102 of the respondents answer, yes, our observed odds are 52/102 = 0.501. So the table4.6 revealed that the combination of independent variables can predicted the livelihood.

4.4.4.3. Omnibus Tests of Model Coefficient

Table 4.10. Omnibus Tests of Model Coefficient

		Chi-square	df	Sig.
Step 1	Step	144.745	7	.000
	Block	144.745	7	.000
	Model	144.745	7	.000

Source own survey 2017.

In the above table 4.9, the chi-square has 7 degree of freedom, a value of 144.745 and probability P= 0.000.This test indicates the model has strength power to predict the model.

4.4.4.4 Chi-square Test

Table 4.11. Model Summary Table

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	52.212[a]	.609	.844

Source own survey, 2017.

This statistics measure how strongly the model predicts the decisions. The table 4.10 revealed that, the proportion of variation in farmers‟ livelihood by the set of the independent variable was explained by logistic regression model by 60.9 percent as indicated. The magnitude of the relationship between the dependent variable and the best logistic regression combination of the predictor factors (Access to farm land, access of seed, access to fertilizer, access of market, access to credit, access to insurance and access to information) are indicated by 52.21 percent. Negelkerke R^2 of 0.844 which means independent variable entered in the model explained 84.4% of variance dependent variable or strong relationship between predictor and prediction.

4.4.4.5. Classification Table

Table 4.12. Classification Table rule

Observed	Predicted		
	Livelihood		
	Yes	No	Percentage Correct
Step 1 Livelihood Yes	92	10	90.2
No	2	50	96.2
Overall percentage			92.2

Source form own survey, 2017

Classification table shows the rule allows to correctly classify 92/102 = 90.2% of the subjects were the predict event (Access of livelihood) decide is observed. This indicates the sensitivity prediction P (correct) event did occur, that is the percentage of occurrence correctly predicted. The rule also classify for the predicted event is not observed 50/52= 96.2 the subjects predicted event was not observed.

Table 4.13. Logistic regression results on factors for impact of cooperatives based local seed business in enhancing farmers' livelihood.

	Variable in the equation	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Access to farm land	-2.485	1.041	5.696	1	.017	.083
	Access to seed	-3.950	1.581	6.244	1	.012	.019
	Access to fertilizer	2.675	1.149	5.422	1	.020	14.515
	Access to Market	-2.598	1.288	4.071	1	.044	.074
	Access to Credit	4.682	1.449	10.442	1	.001	108.001
	Access to insurance	2.491	1.189	4.389	1	.036	12.076
	Access to information	4.160	1.502	7.669	1	.006	64.081
	Constant	-9.647	2.530	14.533	1	.000	.000

Source own survey 2017.

The logistic regression result of the above variable in the equation table discovered that among the determined factors Wald statistic Value 10.44, (B) value 108,(P=0.01), access to credit, Wald Value 7.669, (B) value 64.081, (P=0.006), access to information, Wald Value 6.244, (B) value 0.19 and (P=0.012), access to seed, Wald value 5.696, (B) value 0.83 and (P=0.083), access to Farm land, Wald value 5.422, (B) 14.515 and (P=0.020), access to fertilizer, Wald Value 4.389, (B) value 12.079 and (P=0.036) and Wald value 4.079, (B) value o.74 and (P=0.044) Access to market. All are statically significant at P>0.05.

MODEL SUMMARY Cox & Snell R Square = 0.609, Nagelkerke R Square = 0.844 Hosmer and Lemeshow Test = 4.056 (Sig. 0.773) Model Chi-square=144.745, (P=000,) df, 7, -2 Likelihood =52.212[a]

4.5. Impact Implication

Gauging the impact of independent variables on the dependent variable was done by observing the signs of logistic regression coefficient (B values), which bear negative or positive or negative. The positive signs meaning positive impact, respectively on the dependent variable.

The relative importance of independent variables is determined by observing the magnitude of Wald statistics and their associated level of significance, which test the significant of beta value for each individual variable (Garson, 2008). Considering the summary in table 4.10, Cox &Snell R square suggests that 60.9% of the variation in the dependent variable was explained by the logistic regression model. The Naglkerke R^2 value was 0.844 which means the dependent variables entered in the model explained 84.4% of variance dependent variable or indicated a highly relationship between prediction and predictors(Garson,2008).The Wald coefficient associated with individual independent variables help us release the relative importance of each independent variables. In addition a Wald coefficient is measure of the unique impact of each independent variable in the context of other independent variables and holding constant other independent variables. A greater Wald statistic implies that the independent variables associated with the higher contribution to the happening of the dependent variables.

Table 4.12. The Wald statistics value of access to Credit that is 10.442 was the highest statically significance at the 0.1% (P=0.001) The implication of this finding the farmers who have access credit more likely improve farmers' livelihood compared to those which no access to credit. Access to information was the second predictors of the independent variables which a Wald statistics 7.669, (B) value 64.081, (P=0.006).This shows that access to information is the second most important factors influencing positively to farmers' livelihood. In order to sure the explanatory variables are significantly important in affecting the variance of response variable, both beta value and correlation should be significant (Garson, 2008)

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

This chapter deals with the summary of findings, conclusions and recommendations made. Each section was discussed in the following fashion.

5.1. Summary

This study was investigated the impact of Cooperatives based local Seed business to enhance farmers‟ livelihood the case of Chercher Oda Bultum farmers‟ cooperatives union.

The study mainly focused on analyzing by using predictors, such as access of farm land, access to improved seed, access to fertilizer, access to market ,access to credit, access to insurance and access to information was predicts impact of haricot bean seed producers cooperatives livelihood. For the research study the researcher selected four districts in the study area (Oda Bultum, Habro,Guba korich, and Anchar) were purposively based on the potential Haricot been seed producers cooperatives which were members of Chercher Oda Bultum Farmers‟ Cooperatives Union Burka Gudina from Oda Bultum, Oda Mada from Habro , Misoma Gudina from Gubba Koricha and Daro Gora and Milkesa Lafto Goba from Anchar. The study used cross-sectional data collected from member households. Both primary and secondary data were collected according to the procedure mentioned above in the methodology chapter from members. Based on Taro Yemane (1973) research sample size calculation method 1186 households from overall population were considered in which 154 households from cooperatives members were proportionally stratified. The data was analyzed by using descriptive and binary Logistic regression model. The reliability test, multicollinaerity among independent variable , Pearson product moment Correlation coefficient, Ominibus test and Chi- square test was used to analysis statically significance and the reliability of the model.

The Binary logistic regression result shows that seven independent variables (Access to total land holding, Access to improved seed , Access to fertilizer, Access to market, Access to credit, access to insurance and Access to information are statistically significant to predict farmers‟ livelihood. The result shows a test of full model was statistically significant indicating the predictors as a set reliably distinguish between the predictors and prediction of households (Cox & Snell R^2 = 0.609, suggests that 60.9% of the variation in the dependent variable was explained by the logistic regression model. Chi-square =144.745, P<000, with df 7, Naglkerke R^2 value was 0.844 which means the independent variables entered in the model explained 84.4% of variance independent variable, or indicated a highly relationship between prediction and predictors. The Wald statistics value of access to Credit that is 10.442 was the highest statically significance at the 0.1% (P=0.001) The implication of this finding the farmers who have access credit more likely improve farmers' livelihood compared to those which no access to credit. Access to information was the second predictors of the independent variables which a Wald statistics 7.669, (B) value 64.081, (P=0.006).This shows that access to information is the second most important factors influencing positively to farmers' livelihood. Prediction success overall average 62%. The major evidence from the impact assessments of this study a positive and statistically significant on farmers‟ livelihood.

5.2. Conclusions

This study was investigated the impact of Cooperatives based local Seed business to enhance livelihood of haricot bean seed producer farmers‟ livelihood the case of Chercher Oda Bultum farmers‟ cooperatives union. As mentioned in the first chapter, expanding haricot bean seed production is essential element to improve food security of rural households in the country. Haricot bean seed producing cooperatives are playing the major role for increasing production, productivity and improve livelihood of members‟ households in the study areas. This is good indicator for Chercher Oda Bultum farmers‟ cooperatives union, ISSD and for government and non-government to expand seed producer cooperatives in different area of the country to improve the livelihood status of rural households.

In the first stage the findings of the study showed that the variables found to be determine impact of cooperative based local seed business enhancing farmers livelihood (Access farm land, access of seed, access to fertilizer, access to credit, access to insurance and access to information) were significant and have positive relationship in increasing haricot bean seed production and improve farmers‟ livelihood with 63%, 67.5%, 50%, 70.8, 63%,61.7%, and 68.2% respectively. The result was showed that haricot bean seed producing cooperatives member household have a better access to cultivated land, access to seed, access to fertilizer, access to credit, access to insurance and access to information in the study area.

In the second Stage binary logistic regression result indicates at households (Cox & Snell R^2 = 0.609, suggests that 60.9% of the variation in the dependent variable was explained by the logistic regression model. Chi- square =144.745, P<000, with df 7, Naglkerke R^2 value was 0.844 which means the independent variables entered in the model explained 84.4% of variance dependent variable, or indicated a highly relationship between prediction and predictors. The Wald statistics value of access to Credit that is 10.442 was the highest statically significance at the 0.1% (P=0.001) The implication of this finding the farmers who have access credit more likely improve farmers' livelihood compared to those which no access to credit. Access to information was the second predictors of the independent variables which a Wald statistics 7.669, (B) value 64.081, (P=0.006).This shows that access to information is the second most important factors influencing positively to farmers' livelihood. From the study the researcher concluded that 62% impact assessments of this study were a positive and significant impact of haricot bean seed production cooperative on farmers‟ livelihood.

The proportion of Household heads regarding to accessibility of farm land, improved seed, fertilizer, market, credit, insurance and information more households had an access and improve their livelihood.

5.3. Recommendations

Based on the results and conclusion of the study, the following recommendations are suggested to be considered by policy makers, governments, NGOs, Seed producing cooperatives, cooperatives unions, ISSD and other stockholders.

The result of the study showed that the variables found to be determine impact of haricot bean seed producing cooperative on farmers‟ livelihood of rural households were significant and positive relationship farmers‟ livelihood. Therefore, the government and other non-governments like Chercher Oda Bultum farmers‟ cooperatives union, ISSD and other stockholders should support to expand haricot seed producing cooperatives and other activities to improve the livelihood of rural households by increasing haricot bean seed production and improving farmers‟ livelihood in the study area and a country as a whole.

The researcher believe that the government and non-government, such as primary cooperatives in the study area, Chercher Oda Bultum farmers‟ cooperative unions, ISSD and other stock holders still has a crucial importance for facilitating to being having an access to farm land, improved seed, fertilizer, market, credit access, crop insurance and access of information in order to increase haricot bean production and farmers livelihood.

Even if the survey result indicated the relationship between predictors and prediction was significant, strong relationship and acceptable model, a lot still done in order to increase the proportion of cooperatives members in order to improve farmers‟ livelihood.

5.4 Future research direction

Further research on Impact of cooperatives based local seed business enhancing small scale farmers‟ livelihood should be required on supply and value chain a well-grounded survey in order to support and expand cooperative based Local seed business and enhance farmers‟ livelihood.

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Annex A

JIMMA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF MANAGEMENT

Dear Sir/Madam, I am student of Jimma University Business and Economics College and I am currently undertaking my master thesis, which impact of cooperatives based local seeds business in enhancing small scale farmers‟ livelihood the case of Chercher Oda Bultum farmers Cooperatives Union .I am confident that your input will go a long way to help achieve my research goal since the issues concerned are within your hand. The answers given to the questions would be kept confidential and would not have any consequence on respondent. I would be most grateful if you could take some few minutes to fill in the questionnaire attached to this letter.

Thank you for your cooperation in advance!

Yours sincerely!

Sintayehu kassahu

Phone Number: +251-09- 36-00-72-01

E-mail: sintekasa12@gmail.com

Instruction: Please response your answers by tick mark (√) under the choice from the given alternatives questions and answer the general part by writing.

.PART I. GENERAL INFORMATION

1. Questionnaire Number----------
2. Date of questionnaire ----------
3. Name of Woreda ----------
4. Name of PA/Keble----------
5. Name of Enumerator --------Signature---------- Date ---------- Phone N0. ---

PART II: DEMOGRAFIC CHARACHTERSTICS

1. Name of respondents /HH-head ----------
2. Household head age ---------- (Years)
3. Sex 1. Male ☐ 2. Female ☐
4. Marital Status 1. Married ☐ 2. Single ☐
   3.Divorced ☐ 4. Widowed/ Widower ☐
5. Can you attend any formal Education? 1. Yes ☐ 2. No ☐
6. If yes on question No. 5 what is your Level of education Household head

1).1-6 ☐). 6-10 ☐ 3). 10 - 12 ☐ 4) 12 &above ☐

7. .Do you think that your livelihood is improved being involving in cooperatives union?

   1. Yes, ☐ 2. No ☐

PART III: After you read each of the factors, evaluate them and put your answer by a tick mark (√) under the choice

3	Factors	Yes	No
3.1	Have you got access to farm land to produce haricot bean seed?		
3.2	Have you got access to Improved Haricot seed?		
3.3	Have you got access to fertilizer to produce haricot bean seed?		
3.4	Have you got access to market to sale your haricot bean seed produced?		
3.5	Have you got access to credit to use new production technology?		
3.6	Have you got access to insurance to insure pre and post-harvest to recover risks?		
3.7	Have you got access to information to be informed about haricot bean seed and other agricultural practices?		