CONTRIBUTION OF SMALL SCALE COFFEE FARMERS' GROUPS FOR COFFEE PRODUCTION, PROCESSING AND MARKETING IN MBOZI DISTRICT, MBEYA REGION

By

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CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by the University of Dodoma a dissertation entitled ***"Contribution of small scale coffee farmers' groups for coffee production, processing and marketing in Mbozi district, Mbeya region"*** in partial fulfillment of the requirements for the Degree of Master of Arts in Development Studies of the University of Dodoma.

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V. Venkatakrishnan

(SUPERVISOR)

Date……..……..…….

DECLARATION

AND

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I, **Paul Peter Mao,** declare that this dissertation is my own original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

Signature……

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DEDICATION

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ABSTRACT

This research aimed to study the contribution of small scale coffee farmers' groups in Mbozi district, Mbeya region. The specific objectives included, identifying the factors that influenced the coffee farmers' groups formation, delineating the roles of the coffee farmers' groups in the coffee production, processing and marketing, assessing the performance of the coffee farmers' groups in facilitating the group members in coffee production, processing and marketing and identifying various challenges faced by the coffee farmers' groups in supporting the group members. The study adopted a cross-sectional research design whereby data were collected at once. Both primary and secondary data were collected for the purpose of this study. Sample size of 100 respondents was selected in the study area.

The results of the study show that major factors influencing coffee farmers' group formation were better price for coffee produce, increased market accessibility, good quality for coffee and cost reduction. Findings also showed that role and performance of Coffee Farmers' Groups enabled coffee farmers to access production inputs and extension services, pooling coffee from their members and providing market information to their members. The research findings brought out constraints to the performance of Coffee Farmers' Groups (CFGs). These include coffee price fluctuation, financial capital shortage, poor government support in terms of input subsidies, poor group administration, inadequate infrastructure, low education of members, delay in obtaining inputs and their high price, coffee diseases, unreliable rainfall and lack of export market. It is recommended that there should be clear regulations that guide CFGs formation, CFGs capacity development and provision of subsidies for coffee production inputs.

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ABBREVIATIONS AND ACRONYMS

ABTRACO	Agricultural Business and Trade Promotion Multi-Purpose Co-operative Ltd
AMCOS	Agricultural Marketing Cooperative Society
AKSCG	Association of Kilimanjaro Specialty Coffee Growers
BACAS	Bureau for Agricultural Consultancy and Advisory Service
CAADP	Comprehensive Africa Agricultural Development Programme
CBO	Community Based Organization
CFG	Coffee Farmers' Groups
CUTS	Consumer Unity and Trust Society
FAO	Food and Agricultural Organization
FAS	Foreign Agricultural Service
FBG	Farmers Business Group
FO	Farmers' Organization
GDP	Gross Domestic Product
ICO	International Coffee Organization
ICP	International Coffee Partner
KNCU	Kilimanjaro Native Cooperative Union
LGA	Local Government Authority
NGO	Nongovernmental Organization
SACCO	Savings and Credit Co-operative Societies
SWOT	Strength, Weakness, Opportunities and Threat
TACRI	Tanzania Coffee Research Institute
TCA	Tanzania Coffee Association
TCB	Tanzania Coffee Board
TCGA	Tanganyika Coffee Growers Association
UNIDO	United Nations Industrial Development Organization
USAID	United States Development Agency for International Development
USD	United States Dollars
USDA	United States Department of Agriculture

CHAPTER ONE

INTRODUCTION

1.1 Overview

The study aimed to assess the role and performance of small scale coffee farmers' groups in Mbozi district, Mbeya region. Major focus has been on the formation, roles, performance and challenges faced by coffee farmers' groups. The present chapter dwells on the background, statement of the problem, general and specific objectives, research questions and significance of the study. It ends with presentation of the chapter scheme.

1.2 Background information

Coffee was introduced to Tanzania early in the 20th century as an estate crop, but eventually became a smallholders' crop. During the 1920s, coffee growers formed a union to market their coffee. The first marketing co-operative of native cultivators was established in the Kilimanjaro area in 1932 (Baffes, 2005:23). The area under coffee expanded significantly during the 1970s and the 1980s when prices were favorable. Most of the expansion took place in the southern Arabica zone (Mbozi and Mbinga regions) promoted by two European Union-supported projects (World Bank, 1994 as cited by Baffes, 2003:1). Before 1990s, the Tanzania Coffee Board (TCB) and the co-operatives handled all marketing and trade aspects of the sector. However, more comprehensive reforms began in 1994 when private traders were allowed to purchase coffee directly from growers and process it in their own factories (Baffes, 2005:22).

According to Bureau for Agricultural Consultancy and Advisory Service (BACAS) of Sokoine University of Agriculture (2005: IV), coffee is Tanzania's largest export crop.

Tanzanian production of coffee was about 48,000 tons, or about 0.7 percent of the world's output of 7.02 million tons per year. It contributed $115 million to the country's export earnings per year (BACAS, 2005:1). About 95% of coffee is produced by 400,000 small holders on average plots of 1-2 hectares. However, the major challenge was that most of the farmers do not use purchased inputs such as chemicals and fertilizers (Mwakaje, 2008:1).

Tanzania Coffee Industry Development Strategy 2011/2021 planned to increase Tanzania's coffee production from the average of 50,000 tons to at least 80,000 tons by year 2016 and reach 100,000 tons by year 2021 (TCB and TCA, 2012). This was planned by increasing yields through improved agronomic practices, additional inputs, and replacement plantings by disease resistant trees, as well as an expansion of planted area (Diaby and Kamau, 2011:1-2).The primary means for promoting this increase in production is through renewal of coffee plantations with higher productivity varieties and improved management. It is estimated that production could be increased by 50% through improved management of existing plantations. Moreover, climate fluctuations are recognized as a risk in the Strength, Weakness, Opportunities and Threat (SWOT) analysis presented. The annual production has fluctuated between 33,000 to 68,000 tons over the past 30 years. The potential threat of climate change to achieve the aim of doubling national production is not explored further (Jeremy, 2011:5).

The Southern Highlands of Tanzania consist of Mbeya, Iringa, Rukwa, Njombe and Ruvuma regions. Coffee is produced in all the five regions with Ruvuma and Mbeya regions leading in production of the crop. The main type of coffee grown in the highlands is Arabica. Mbinga and Mbozi districts are the leading producers of coffee in the area. The

crop is mainly produced by small-scale farmers who intercrop it with *Gravelia* or Bananas. The average acreage per household ranged from 0.25 to 3.0 acres. These small farmers are depending on the rains for their production and they don't practice irrigation with the exception of few large farms (Lyimo and Sulumo, 2005:4).

Farmers' cooperation, especially among those having commercial potential, is widely perceived as a mechanism of improving their access to agricultural services. By working together, farmers can realize the scale economies of bulk acquisition and enter into more stable relationships with suppliers or traders. This view has influenced the design of many programmes of assistance to smallholders in Africa. Thus, donors and NGOs have often made group formation a prerequisite for accessing project resources. There are significant advantages in distributing project resources to groups rather than to individuals, as costs are lower and resources can be disbursed more rapidly (Stringfellow *et al.*, 1997:1).

Farmers are increasingly learning and accepting that farming is a business like any other business. However, in order to gain strength and minimize risks, it has been shown that group formation has been a powerful tool for risk reduction and empowerment. When farmers become organized, they find themselves in a better position to control their business. A farmers' group can open a bank account to gain access to rural finance providers. Members of groups have a better chance to branch out and become agricultural equipment service providers to their own group members. In this way, business and entrepreneurship can evolve from the bottom up (FAO and UNIDO, 2008:9).

There are several farmers' organizations in Tanzania, some resulting from the old cooperative sector, such as the Kilimanjaro Native Cooperative Union (KNCU) and

Tanganyika Coffee Growers Association (TCGA). There are other farmers' organizations focusing on developing specialty markets overseas, such as the Association of Kilimanjaro Specialty Coffee Growers (AKSCG). Representatives of some of these Farmers' Organization (FOs) have become board members of privatized coffee research bodies such as the Tanzania Coffee Research Institute (TaCRI). However, many farmers are not organized or the existing organizations are only for marketing the coffee in the national auction system without providing other services (Lema and Kapange, 2006:73).

Farmer groups are grassroots farmer institutions upon which the country's farming community can build strong local and national organizations and form networks. That can help in fostering agricultural development through proactively demanding for farmers' rights. Such rights include the right to a share in national resource allocation and its accountability, the right to participate in decisions that affect the farming community. Farmers' group encompasses all forms of farmer organizations which can be formal and informal, production and marketing farmer co-operatives and farmers' Savings and Credit Co-operative Societies (SACCOs).

1.3 Statement of the problem

According to Tanzania Coffee Board (TCB) and Tanzania Coffee Association (TCA) (2012), coffee is among the primary agricultural commodities accounting for about 5% of total exports value in Tanzania. Its export earnings average USD 100 million per annum over the last 30 years. The coffee industry provides income to more than 400,000 households, thus, supporting the livelihoods of an estimated 2.4 million individuals. Average yearly production over the past thirty years has stagnated at a level of about

50,000 tons. While yields have continuously decreased, quality potential has not been fully exploited. These result in low farm gate prices (TCB and TCA, 2012:1).

Mmari (2012:7) indicated that by 2004/05, the smallholders produced 93% of all coffee produced in Tanzania. Parrish, Luzadis and Bentley (2005: 180) mentioned that about 90% of the coffee production in Tanzania is carried out by smallholders and the estates contributed only 10%. International Coffee Partner (ICP) stated that about 95% of the coffee in Tanzania is grown by smallholders on average holdings of three acres (ICP, 2010:3). This justifies the importance of small scale coffee growers in Tanzania's coffee industry. Therefore, there is a need to pay a special attention to smallholders coffee producers, especially to identify the factors that influenced formation of coffee farmers' groups, their roles and performance and challenges facing farmers' groups in developing coffee industry in the area.

However, it seems that the smallholder coffee producers of Tanzania receive a very low price at the farm gate relative to others (Wane, 2010). The Figure 1.1 shows that the Tanzanian coffee farmers received the lowest producer price in 2004. The Tanzania coffee industry development strategy of June 2012 cited a survey by Coles and Mhando (2010) wherein it was stated that some Tanzanian coffee farmers may receive as low as 50% of the auction price for the coffee that they produce (TCB and TCA, 2012: 14).

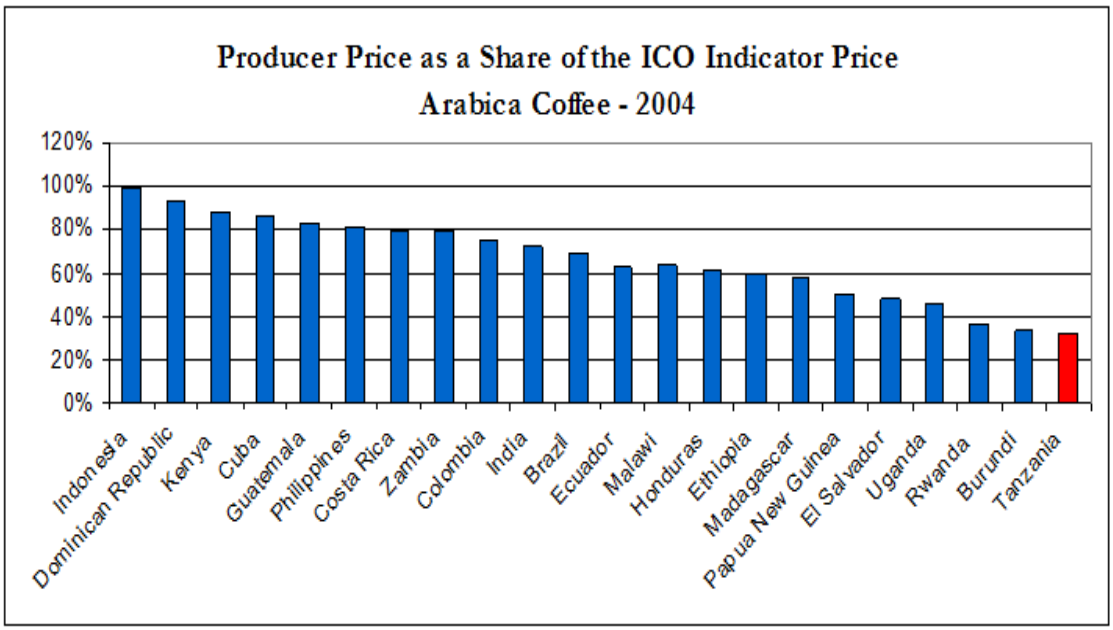

Figure 1.1: Producer price of Arabica Coffee in 2004 as a share of the International Coffee Organization indicator price

Source: Wane (2010), 'Reforming Tanzania Agricultural Sector: A Poverty Perspective', presented during AgCLIR Conference, Dar es Salaam, Feb 1, 2010

Parrish *et al.* (2005) identified that primary cooperative societies, farmer groups and private buyers as the predominant buyers from the smallholders (p, 180). It has also been identified by the United Republic of Tanzania (URT, 2005:7-8) that cooperatives have been involved in the coffee sector since 1932 as the following events from the chronology of the cooperative history in Tanzania indicated.

1932: First Cooperatives law enacted

1932: Registration of Kilimanjaro Native Cooperative Union (KNCU) (Coffee)

1933: Registration of Matengo Native Cooperative Union (Coffee)

1935: Registration of Bugufi Coffee Cooperative Union (Ngara District)

1949: Registration of Rungwe Coffee Cooperative Union

1950: Registration of Bukoba Native Coffee Cooperative Union

Unfortunately, the cooperatives lost their importance due to the government policy which abolished them in 1975/1976 (Eckert, 2007:117). The cooperatives were later revived in 1984. However, it was stated by Mmari (2012: 18) that one of the leading cooperatives in the coffee sector, Kilimanjaro Native Cooperative Union (KNCU) was not able to re-establish its previous integrated agricultural services and its quality control regime.

The Tanzania coffee industry development strategy (2011/2021) cited above also mentioned that the industry is faced with the problem of less than the optimal functioning of the cooperatives (TCB and TCA, 2012: 14). Moreover, it pointed out that there were also some cases of cooperatives that imposed unnecessarily high administrative costs to the producers thus reducing the farm gate price because of poor management practices or deficient governance (p, 15).

Therefore, there is a need to strengthen farmers' groups and providing them with necessary managerial and financial skills to improve their market position (ICP, 2010:4). The farmers in groups may combine their efforts in terms of production, processing and marketing; thus, develop their ability of conducting a profitable business and sustainable coffee production in the area.

1.4 General objective

To explore the coffee farmers groups' contribution to small scale coffee farmers on coffee production, processing and marketing in Mbozi district, Mbeya region.

1.4.1 Specific objectives

i) To identify the factors that influenced the coffee farmers' groups formation

ii) To delineate the roles of the coffee farmers' groups in the coffee production, processing and marketing

iii) To assess the performance of the coffee farmers' groups in facilitating the group members in the activities mentioned above

iv) To identify various challenges faced by the coffee farmers' groups in supporting their group members

1.5 Research questions

i) What are the factors which influenced small scale coffee farmers to form farmers' groups?

ii) What are the roles performed by the coffee farmers' groups in the coffee production, processing and marketing in the study area?

iii) What is the performance level of the coffee farmers' groups in facilitating the coffee farming?

iv) What are the challenges faced by the small coffee farmers' groups?

1.6 Significance of the study

The results from this study might be used as key input to the planners, policy makers, agriculturalists, development agencies and stakeholders who are directly or indirectly involved in the improving the livelihoods of rural community through agricultural sector. The study is expected to raise awareness on levels of organizing, operationalizing and utilizing the small scale farmers groups in improving farmers' lives and in eradication of poverty among rural communities. The study suggested appropriate ways to develop small

scale farmers' capacities in production and improving accessibility and utilization of agricultural inputs, and marketing for betterment of their livelihoods.

1.7 Chapter scheme

This dissertation is organized into five chapters. Chapter One presented the background, statement of the problem, general and specific objectives, research questions and the significance of the study.

Chapter Two focused on both theoretical and empirical review of the literature related to the study covering factors influencing farmers' group formation, importance, role, and economic impact of small scale coffee farmers' groups, contribution of coffee to the household income and challenges facing coffee industry in Tanzania. The chapter also discussed the research gap and conceptual framework developed based on the literature reviewed.

Chapter Three expound the methodology used in this study. It included study site description, research design, sampling design covering sampling unit, sampling techniques, sample size, data sources, data collection methods, tools for data collection and analysis, reliability and validity, in order to achieve the objectives of this study.

Chapter Four was devoted for the findings of the study. It included characteristics of the respondents, roles of the coffee farmers' groups, performance of the coffee farmers' groups in production, processing and marketing of coffee and challenges faced by the coffee farmers' groups in supporting the group members. Data were obtained through field survey that involved structured questionnaire and interview guide questions.

Chapter Five provided the summary of the research and conclusion based on the findings of the study. It also presented the major recommendations based on the findings of the study. After identifying the limitations of the study, it concluded by suggesting areas for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This chapter reviews literature related to role and performance of small scale coffee farmers groups. The chapter describes theories that were linked to group formation such as an exchange theory of interest, exchange theory and transaction cost theory. Likewise, empirical literature review covered discussion on coffee production trends worldwide, Africa and Tanzania. Further, it reviewed literature on factors influencing farmers' group formation, importance, role, and economic impact of small scale coffee farmers' groups, contribution of coffee to the household income and the challenges facing coffee industry in Tanzania. Finally, the research gaps identified and conceptual framework developed by the researcher based on the literature review have been presented.

2.2 Theoretical review

Theory frames how we think about and approach the study of a topic, whether we are conscious of this or not. It gives us concepts, provides basic assumptions, directs us to the important questions and suggests ways for us to make sense of data. Using social theory makes us think through research. Theory increases our awareness of interconnections and of the broader significance of data. It also enables us to connect a single study to the immense base of knowledge to which other researchers have contributed earlier (Mikkelsen, 2008:156).

2.2.1 An exchange theory of interest group

The exchange theory of interest groups rests initially on a distinction between the entrepreneur or organizer and the customer/member. The argument asserts that group organizers invest in a set of benefits which they offer to potential members at a price for joining the group. Benefits may be for material, solidity or expressive. In order for the group to survive, a sufficient balance must be maintained in the exchange; members must receive benefits and leaders enough return, and conceptualized as "profit," to warrant continued participation. Implications are drawn for such questions as lobbying and intra-group factionalism as well as for the origins, growth and survival of various types of interest groups (Salisbury, 1969:1).

An exchange theory of interest group was germane to the study given that center of its arguments were based on sets of benefits (material, solidity or expressive) that groups offer to its potential members as the price for joining the group. The study focuses on how small scale coffee farmers groups were organized to rise up the life standard of the poor coffee growers in the study area. Farmers in groups got material benefits such as pulping coffee in groups, extension services, and access to credits and to good quality inputs on time, reliable market with good price. In addition, coffee farmers' groups developed farmers' solidarity that enabled them to defend for their rights such as bargain better price for produce and affordable price for inputs.

However, an exchange theory of interest group does not state how such benefits can be equally distributed among the members and how the participation rate of each member might affect profit. Also an exchange theory of interest group mentioned profit as the warrant for continuous participation of the members. Nevertheless, groups might face

risks such as price fluctuation, economic crisis and weather changes that may lead group to get loss and still members may continue participating and rescue their group from collapse. Further, this theory does not consider intangible profits that member may acquire from being group member such as gain political influences, respect, prestige, knowledge, skill and experiences.

2.2.2 Exchange theory

This theory is based on reward-cost outcomes of interaction between people. To be attracted towards a group, a person thinks in terms of what he will get in exchange of interaction with the group members. Thus, there is an exchange relationship in terms of rewards and costs of associating with the group. A minimum positive level (rewards greater than costs) of an outcome must exist in order for attraction or affiliation to take place. Rewards form interactions gratify needs while costs incur anxiety, frustrations, embarrassment, or fatigue. Propinquity, interaction and common attitudes all have roles in the exchange theory (Fayyaz, Gilkar and Darzi, 2008:181).

This theory was appropriate to the study given that study focused on coffee farmers groups, as groups provide collective good coffee price to their members *ceteris paribus*. Further, coffee farmers with the same propinquity, good contact and common attitudes were joining and participated fully in the groups after they had realized a positive outcome for being in such groups. Nevertheless, an exchange theory does not consider social relations and ethics among the group members as the important factor that influence interaction among members. As it was observed in the study area that one of the criteria for coffee farmers' group membership was good moral conduct and truthfulness.

2.2.3 Transaction cost theory

A transaction cost is a cost incurred in making an economic exchange. Producers Organizations (POs) reduce transaction costs for the agribusiness firm in dealing with multiple agents, for instance by entering into contract negotiations with the group instead of with each producer individually. Further, POs play an important role in facilitating contract farming, for instance by providing their members with the inputs and technical assistance needed to raise product quality and to produce uniform quality (Bijman and Wollni, 2008). As far as this study is concerned, this theory can help in understanding of the ways Coffee Farmers' Groups (CFGs) reduces the transaction cost to small scale coffee farmers in coffee production, processing and marketing. For instance CFGs reduce cost in terms of supplying inputs, pulping coffee, transport and training among coffee farmers in the study area.

2.3 Empirical literature review

This section reviewed various studies carried out on coffee production in the world, Africa and Tanzania. It brings out knowledge on the importance, roles, economic impacts and factors influence group formation, contribution of coffee to the household income and challenges facing coffee industry in Tanzania.

2.3.1 Coffee production trend in the world

Coffee production by members of the International Coffee Organization increased from an average of 4.5 million tons/year in 1976–1980 to 6.5 million tons/year in 2001–2005. Expanding production in Latin America (from 2,819.1 to 4,135.4 thousand tons) and Asia/Pacific (from 490.4 to 1,606.9 thousand tons) has contributed to this trend. In contrast, production in Africa has decreased from 1,126.5 to 869.6 thousand tons yearly, placing Africa in a marginalized position in the world coffee market (Ikeno, 2007:4).

World coffee consumption has been growing steadily at a rate of around 2.5% p.a. and is estimated at approximately 128 million 60-kg bags in 2008. Consumption is concentrated in the mature markets of Western Europe and North America (ICO, 2009:1). In the last two decades, there has been a tremendous fall in prices for coffee in the world market. The price reached the lowest level ever recorded in real terms between 2001 and 2002. This took place partly due to structural changes in the global coffee market, including production innovation in Brazil and booming supply from Vietnam and also due to changes in corporate strategies among the largest roasters, including the way in which coffee is blended (Lazaro and Makindara, 2008:1).

World supply of and demand for coffee has been unbalanced over the years with significant increases in supply relative to world consumption. Production increased from 105 million bags to 112.3 million bags in 2000. Global stocks fell overall by 2.9 million bags to 38.5 million bags and consumption fell by 1.4 million bags to 102.2 million bags. The USDA revised production figures upwards by 7.3 million bags to the 1999/2000 estimate increasing it to 114.1 million bags and, forecast for 2000/2001 crop year from 108.7 million bags to 115.1 million bags. Calendar year exports were up by more than 3.2 million bags to 88.5 million bags while global consumption in calendar year 2000 was estimated at 102.2 million bags which was 1.4 million bags lower than for 1999 (Gimbol, 2001:1)

Different reasons are involved in price instability of coffee in the world market. Changes in the regulatory framework of coffee trade that involved the collapse of the International Coffee Agreements (ICA) quota system in 1989 is among the reasons for coffee price instability. Technological innovations among coffee roasters in coffee roasting and blending enabled the use of lower-cost coffee whose supply has increased dramatically

and this resulted in the increase in supply of coffee. Moreover, the changing structure of production, particularly the production boost in Brazil and the entrance of Vietnam as a leading coffee producer have also contributed to fall in prices for coffee in the world market (Mmari, 2012).

2.3.2 Coffee production trend in Africa

Agriculture is at the centre of development efforts in Africa on which a number of initiatives are being undertaken. These initiatives can broadly be termed as those which are mainly for enhancing productivity and those which are mainly to improve infrastructure including trade facilitation measures (Consumer Unity and Trust Society (CUTS), 2011:iv). Coffee is one of the most important cash crops and export products in Africa. Coffee beans represent 6% of all African agricultural exports and they are the second most important export product after cocoa (Promar Consulting 2011:8)

Among African countries, the trends of coffee production from 1976 to 2005 have varied. Of 25 African countries that are members of the International Coffee Organization, production decreased in 16, but increased in nine from 1976 to 2005 that have varied gradually since the late 1980s; in contrast, Ethiopia and Rwanda recovered and increased their production levels. The level of domestic consumption also differs among African countries, Congo and Madagascar had steady domestic markets whereas Tanzania, Rwanda, and Burundi depended heavily on international markets. Because of this dependence, Tanzania, Rwanda, and Burundi appear to have suffered more directly from fluctuating international prices. In general, African countries have depended on the world market more heavily than have Latin American and Asia/Pacific countries (Ikeno, 2007:6).

Despite the fact that Africa's contribution to global coffee production in 2009 is only 12%, coffee is an important export commodity and source of livelihoods for large proportion of the population in some countries. For example, Ethiopia and Rwanda respectively derived 26% and 22% of their export revenues from coffee in 2009. In addition, coffee production in African countries is predominantly a small scale farming activity on which more than one quarter of the total population depend directly or indirectly. For instance Uganda, Africa's second largest producer of coffee, has more than half a million households that depend on coffee. At the same time as African producers largely export coffee beans, the coffee supply chain benefits many more people in producing countries (Mafusire *et al*, 2010:5).

2.3.3 Coffee production trend in Tanzania

Tanzania is actually the fourth largest producer of coffee in Africa after Ethiopia, Uganda and Ivory Coast. Coffee, which was introduced as an estate crop in the 1920s, is now largely cultivated by Tanzania's small-scale farmers. It is estimated that more than 400,000 small-holder farmers are responsible for growing 94 percent of Tanzania's coffee, and they derive most of their livelihoods from coffee. Approximately, 160,000 hectares of land is under coffee cultivation in Tanzania's main coffee growing areas of Kilimanjaro, Arusha, Mbeya, Kigoma and Kagera. Robusta coffee, which makes up approximately 30 percent of Tanzania's coffee production, is mainly grown in Kagera, while the rest of the regions grow Arabica. Up to 75 percent of Tanzania's coffee is exported to Germany, Netherlands and Japan (Von, 2010:8).

Tanzania derives about 15% of its export earnings from the coffee business. It exports Arabica and Robusta coffee both of which are of exceptional quality. However, over the

years, the Tanzanian coffee exports tend to associate with no clear pattern. The "Zigzag" trends of coffee exports may represent variation in yields of the two types of coffee grown in Tanzania, at three differing locations, namely Mt. Kilimanjaro area, Southern Highlands, and Lake Victoria [Kagera-Bukoba] area (Independent Fine Coffees Consultants (IFCC), 2005).

According to Mmari (2012), the production of high quality coffee in Tanzania has declined dramatically and remained low over the last thirty years. This trend was attributed to three factors which were: firstly, the state control of activities of cooperatives, that led to the collapse of the system of central primary processing. Secondly, state interventionist policy of nationalizing coffee estates, significantly reduced the proportion of estate coffee. Thirdly, the policy of trade liberalization adopted in the second half of the 1980s where there was no active industrial policy and regulatory mechanisms to promote competitiveness in the coffee sector.

These trends led to a general decline in the contribution of the agricultural sector to Gross Domestic Product (GDP) and to lower rates of growth of the agricultural sector compared to other sectors in the Tanzanian economy. This is partly because of the low productivity and low value of agricultural exports, and higher growth in other sectors such as mining. However, sectors such as mining, in comparison to agriculture, have a lower impact on poverty reduction and on the incomes of the majority of the Tanzanian population. It is therefore still relevant to focus on prospects for improving the agriculture sector (Lazaro and Makindara, 2008:1).

However Tanzania Coffee Board (TCB), through the Tanzania Coffee Industry Act No. 23 of 2001, amended in 2009, was established. The TCB regulates the coffee industry, operates the coffee auction and advises growers and government officials on coffee growing, processing and marketing. Along with TCB, Tanzania Coffee Research Institute, Tanzania Coffee Association and Tanganyika Coffee Growers Association were established. The TCB formulated and released a coffee-development strategy in 2010 that provides a vision of where stakeholders would like to take Tanzanian coffee production. One of the most important goals is to increase production by 50,000 tons by 2016, to achieve this increase coffee producers will need to increase by 2500 the hectares dedicated to coffee production and replace some 20 million seedlings (FAS/Nairobi Staff 2012).

Further attempt to improve coffee production as well as quality, was introduced by Tanzania Coffee Board (TCB) with Tanzania Coffee Industry Development Strategy (2011-2021). The strategy aims to build a long term sustainable and profitable coffee industry to all stakeholders, producing internationally recognized high quality coffee and to make significant contribution to macro-economic stability, poverty reduction and improved Tanzanian livelihoods. This is expected to be achieved through increasing coffee productivity, improving efficiency in the value chain, supporting overall coffee quality improvement, promoting of Tanzanian coffee abroad and exploring new market opportunities (Kumburu, 2013:3).

2.3.4 Coffee marketing in Tanzania

According to Tanzania Coffee Board (TCB) (2010), there are three coffee markets in Tanzania (1) Internal market, whereby coffee farmers sell at farm gate price to private coffee buyers, farmer groups and cooperative and coffee is sold in form of cherry or

parchment (2) Coffee is brought to the auction, conducted every week on Thursdays during the season (3) Direct exports, growers of premium top grade coffee are allowed to bypass the auction and sell their coffee directly. Direct export enables growers to establish long term relationship with roasters and international traders.

Before 1990, all coffee marketing (including input provision, transportation, and processing) was handled by the state coffee board and the cooperative unions. Modest reforms were implemented in 1990 affecting inputs, price announcements and retention of dollar export earnings. More comprehensive reforms were introduced beginning in 1994/95, allowing private traders to purchase coffee directly from growers and process it in their own factories. While producers' share of export prices increased, official statistics show no supply response. Coffee processing capacity, marketing efficiency, and investment in new plantings increased (Baffes, 2003).

According to Kombe (2010) due to trade liberalization which took place in 1990s, private companies (local and foreign) were allowed to buy and sell parchment coffee and even operate private coffee curing plants. Private companies had one advantage in trade liberalization as they could access bank loans for buying coffee directly from the farmers whereas cooperative unions had no bank loans due to lack of securities. In most cases, the Cooperative Unions collected coffee from their members (farmers) on trust and paid after the coffee was sold in auctions. Further, Tanzania's smallholder coffee growers who constituted over 90% of coffee producers, lack access to modern processing technology and market information. As a result, despite the high quality of their coffee, farmers had to sell their produce into the undifferentiated commodity markets (Technoserve, 2006:2).

Coffee is first fully graded when it makes its way to the hands of the big buyers and processors that have their own grading facilities, then again graded when it gets to the coffee auction, by the Tanzania Coffee Board. Big buyers send samples of processed coffee to the Tanzania Coffee Board for grading prior to auction and export. Coffee is not generally graded in the village, where the first transaction takes place between buyers and coffee producers. Since coffee is graded only at the later stages of the domestic marketing process, the quality of coffee is defined differently by the different people involved in each stage of its production (Mahdi, 2012). Hence small scale farmers received very little profit from coffee marketing chain.

Coffee is the product that has received the most attention and has the largest market share within the network of fair trade products (Johannessen and Wilhite 2010:526). Therefore in order to build a competitive and sustainable coffee sector, it is crucial to increase the value chain efficiency through optimization of the internal marketing system and improvement of the overall business environment. Further, promotion of Tanzanian coffee on export markets in order to obtain price premiums as well as exploration of new market opportunities is imperative as over 90% of the coffee produced in Tanzania is exported to the international market (TCB and TCA 2012:2 and 6).

2.3.5 Coffee farmers' organization in Tanzania

The history of Coffee farmers' organization in Tanzania can be traced from colonial era, where peasants in Tanganyika (now the mainland of Tanzania) started informal (unregistered) organization in 1925 so that they could capture part of the trade profit of their crops. The first coffee farmers' organization in the country was the Kilimanjaro Native Cooperative Union (KNCU), which was registered with its eleven affiliated

primary cooperatives on 1st January 1933. In the 1940s and 1950s, other important cooperatives and unions were formed and registered. These were the Bugufi Coffee Cooperative Society in Ngara district and the Mwakaleli Coffee Growers Association in the Rungwe district, which later changed its name to Rungwe African Cooperative Union. Others were, the Bukoba Native Cooperative Union in Bukoba district and the Lake Province Growers Association in the Lake Victoria area, which later changed its name to the Victoria Federation of Cooperative Unions Limited (VFCU) (Maghimbi, 2010:1).

Tanzanian coffee industry is dominated by a two-tier cooperative system. Primary cooperative societies are organized regionally under the umbrella cooperative unions. Unions are responsible for financing, transporting, marketing and supervising the sale of coffee supplied by their primary societies (Parrish *et al*, 2005:179). Prior to the introduction of trade liberation (before 1990s), all coffee farmers' organizations were government-owned and all small-scale farmers were obliged to belong to one. In this trade liberation epoch, the coffee farmers' organizations operated as private entities, owned and managed by members, and were supposed to compete with private traders (Von 2011:31).

Cooperative Unions collected coffee from their members (farmers) on trust and paid after the coffee was sold in auctions. By doing so, there was always a cry of late payments to union members. Few unions which could afford collaterals had to pay high bank interest rates. The stiff competition problem along with poor governance of the unions led to natural collapse or disintegration of most of the Cooperative Unions. Some of the cooperative union members formed primary cooperative societies and village based Farmers Business Groups (FBGs) which were also allowed to collect parchment coffees from their members and deliver them to coffee curing companies and get them auctioned

by TCB after their coffee samples been sent to TCB by coffee curing companies (Kombe 2010: 2-3).

However, there were initiatives to revive the cooperative sector which included the 2000 Special Presidential Committee on reviving cooperatives and new cooperative legislation of 2003. These and other efforts have culminated in the production of a key strategic document, *"The Cooperative Reform and Modernization Program 2005-2015*". The reforms aimed to strengthen cooperatives in terms of economic capacity, savings and credit, empowered membership, good governance and accountability in cooperative societies, and networking of cooperatives efficiently. Government supports cooperative reform agenda so that cooperatives have a significant role to play in helping the country meet the goals set out in *MKUKUTA* (National Strategy for Growth and Reduction of Poverty adopted in June 2005) (Bibby, 2006:4).

2.3.6 Importance of small scale coffee farmers' group formation

According to Agri-Business and Trade Promotion Multi-Purpose Co-operative Ltd (ABTRACO) (2007), farmers groups are important, as they establish a simple and farmer oriented participatory extension mechanism. That would enable the limited number of government technicians to reach a large number of farmers. Groups make it easy to empower the small farmers with limited resources to stand on their combined strength. In fact, group approach is encouraged as the self organization by the farmers which is the basis for the sustainable bottom up individually. Further organization will be in group development approach and orient farmers towards commercialization. Farmers' groups mainstream the segments of the community within the framework of development and facilitate the information and technology dissemination (ABTRACO, 2007:1).

Producer organizations have acted fast in pushing forward an agenda for smallholder farmers. With, emphasis on supporting local autonomy on market regulation particularly in relation to prices of cash crops and basic commodities. Responses to declining access to extension services which has been a key priority for farmers' groups. That highlighted correlation between falling productivity of smallholder farms and reduced provision to technical training, inputs and infrastructure support (FAO, 2010:1).

Moreover, producer organizations have put forward a plethora of objectives in their agenda for market reform and food security. In defense of smallholders, farmer based groups have campaigned for fairer market conditions and access to international markets. Improved government support in relation to extension service, the provision of rural infrastructure and a greater role for smallholder farmers in the decision making process (FAO, 2010:2).

The terms of contracts will inevitably be dictated by the relative power positions of processing companies and producers. All else being equal, this situation will be disadvantageous to farmers. Even in cases where farmers are not exploited because of contractual dependency, the new agriculture will pose unique challenges for them. There is a cost associated with searching out deals from suppliers and marketers, with negotiating and monitoring contracts. Producers will be hard-pressed to deal with these transaction costs, and they will seek ways to reduce the time, effort, and risk associated with the new environment. The new agriculture, like the new economy generally, will be a network economy, and farmers will have to learn to function as parts of networks. Hence farmers can band together to support each other and bargain with processors and middlemen (Fairbairn, 2003:10-11).

Producers' organizations amplify the political voice of smallholder producers, reduce the costs of marketing inputs and outputs, and provide a forum for members to share information, coordinate activities and make collective decisions. Furthermore, producers' organizations create opportunities for producers to become more involved in value adding activities such as input supply, credit, processing, marketing and distribution. On the other hand, they also lower the transaction costs for the processing/marketing agencies working with growers under contracts. Collective action through cooperatives or associations is important not only to be able to buy and sell at a better price, but also to help small farmers adapt to new patterns and much greater levels of competition (Singh, 2012:103).

2.3.7 Economic impact of small scale farmers' group formation

According to Pinder and Wood (2003: iv), farmers' group formation increases the contribution of the agricultural sector to foreign exchange earnings. Increase of agriculture's share of GDP and the diversification of cropping patterns makes a modest contribution to poverty reduction. Further, it builds new linkages with international markets and develops new farmer-driven institutions, creates new partnership between Community Based Organization (CBOs), NGOs and multinational companies, and promotes new crop specific single chain marketing systems. At the micro-level, the farmers' groups are likely to improve access to credit and inputs for the small proportion of farmers that are being serviced by the large-scale multi-nationals. In addition, farmers' groups are likely to provide them with guaranteed markets, increased levels of income and promote the development of a competitiveness and marketing system.

2.3.8 Roles of farmers' group formation to the members' livelihoods

The farmers' groups' main role is to organize joint sales of the output produced by individual member farmers. Farmers' groups act as intermediary market organizations that coordinate the exchange of goods and services between farmers and purchasers of their produce. Intermediaries are firms that seek out suppliers, find and encourage purchasers, select buyers and selling prices, organize the transactions, keep the records, and hold inventories (Spulber, 1999: 3, as cited by Banaszak, 2007:4). The main intermediary function of farmers' groups is therefore coordinating an exchange of goods and services between individual member farmers and purchasers of the farmers' agricultural output. Farmers' groups also undertake the intermediary function in organizing such activities as joint purchases of the means of production or joint transportation (Banaszak, 2007:4).

Farmers' voice cannot be obtained without farmers' organizations. In the world, for instance, there are hundreds of millions of farmers. To engage in any sensible dialogue with the rest of the society, farmers need their representative organizations. The farmers' organizations, structured from grassroots to the international level, are their legitimate voice. This is why farmers' movement plays a big role in farmers' organizations, organizations by farmers and for farmers, as an important pillar of today's society. Farmers' associations have become more representative of farmers; farmers' associations are able to provide concrete services to their members. For example, they can give technical assistance and advice, arrange the joint procurement of inputs, and facilitate the obtaining of credits. They collect and market farmers' products and even play a role in processing. Further farmers' organizations are acting as the focal point for the expression of farmers' needs and wishes. The associations should be the natural counterpart for government policy discussions on agricultural issues (Combe, 1997:8).

They are enhancing farmers' access to markets especially through the production of high value agricultural products (Gulati *et al*., 2007, Miehlbradt and McVay 2005 as cited by Hellin, Lundy and Meijer 2007:1), by engaging in value-adding activities such as agro-processing and by group marketing. The interest in making markets work for the poor is partly in response to changes in the global agricultural economy that provides rural producers with both new challenges and opportunities. These changes include trade liberalization, increasing food safety and quality standards and shifts in food consumption patterns (Narayanan and Gulati 2002:11 as cited by Hellin, *et al* 2007:1-2).

Most smallholder farmers are inadequately informed due to limited farming skills such as farmer orientation and access to the information sources that could help them understand the current trends in agriculture production. Most of them are also subjected to lacking access to farm credit facilities, and lack of organizations. There is a great need for smallholder farmers to search for solution in attempting to enhance production levels. Hence farmers' groups are formed to help in improving agricultural production that they can work together with development partners in attempting to sustain the livelihoods of the farmers (Nshimirimana, 2009:1).

2.3.9 Factors influencing farmers' group formation

One way for smallholders to overcome market failures and maintain their position in the market may be through organizing into farmer groups or producers organizations. When acting collectively, these smallholders may be in a better position to reduce transaction costs for their market exchanges and obtain the necessary market information. This would give them an advantage when competing with large farmers and agribusinesses. There are many factors that influence the formation and the operation of farmer organizations. For

example, domestic political environment and the presence or absences of a facilitating agent are among such factors (Markelova and Meinzen-Dick, 2006:1-2).

Moreover, with the formation of new groups in any given geographic location, the level of interest group activity and the demand for political influence can both increase. Thus, within a geographic area, one convenient measure of interest group activity is the number of mobilized groups that have formed to pursue wide-ranging, common purposes (Sampson, 2007:1).

Further, farmers' group formation was influenced by various aspects of human interaction, including income generation, risk reduction, social networking, education, information sharing and public service provision. By pooling capital, labour, goodwill and other resources, members are able to carry out profitable activities, which, if undertaken by individuals, would involve greater transaction cost, risk and efforts (Afolami *et al.,* 2012: 233-234). The aim of groups' formation and the promotion of inter-group collaboration are to broaden the local economies of scale, strengthen the market and bargaining power of the farmers, enhance their access to support services and to encourage community participation and cooperation.

Literature reviewed identifies education levels of the household head, participation in nonfarm activities, age, gender, household size, distance to tarmac road, farm size, legislation and regulation as some of the potential factors that would influence the decision of households or individual to participate in farmer groups (Adong, Mwaura and Okoboi, 2013: 7). Groups enable individuals to empower themselves and to increase benefits from market transactions.

2.3.10 Contribution of agricultural sector to the household income

Most African countries have an economy strongly dominated by the agriculture sector. Agriculture generates up to 50 percent of Gross Domestic Product (GDP), contributing more than 80 percent of trade in value and more than 50% of raw materials to industries. It provides employment for the majority of Africa's people. Despite this domination, investment in the sector is still grossly underdeveloped in most African countries. Further, 30 to 40 percent of agricultural produce is lost owing to poor post-harvest handling, storage and processing methods. Therefore, there is high potential for lateral expansion of the agriculture sector at all levels (UNIDO, 2008:3).

Agriculture remains the largest sector in the economy that has a significant effect on output and corresponding income and poverty levels. The sector accounts for about half of GDP and exports, and its importance is amplified through backward and forward linkage effects. Sale of agricultural products accounts for about 70 percentage of rural household incomes. The average agricultural growth in the 1970s, 1980s, and 1990s was 2.9, 2.1 and 3.6 percent respectively that grew by 6.0% in 2004 (URT, 2005:1-2).

2.3.11 Challenges facing coffee industry

In Tanzania, over 400,000 farmers receive direct income from coffee production and 2.4 million people indirectly benefit from the coffee industry for their livelihoods. But, both quantity and quality of coffee are declining this has led to a decrease in farmer income. This was due to abandonment of coffee production because of decrease in coffee prices, increase in agricultural input prices, few extension workers and unpredictable rainfall. Over 60 percent of farmers used unclean water from ponds or rivers for processing at villages and most farmers use hand-pulping machines. Further, more than 90% of small-scale coffee farmers lack opportunities to learn the latest processing techniques and obtain

market information. As a result, coffee beans are sold at a uniform price at the commodity market despite the high quality of the coffee (Promar Consulting, 2011: 116-118).

Tanzanian farmers who grow coffee face a number of vulnerabilities in the world and domestic markets. The global coffee market is characterized by volatile prices that are in long-term relatively declining. This is exacerbated at present by a real decline in price due to world supply growing faster than demand. Domestically, diminishing coffee quality is a major concern. The initial process of harvesting, pulping, washing, drying and sorting cherries is a key determinant of the coffee's final quality. Smallholders are responsible for this stage of production and as such, the quality of coffee produced is highly variable (Parrish, *et al* 2005:179)

Another challenge is environmental degradation that is seriously threatening. Global warming is a worldwide phenomenon that contributed to rising temperatures that lead to the drying up of streams and rivers. Also, there is increasing rate of deforestation, a problem which has not been addressed effectively and temperatures are set to rise even higher if deforestation is not solved soon. Hence for coffee farmers who have, for decades, been using water flowing in rivers and streams to irrigate their farms, the threat of water shortages is real (Africa Fine Coffee Association, 2012:27-28). Moreover, most coffee growers in the country are confronted by low coffee production due to lack of improved varieties that are potentially high yielding and resistant to diseases and insect pests infestation, high production costs due to application of pesticides to control diseases and pests. Further, they face low cup quality and low prices of the produce in the world markets and consequently low household incomes for the farming communities (Lyimo and Sulumo, 2005:2-3).

2.4 Research gaps

Coffee farmers' organization in Tanzania is the broader topic that needs frequent and timely researches due to its importance to smallholders coffee farmers. The literature reviewed revealed that, farmers' groups are very much relevant to small scale coffee farmers. The literature addressed issues such as contribution, impact, challenges and role of farmers' groups in general in different locations. However, due to varied environments, culture, socio-economic condition and knowledge in which smallholders farmers live, there is a need to study role and performance of small scale coffee farmers' group and their contribution to smallholder coffee farmers in Tanzania. Very little is still known about the factors, roles, performance and challenges of the coffee farmers groups in the study area. The social and economic factors, that contribute to the sustainability and success of the sector and livelihood systems is not well known. Therefore, this study aims to provide information on factors influencing the formation of small scale farmers groups and contribute to bridge the existing knowledge gap.

2.5 Conceptual framework

Developing a conceptual framework for the study on coffee farmers' group formation among small scale coffee farmers will be essential as guideline to identify independent variables for successful and efficient data gathering. The conceptual framework developed for this study by the researcher based on the literature reviewed shows independent, intermediate and dependent variables.

2.5.1 Independent variables

According to Kothari (2004:34), 'Independent variables are the variables which you change in an experiment. Note that you can only have one variable that can change in an experiment and more than one independent variable will result in an unfair experiment.

The variable that is antecedent to the dependent variable is termed as an independent variable'. In case of this research, independent variables included roles performed by coffee farmers' groups such as providing inputs, pulping in groups using the power operated CPUs, extension services, market information and access to credit. These are expected to have significant impact on dependent variable of increased income to small-scale coffee farmers through intermediate variables described below.

2.5.2 Intermediate variables

Intermediate variable appears in more complex causal relationships. It comes between the independent and dependent variables and shows the link or mechanism between them. Advances in knowledge depend not only on documenting cause and effect relationship but also on specifying the mechanisms that account for the causal relation. In a sense, the intermediate variable acts as a dependent variable with respect to independent variable and acts as an independent variable toward the dependent variable (Mugenda and Mugenda, 2003:61). In this study, intermediate variables are the increased production, access to market, better prices, improved coffee quality and higher trade volumes. These are the outcomes of the independent variables.

2.5.3 Dependent variable

Dependent variable is the measure of the independent variable. Therefore, it depends on the independent variable. If one variable depends upon or is a consequence of the other variable, it is termed as a dependent variable (Kothari 2004:34). A dependent variable is the factor which is observed and measured to determine the effect of the independent variable, that is, that factor that appears, disappears, or varies as the experimenter introduces, removes, or varies the independent variable. The dependent variable is the

outcome of experiment. In this study, dependent variable is the increased income to small farmers enhanced by independent variables through intermediate variables.

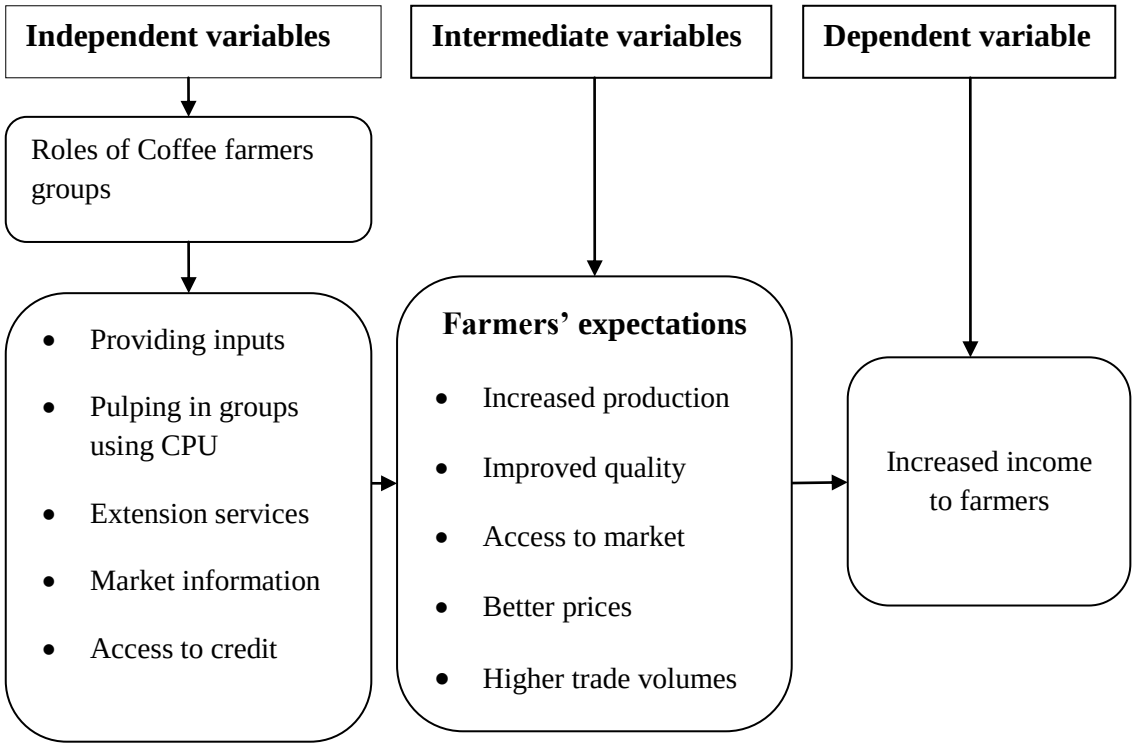

Figure 2.1: The conceptual framework developed based on the literature review

2.6 Summary

This chapter focused on the review of literature particularly on the roles and performance of small scale coffee farmers' groups. It began with, theoretical review where in an exchange theory of interest group, exchange theory and transaction cost theory were reviewed. Further, empirical review of literature focused on factors influencing farmers' group formation, importance, role, and economic impact of small scale coffee farmers' groups. The contribution of coffee to the household income and challenges facing coffee industry in Tanzania were also reviewed for more clarity while undertaking the study. Subsequently, the research gaps that were identified and the conceptual framework developed based on the literature review were presented.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Overview

This chapter presents the methodology used in this study. It included study site description, research design, sampling design covering sampling unit, sampling techniques, sample size, data collection design including data sources, data collection methods and tools, data analysis design, reliability and validity.

3.2. Study location and justification

Mbozi district is located in the Southwestern part of Mbeya Region. The district lies between Latitudes 8^{o} and 9^{o} 12' south of the Equator and Longitudes 32^{o} 7' and 33^{o} 2' east of Greenwich Meridian. The district shares borders with Mbeya district to its eastern part, Ileje district to the south. To the north, Mbozi district extends to Lake Rukwa where it is bordered by Chunya district, whereas to the west it shares borders with Rukwa Region and the Republic of Zambia (URT, 2010:4). Mbozi district was purposely selected for the study because of its potentially in coffee production, as it produces more than 50% of the total regional coffee production (United Republic of Tanzania 2007:77). Further, Mbozi district had many small scale coffee farmers' groups.

3.3 Research design

Research design constitutes the blueprint for the collection, measurement and analysis of data. It aids the researcher in allocation of limited resources by posing crucial choices in methodology (Cooper and Schindler, 2006:138). There were two major types of research designs; a cross-sectional research design and longitudinal research design.

A cross-sectional research design was applied in this study. Cross-sectional research designs are carried out once and represent a snapshot of one point in time (Cooper and Schindler, 2006:141). It allows data to be collected once at a single point in time that can be used in descriptive analysis and for determination of relationships between variables (Kothari, 2004). It was considered appropriate to collect data at a single point of time to fulfil the objectives of this study. Further, as this research was undertaken as part of graduate studies it was not possible to collect data at different points of time.

3.4 Sampling design

Sampling design refers to the means by which one selects the primary units for data collection and analysis appropriate for a specific research question. These units may consist of state, cities, enumeration districts, census, court records, cohorts or individuals (Handwerker, 2005: 429). This study adopted stratified random sampling of small scale coffee farmers in selected villages of Mbozi District. Further, the sample design in this study included purposive sampling of villages, government officials, extension officers, etc.

3.4.1 Population

A population is defined as a complete set of individuals, cases or objects with some common observable characteristics. A particular population has some characteristics that differentiate it from other population. It is often impossible to study the whole of the target population. Therefore, the researchers identify and define an experimentally accessible population (Mugenda and Mugenda, 2003: 41). The population for this research was all smallholder coffee growers, government officials, extension officers and all others connected with the coffee cultivation in the selected villages of Mbozi district.

3.4.2 Sampling unit

A sampling unit is the basic element of the population such as a person or a thing being sampled when choosing whether to use single unit or cluster sampling methods (McNabb, 2002:117-118). According to Kothari (2004:56) sampling unit can be a geographical one such as state, district, and village, or a construction unit such as house and flat, or it may be a social unit such as family, club, school, or it may be an individual. For this study, sample units were Igamba, Shiwinga and Hatelele villages in Mbozi district where small scale coffee farmers were surveyed for the study. These villages have high potential for coffee production in the district and there were many coffee farmers' groups.

3.4.3 Sampling frame

The sampling frame is closely related to the population. It is the list of elements from which the sample is actually drawn. Ideally, it is a complete and correct list of population members only (Cooper and Schindler, 2006:411). The sampling frame consisted of all those who were concerned with the coffee production in the three villages where small scale farmer's groups were present. A list of respondents was drawn from different categories of stakeholders such as smallholder coffee farmers, extension officers, and local government officers.

3.4.4 Sampling methods

Sampling methods are the techniques that researchers can use to achieve greater reliability in a sample study (McNabb, 2006: 116). It is explained in the following paragraphs how sample units were selected from the population.

Both stratified random sampling and purposive sampling technique were employed. The purposive sampling technique was used to select the district with high potential for coffee

production in the region. For this reason, Mbozi District was purposely selected among other districts as it is a leading district in production of coffee in Tanzania in 2010/11 production year as shown in the Table 3.1.

Table 3.1: Coffee production in selected districts of Tanzania (in tons): 2005-06 to 2010-11

District	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Mbozi	8,224	9,622	7,421	8,325.60	8,482	10,500
Karagwe	3,817	9,123	8,794	21,384	8,711	10,450
Mbinga	6,667	9,440	8,197	13,972	4,676	10,000
Arumeru	400	1,832	1,782	2,141	1,393	1,241
Moshi	1,129	1,635	1,304	1,375	4,944	1,126
Tanzania	34,334	51,117	42,690	68,934	35,501	60,575

Source: Tanzania Coffee Board (TCB), Annual Report 2010/11

Stratified random sampling was applied to select respondents (coffee farmers'/ producers) for the reason that small scale coffee farmers in the study area were in three major stratums namely (a) coffee farmers belonging to CFGs, (b) coffee farmers belonging to AMCOS and (c) coffee farmers not belonging to any farmers' associations or cooperative societies or groups.

3.4.4.1 Stratified random sampling

Since the population from which a sample was to be drawn did not constitute a homogeneous group, stratified sampling technique was applied so as to obtain a representative sample. Stratified random sampling is applied when the items selected from each stratum are based on simple random sampling with procedures of first stratification and then simple random sampling (Kothari, 2004:16). The three strata in this study were (a) individual smallholder coffee farmers (b) smallholder coffee farmers who belonged to

coffee farmers' groups (c) and smallholder coffee farmers who were belonging to Agricultural Marketing Cooperative Societies (AMCOS).

The reason for using stratified random sampling for selecting small scale coffee farmers was to make sure that farmers from categories were included in the sample matching with the population. Smallholder coffee farmers in the study locality can be classified in three major groups such as (a) coffee farmers belonging to Coffee Farmers' Groups (CFGs), (b) coffee farmers belonging to Agricultural Marketing Cooperative Society (AMCOS) and (c) coffee farmers not belonging to any farmers' groups or associations or cooperative societies. Hence the study used stratified random sampling. In this sampling, each unit from different groups of the population has a known, equal, non-zero probability chance of being included in the sample.

3.4.4.2 Purposive sampling

Purposive sampling is a sampling technique that allows a researcher to use a case that has required information with respect to objectives of the study (Mugenda and Mugenda, 2003: 50). Igamba, Shiwinga, and Hatelele villages where coffee is grown were selected because they possess the characteristics required for the study. After purposive section of villages, local government leaders/officials were also selected purposively. The respondents like District Agricultural Officer, Village Extension Officers, and Village Executive Officers were purposively selected for the study as they were expected to have a greater understanding about the subject and issues to be discussed.

3.4.5 Sample size

Sample size refers to the number of items to be selected from the universe to constitute a sample. The size of sample should neither be excessively large, nor too small. It should be

optimum. An optimum sample is one which fulfills the requirements of efficiency, representativeness, reliability and flexibility (Kothari, 2004:56).

It was estimated that there were more than four coffee farmers' groups in each village with about 30 members per each group. Hence, data for this study were gathered from a sample of 90 coffee farmers (30 each from farmers belonging to farmers groups, individual farmers not belonging to any group and farmers who are or were part of coffee farmers' primary cooperatives). About 10 respondents covering the district leaders, village leaders, and extension officers were included in this study. Due to limited resources such as time, manpower, transport and finance, a total of 100 respondents were covered by the study. The Table 3.2 illustrates categories of respondents, sample size, sampling techniques and data collection methods.

Table 3.2: Sampling design: respondents categories, sample size and sampling techniques

S/N	Category of respondents	Sample size	Percentage (%)	Sampling techniques	Data collection methods/tools
1	Coffee farmers - members of farmers' group	30	30	Stratified random sampling	Survey/Structured questionnaire
2	Individual coffee farmers	30	30		
3	Farmers who were in AMCOS	30	30		
4	District Principal Agricultural Officer	1	1	Purposive sampling	Interview/ Interview guide with oral administration
5	Village Officials	6	6		
6	Agricultural Extension officers	3	3		
	Total	100	100		

3.4.6 Unit of analysis

The unit of analysis is the major entity that is being analyzed in the study (Frey *et al*., 1991:366). The unit of analysis of this study was small scale farmers from Mbozi district of Mbeya who were practicing coffee farming.

3.4.7 Parameters of interest

Parameter of interest is the characteristics of population in which the study is interested. In determining the sample design, one must consider the question of the specific population parameters which are of interest. For instance, we may be interested in estimating the proportion of persons with some characteristic in the population or we may be interested

in knowing some average or the other measure concerning the population (Kothari, 2004:56). For the purpose of this study, parameters of interest were farm size, age, education, input, agricultural services, quality, quantity and prices of coffee which might influence the formation of coffee farmers' groups and their performance.

3.5 Data collection design/Observational design

Observational design is concerned with monitoring approaches for collecting data where the research inspects the activities of a subject (Cooper and Schindler, 2006:713). For this study, the data collection methods such as survey, interview and observation used tools such as questionnaire, interview guide and checklist respectively to gather primary data. The following section describes the data collection design covering different sources of data, data collection methods and tools.

3.5.1 Primary sources

Primary sources of data provide data that are original or raw data without interpretation or pronouncement that represent opinions or position. They are always the most authoritative because the information has not been filtered or interpreted by the second party (Cooper and Schindler, 2006:166). Primary data in this study were collected from selected coffee farmers using structured questionnaires. The questionnaires were designed to collect both quantitative and qualitative data on production and all other related aspects. Moreover, primary data were obtained through personal interviews, observations and informal discussions with key informants.

3.5.2 Secondary sources

Secondary data means data that are already available i.e., they refer to the data which have already been collected and analyzed by someone else (Kothari 2004:111). Secondary sources of data were collected from district coffee production and marketing reports, Tanzania Coffee Board (TCB) and Tanzania Coffee Research Institutes (TaCRI)'s reports, articles and publications and internet.

3.5.3 Data collection methods

For this study, the researcher applied various methods and tools/techniques for data collection. Methods and approaches used for gathering information included survey, and interview. Structured questionnaire was used as a tool for collecting data from the coffee farmers and interview guide for district agricultural officers, village executive officers, and village extension officers as described below.

3.5.4 Survey

Surveys are concerned with describing, recording, analyzing and interpreting conditions that either exist or existed. The researcher does not manipulate the variable or arrange for events to happen. Surveys are only concerned with conditions or relationships that exist, opinions that are held, processes that are going on, effects that are evident or trends that are developing. They are primarily concerned with the present but at times do consider past events and influences as they relate to current conditions. Thus, in surveys, variables that exist or have already occurred are selected and observed (Kothari, 2004:120). A survey was conducted by the researcher from the early February 2013 to April, 2013. The structured questionnaire and the checklist of questions used in the survey and interview were prepared prior to that.

3.5.4.1 Questionnaire

Questionnaire is a commonly used tool to obtain important information about the population. Each item in the questionnaire was developed to address a specific objective and research question. The research makes sure that information obtained from each question was analyzed (Mugenda and Mugenda, 2003: 71).

The data were collected from coffee farmers of Mbozi district. The farmers were surveyed using structured questionnaire. The questionnaire used in the survey was prepared in English. However, it was orally translated to Kiswahili during the field survey. This was done to communicate with respondents using the common Kiswahili language which was familiar to most of the respondents. The content of structured questionnaire was designed to collect sufficient information intended to address the objectives of the study. There were different types of closed and open ended questions in the questionnaire used to gather data.

3.5.5 Interview

The interview method of collecting data involves presentation of oral-verbal stimuli and reply in terms of oral-verbal responses (Kothari, 2004:97). For this study, interview method was employed using interview guide to collect a range of information pertaining to the study.

3.5.5.1 Interview guide

This is an oral administration of questionnaire or an interview schedule. In this study, interview was a face to face encounter. To obtain accurate information through interview, a researcher needs to obtain the maximum cooperation from respondents. The research

will establish a friendly relationship with the respondent prior to conducting an interview (Mugenda and Mugenda, 2003: 83). This study employed structured interview guide prepared in advance to collect information pertaining to the study. The interview guide was applied to gather necessary information from District Agricultural Officer, Village Executive Officers and Extension Officers as they were expected to have substantial information about the study. The interviewer had an opportunity to probe beyond the given answers for additional information or clarifying concepts focusing on the study.

3.6 Analytical design

Here the researcher used facts or information already available, and analyze to make a critical evaluation of the material (Kothari 2004:3). Analytical design involved data processing, data analysis and presentation. Both qualitative and quantitative data were coded, processed and analyzed. Descriptive statistics, frequency and cross tabulation were used in this study.

3.6.1 Data processing, analysis and presentation

Data analysis is the process of editing and reducing accumulated data to a manageable size, developing summaries, looking for patterns and applying statistical techniques (Cooper and Schindler, 2006:708). Data were coded, cleaned and analyzed immediately after they were collected, to ensure that only appropriate data were analyzed for good results. Data from questionnaires were coded, processed and analyzed by using computer software called Statistical Package for Social Sciences (SPSS). After data have been processed and analyzed they were presented using tabular from, whereby frequencies were used to summarize data.

3.7 Reliability and validity

3.7.1 Reliability

Reliability is the extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability. If the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable (Mugenda and Mugenda, 2003:95). To ensure reliability of the data collected, this study contacted various categories of respondents so as to obtain consistent data about the study. Further, interviews from various important officials related to coffee production in the study area such as District Agricultural Officers, Village Executive Officers and Extension Officers were conducted as well as survey method using the questionnaire as a tool were adopted made to ascertain the responses of all the relevant stakeholders.

3.7.2 Validity

Validity is the accuracy and meaningfulness of inferences, which are based on the research results. In other words, validity is the degree to which results obtained from the analysis of the data actually represent the phenomenon under study. In research process, we have both internal and external validity. The internal validity of the study depends on the degree to which extraneous variables have been controlled for in the study. In this case, the study is needed to have high internal validity. On the other hand, external validity has to do with representativeness of the sample with regard to the target population. It is the degree to which research findings can be generalized to populations and environments outside the experimental setting (Mugenda and Mugenda, 2003: 99-103).

In order to achieve accuracy and meaningfulness of inferences, the researcher conducted preliminary visit and pilot study prior to the actual study. Further, questionnaire was translated in to Swahili and questions were clearly clarified to respondents. Data were analyzed matching with the personal notes of the researcher maintained from the beginning of the study to ensure that the data collected fulfilled the requirements of validity.

3.7.3 Pilot study

A pilot test is generally conducted to detect weaknesses in designed instrument and to provide directions to select a probability sample. It could therefore enable drawing subject from the target population and simulate the procedures and protocols that were designated for data collection (Cooper and Schindler, 2006:76).

A pilot survey was conducted prior to the main fieldwork for pre-testing the questionnaire. This was done in January and early February, 2013. This was necessary to enable the researcher to check the relevance and comprehensiveness of the data collection tools in gathering the required information. A pilot survey was done by taking a sample of few respondents. Among these respondents, some were coffee farmers' belonging to coffee farmers groups, District Agricultural Officer, Village leaders; farmers not belonging to coffee farmers' groups, farmers belonging to AMCOS as well as Extension Officers. Information obtained from pilot study was used in the modification of some questions for the actual fieldwork.

3.8 Ethical consideration

Ethics are norms or standards of behavior that guide moral choices about our behaviour and our relationships with others. The goals in research are to insure that no one is harmed

or suffers adverse consequences from research activities (Cooper and Schindler, 2006:116). The researcher maintained respondents' confidentiality, and the information obtained was used for academic purpose only as the research was a part of graduate studies.

3.9 Summary

Chapter Three presented the methodology used in this study. It included study site description, research design, population, data sources, sampling unit, sampling techniques, sample size, data collection, methods for data analysis, reliability and validity, in order to achieve the objectives of this study.

The next chapter presents findings of the study. These included the characteristics of the respondents, roles of the coffee farmers' groups, their performance in production, processing and marketing of coffee and challenges faced by them in supporting their group members.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Overview

This chapter presents the findings of the study according to the research questions investigated for the study. Data were obtained through field survey and interview methods that involved structured questionnaire and interview guide questions. Data have been presented matching with the specific objectives of the study namely, (i) identifying the factors that influenced the coffee farmers' groups formation (ii) delineating the roles of the coffee farmers' groups in the coffee production, processing and marketing (iii) assessing the performance of the coffee farmers' groups in facilitating the group members in the activities mentioned in (ii) above and (iv) identifying various challenges faced by the coffee farmers' groups in supporting the group members.

4.2 Profile of respondents

This section describes the general characteristics of the study population. In particular, the age, sex and education level of the respondents were presented. A total of hundred respondents including smallholder coffee farmers' who were members of Coffee Farmers Groups (CFGs) and Agricultural Marketing Cooperative Societies (AMCOS), individual coffee farmers who were not members of any Coffee Farmers' Groups (CFGs) or Agricultural Marketing Cooperative Societies (AMCOS) and officials including District Agricultural Officer, Extension Officers and Village Executive Officers were contacted for this study. These respondents belonged to different age groups and 57% were in the age group of 41-60 years, 29% belonged to age group of 20-40 years and the remaining 14 percent were from higher age group of 61 years and above as shown in Table 4.1. According to the study conducted by Okwu and Umoru (2009:1), age of the respondents

has significant influence to their access to agricultural information. Likewise Echebiri and Mbanasor (2003:135) mentioned that, the productive age of the labour force ranges between 15 to 40 years followed by the age group of 41-65 years.

A large number of respondents covered for this study were males (83% out of 100) and 17% were women. Among the women, two were officials and 15 were coffee farmers. Further, all the respondents of this study attained formal education. While 74% had attained primary education, 17% had secondary education and only few achieved diploma and degree levels of education as shown in Table 4.1. This implies relatively high literacy level among the coffee farmers in the sampled population. Duryea and Pagés (2002:3-6) emphasize the fact that an expansion in education can bring increase in productivity and earnings as well as reduction in poverty.

Table 4.1: Profile of the respondents in terms of age, sex and level of education

Age groups (in years)	Frequency (N=100)	Percentage
20-40	29	29
41-60	57	57
61-80	14	14
Sex		
Male	83	83
Female	17	17
Level of education		
Primary	74	74
Secondary	17	17
Diploma	7	7
Degree	2	2

Source: Field Survey, 2013

4.3 Factors that influenced the coffee farmers' groups' formation

This sub section of the chapter aimed at presenting the factors that influenced formation of Coffee Farmers' Group (CFGs) in study area. The sub section presented information on the number of CFGs that existed in the study area, government support to the formation of CFGs, willingness of coffee farmers to join CFGs and factors that attracted farmers to join coffee farmers groups.

4.3.1 Land size for coffee farmers in the study area

Results in Table 4.2 depict that 51.1% of the sampled coffee farmers were growing coffee in land between 2.1 to 5.0 acres. Also the result shows that 42. 2% of the coffee farmers planted coffee between 0 to 2.0 acres of land. Only 6% of sampled farmers in the study area planted the crop in more than 5.1 acres of land. Thus most farms were relatively of small size of land for coffee as shown in Table 4.2 as this study essentially focused on smallholder farmers.

Table 4.2: Land size for coffee production

Land size in acres	Frequency	Percentage
0-2.0	38	42.2
2.1-5.0	46	51.1
>5.1	6	6.7
Total	90	100.0

Source: Field Survey, 2013

4.3.2 Year since coffee farmers' groups started functioning in the study area

Officials and coffee farmers belonging to CFGs were asked to mention the year from which CFGs had started operating. They mentioned that coffee farmers groups started functioning between 2000 and 2006. Moreover, according to officials consulted for this

study, the average number of coffee farmers groups per village ranged between four to eight among which active ones ranged from two to five.

Further, more than half of officials interviewed mentioned that, majority of the coffee farmers were interested in forming of coffee farmers groups. About 30% of the officials commented that the responses of farmers towards joining CFGs were very high. It seems that most of the coffee farmers in the study area had positive response toward coffee farmers' group formation. However, 20% of officials indicated that the coffee farmers' response toward groups' formation was low in the study area.

4.3.3 The government support to the coffee farmers' groups' formation

Members of CFGs and officials were asked to share the information on whether coffee farmers' groups' formation in their area was supported by the government. Results show that 62.5 percent out of 30 farmers belonging to CFGs and 10 officials covered for this study stated that, government does not support coffee farmers' group formation. On the other hand, 37.5 percent mentioned that government has been supporting coffee farmers' group formation as shown in Table 4.3. Further, those respondents who admitted that the government has been supporting coffee farmers' groups were probed on the kind of support provided by government to CFGs. The results show, extension service and group registration as the major support provided by government to CFGs.

Table 4.3: Government's support for coffee farmers' groups (CFGs) formation

Government support for coffee farmers' group formation	Frequency	Percentage
Supports CFGs formation	15	37.5
Does not support CFGs formation	25	62.5
Total	40	100.0
Kind of support provided by the Government for CFGs formation		
Registration of groups	6	15.0
Access to credit	2	5.3
Extension service	7	17.5
Not applicable	25	62.5
Total	40	100.0

Source: Field Survey, 2013

4.3.4 CFGs/AMCOS that exist in the area

All the Coffee farmers covered for this study were asked if there were coffee farmers' organizations such as Coffee Farmers' Groups (CFG) and Agricultural Marketing Cooperative Society (AMCOS) in the study area. The results show that the CFG and AMCOS existed in their areas as all coffee farmers consulted for this study agreed.

4.3.5 Willingness of coffee farmers not belonging to groups to join them

The results in Table 4.4 show that 53.3% of coffee farmers (16 out of 30) who were not members of coffee farmers' organizations were willing to join coffee farmers' groups while 43.3% of these respondents (13 out of 30) claimed that they do not want to joint coffee farmers' groups in the study area. This means that many coffee farmers who were not members coffee farmers' organization were interested to join coffee farmers groups and a considerable number of them were also not interested to join the groups.

Table 4.4: Willingness of coffee farmers not belonging to groups to join CFGs

Non-members willingness to join CFGs	Frequency	Percentage
Willing to join coffee farmers' groups	16	53.3
Not willing to join coffee farmers' groups	13	43.3
No response	1	3.3
Total	30	100.0

Source: Field Survey, 2013

4.3.6 Reasons for being out of coffee farmers groups

Multiple responses question was asked, to coffee farmers not belonging to CFGs, regarding the reasons for not joining CFGs. The results in Table 4.5 show that 70% of them mentioned that were not in the coffee farmers groups because CFGs delayed payments for coffee to members after collection of coffee beans. Likewise, 70% respondents admitted that they themselves lacked sufficient quantity of coffee beans to join CFGs. Further, the results show that 16.7% of respondents indicated lack of trust on CFGs' leaders in the study area. The considerable number (13.3%) of these respondents did not respond to the question.

Table 4.5: Reasons for being out of coffee farmers groups

Reasons for not being member of the CFGs	Frequency (n=60)	Percentage
Delay in payment for coffee after coffee collection from members	42	70.0
Inadequate produce	42	70.0
Some CFGs leaders are not trustworthy	10	16.7
No response	8	13.3

Source: Field Survey, 2013

4.3.7 Factors attracted farmers to join coffee farmers' groups

The respondents who were not members of any coffee farmers' cooperatives or groups were asked to mention factors that attracted them to express their wish to join coffee farmers' groups in the area. The results in Table 4.6 show that 43.3% of them were interested to join coffee farmers groups due the prevalence of good price for coffee and they also mentioned that good performance of coffee farmers groups in facilitating coffee production, processing and marketing were the factors that attracted them. Also the results show that 20% of the respondents were attracted by loans and market reliability while the remaining 36.7% of the respondents expected that farmers in groups can easily be supported by government or other institutions in the study area compared to the individual farmers not belonging to any farmers' groups or cooperative societies.

Table 4.6: Factors motivating farmers to join coffee farmers groups

Factors motivating for joining CFGs	Frequency	Percentage
Good price and good group performance	13	43.3
Loans availability and market reliability	6	20.0
Farmers in groups can be easily supported	11	36.7
Total	30	100.0

Source: Field Survey, 2013

4.3.8 Reasons for joining AMCOS instead of coffee farmers groups

Coffee farmers belonging to AMCOS were asked to explain as to why they preferred to join Agricultural Marketing Cooperative Society (AMCOS) and not Coffee Farmers' Groups (CFGs). The results in Table 4.7 show that 60% of farmers (18 out of 30) belonging to AMCOS joined them due to the long experience of AMCOS on marketing and better organization compared to coffee farmers' groups. Moreover, the result shows

that 40% of the respondents claimed that the coffee farmers' groups lacked trust and also were being dominated by few farmers especially leaders.

Table 4.7: Reasons for joining AMCOS instead of coffee farmers groups

Reasons for joining AMCOS instead of CFGs	Frequency	Percentage
AMCOS had longer experience on marketing and better organized	18	60
CFGs lack trust and dominated by a few leaders	12	40
Total	30	100

Source: Field Survey, 2013

4.3.9 Purpose of joining coffee farmers' groups /AMCOS in the study area

Further, members of CFGs/AMCOS were asked to explain the purpose for coffee growers to form or join coffee farmers' groups/AMCOS. It was possible to identify more than one purpose of joining CFGs/AMCOS. The results of the findings depict that 66.7% coffee farmers' who were members of CFGs/AMCOS stated that, the purpose for joining CFGs was to get reliable market for their coffee and 63.3% pointed the expectation on obtaining farming inputs. Further, 55.0% of them mentioned better price and income increase as the purpose for CFGs/AMCOS formation. About 50.0% of them claimed that coffee farmers joined the groups/AMCOS for the purpose of accessing credit as shown in Table 4.8.

On the other hand, 70% of the officials explained that the purposes for coffee farmers to join CFGs/AMCOS in their areas were both to access credit and reliable market. Increasing income (50%), obtaining farming inputs (60%), sharing experience (20%) and extension service (40%) were the other purposes cited by the officials.

Table 4.8: Purposes of joining coffee farmer's groups/AMCOS

Purposes of joining CFGs/AMCOS	Members of Coffee farmers groups (n=60)		Officials (n=10)	
	Yes	Percentage	Yes	Percentage
Reliable market	36	66.7	7	70.0
Obtaining farming inputs	24	63.3	6	60.0
Increased income	33	55.0	5	50.0
Better price for coffee	33	55.0	3	30.0
Access to credit	30	50.0	7	70.0
Extension service	19	31.7	4	40.0
Sharing experience	7	11.7	2	20.0

Source: Field Survey, 2013

4.3.10 Factors influencing members to join coffee farmers' groups (CFGs) in the study area

A multiple response question was posed to the members of CFGs to specify factors that influenced them to join CFGs. Research findings indicate that 76.7% of coffee farmers belonging to CFGs were influenced by better price for coffee produce. While 63.3% of them were attracted with sharing experience and knowledge with other their fellow farmers as one of the important factors in joining the group, 53.3% of them were motivated by increased market accessibility by joining groups. Further, scope to achieve good quality for coffee was also one of the factors mentioned by 40% farmers belonging to CFG. This implies that most of the CFG members joined them with the expectation of obtaining better price for coffee as shown in Figure 4.1.

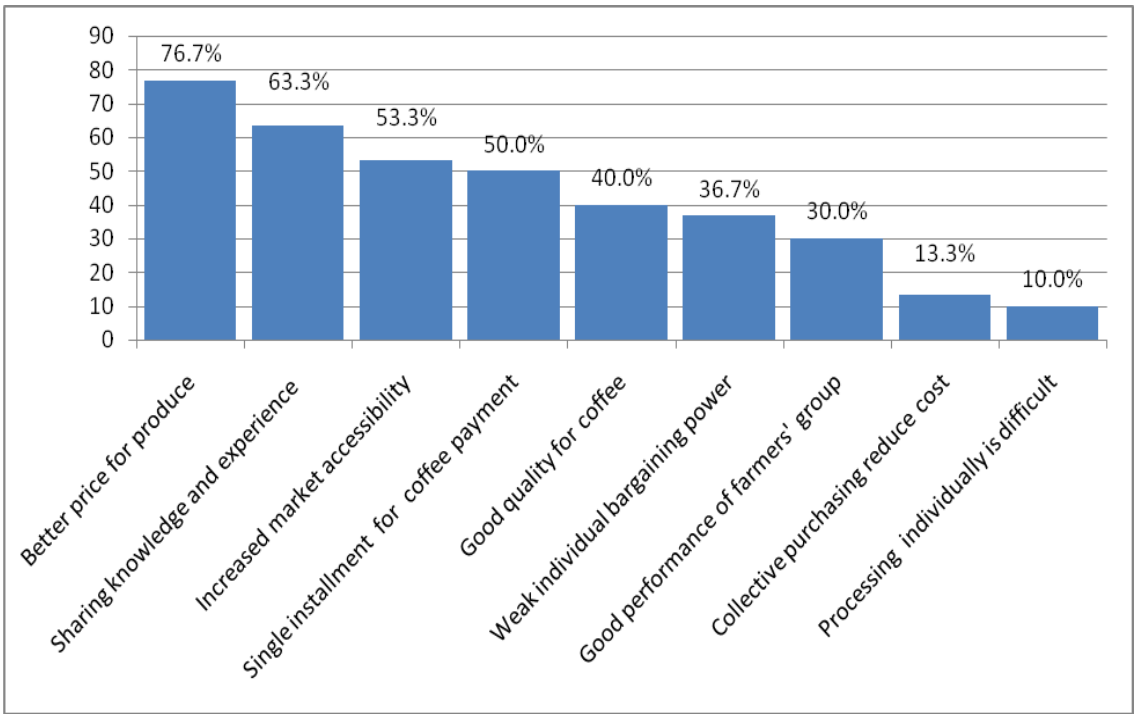

Figure 4.1: Factors for members to join coffee farmers groups

Source: Field Survey, 2013

4.3.11 Conditions for joining coffee farmers' groups

The results show, 26 out of 30 members of CFGs (86.7%) said that there were conditions for joining coffee farmers groups while the remaining (13.3%) said that there were no conditions. This implies that for a coffee farmer to join any coffee farmers' group he or she has to fulfill some requirements as shown in Table 4.9.

Further, research findings showed that 46.7% of the members of CFGs mentioned that payment of registration fee, acquiring share and paying membership fee were the conditions for being in CFGs. The results also depict that 30% of the respondents had to accept selling coffee through CFGs as one of the basic conditions for joining them. Further, 13.3% of the CFG members explained that being a trustworthy coffee farmer and a resident as sufficient qualifications for joining the coffee farmers' groups.

Table 4.9: Condition for joining coffee farmers' groups

Conditions for joining CFGs	Frequency	Percentage
There were conditions for joining CFGs	26	86.7
There was no condition for joining CFGs	4	13.3
Total	30	100.0
List of conditions for joining CFGs		
Registration fee, to have share and payment of membership fee	14	46.7
Accept to sell coffee through group	9	30.0
Trustworthy coffee farmer and local resident	4	13.3
No response	3	10.0
Total	30	100.0

Source: Field Survey, 2013

4.3.12 Growth in the number of coffee farmers' groups in a study area

With regard to information on whether the numbers of coffee groups were increasing in the study area since they were introduced, findings from the field revealed that 70% of the members of CFGs and officials stated that the number of coffee farmers groups was increasing in the study area. Only 30% of the members of CFGs and officials pointed out that the number of coffee farmers groups were not increasing in the area.

Table 4.10: Growth in the numbers of CFGs in the study area

Growth in number of CFGs	Frequency	Percentage
The number of CFGs were increasing	28	70
The number of CFGs were not increasing	12	30
Total	40	100

Source: Field Survey, 2013

4.4 Roles of the coffee farmers' groups

This section aimed at examining the role of coffee farmers' groups in the coffee production, processing and marketing. It focuses on how CFGs facilitated coffee production by enabling farmers to have inputs. Further, this section shows the way CFGs enabled their members' in terms of pulping coffee and ensuring reliable market with better price for coffee produce.

4.4.1 Farmers received inputs through their Groups/AMCOS

The researcher was interested to learn to what extent the CFGs and AMCOS were providing inputs to the coffee farmers. The Table 4.11 shows that only 31.4% of the members of CFGs/AMCOS and officials mentioned that farmers received inputs through CFGs and AMCOS while 68.6% of them mentioned that the farmers were not receiving inputs through CFGs and AMCOS. On further query, 28.6% of mentioned that farmers received inputs such as fertilizer, pesticides, herbicides and seedlings through AMCOS.

Table 4.11: Receiving inputs through the CFGs/AMCOS and kind of inputs

Receiving inputs through CFGs and AMCOS	**Frequency**	**Percentage**
Received inputs through CFGs and AMCOS	22	31.4
Did not receive inputs through CFGs and AMCOS	48	68.6
Total	70	100.0
Kinds of inputs received		
Fertilizers, pesticides, herbicides and seedlings	20	28.6
No response	2	2.8
Not applicable	48	68.6
Total	70	100.0

Source: Field Survey, 2013

4.4.2 Comparison of the inputs received though coffee farmers groups

The CFGs members were asked to compare the inputs received through CFGs and through other channels in terms of price, quality, and timely availability. The findings show that only 36.7% of the CFG members were of the opinion that inputs supplied through CFGs had lower price while 50% of the respondents pointed out that input prices remained the same irrespective of the channels. The remaining 13.3% stated that the price of the inputs received through CFGs was higher than the price paid through other channels. Regarding quality, 46.7% of members of CFGs accepted that quality of inputs received through CFGs was better and 26.7% indicated that quality of inputs delivered through CFGs and other channels was the same. Contrarily 16.7% felt that the quality of inputs received through CFGs was worse compared to those obtained through other channels as Table 4.12 showed.

Further, 53.3% members of CFGs explained that inputs received through CFGs were not timely available. Moreover 30% felt that there was no difference between these channels in terms of timely availability of inputs. The remaining 16.7% pointed that inputs supplied through CFGs were timely available. This implies that many coffee farmers belonging to the CFGs were not receiving inputs at the right time, which might lead to low intake of inputs from the CFGs.

Table 4.12: Comparison of the inputs received though CFGs (n=30)

Aspects	Better		The same		Worse	
	Yes	Percent	Yes	percent	Yes	Percent
Price	11	36.7	15	50.0	7	23.3
Quality	14	46.7	8	26.7	5	16.7
Timely availability	5	16.7	9	30.0	16	53.3

Source: Field Survey, 2013

4.4.3 Farmers' groups enable their members to get extension services in a study area

The researcher wanted to understand whether CFGs/AMCOS were helping their members to get extension services. The results in Table 4.13 depict that 46.7% sampled members of CFGs and AMCOS received extension services through their groups/AMCOS in the study area. The result also shows that an equal number (46.7% of the respondents) did not receive extension service through their groups/AMCOS.

Table 4.13: Farmers' groups/AMCOS enable their members to get extension services

Extension services availability through CFGs/AMCOS	Frequency	Percentage
CFGs /AMCOS enabled their members to get extension services	28	46.7
CFGs / AMCOS did not enable their members to get extension services	28	46.7
No response	4	6.6
Total	60	100.0

Source: Field Survey, 2013

4.4.4 Farmers' groups/AMCOS enable members to get credit

Concerning credit accessibility, farmers belonging to CFGs and AMCOS were asked to clarify whether their groups/AMCOS enabled them to access credit. Results in Table 4.14

show that only 35% of them were enabled to get credit through CFGs and AMCOS. However, 65% of them were neither receiving credit through the coffee farmers groups nor AMCOS. This implies that coffee farmers' organizations such as CFGs and AMCOS were not capable enough to facilitate credit accessibility among their members in the study area.

Table 4.14: Farmers' groups/AMCOS enable members to get credit

CFGs/AMCOS role in enabling credit to members	Frequency	Percentage
CFGs and AMCOS enable their members to get credit	21	35
CFGs and AMCOS did not enable their members to get credit	39	65
Total	60	100

Source: Field Survey, 2013

4.4.5 Group/AMCOS own pulping machine and coffee pulping in groups

With regard to the ownership of pulping machines for pulping the coffee together, 36.7% of the members of CFGs/AMCOS pointed out that, CFGs and AMCOS owned the pulping machines in the study area. The results also show that 63.3% of these respondents said that the coffee farmers' groups and AMCOS did not own the pulping machines. Moreover, the results show that 73.3% of the members of CFGs were pulping their coffee individually while 26.7% of the respondents were pulping their coffee in coffee farmers groups. This implies that most of the members of CFGs pulped their coffee individually in the study area.

Table 4.15: Groups/AMCOS own pulping machine and Coffee pulping in groups

Ownership of pulping machines by CFGs and AMCOS	**Frequency**	**Percentage**
CFGs/AMCOS own pulping machine	22	36.7
CFGs/AMCOS do not own pulping machine	38	63.3
Total	60	100
Coffee pulping in groups (to only CFG members)		
Pulping individually	22	73.3
Pulping in group	8	26.7
Total	30	100

Source: Field Survey, 2013

4.4.6 Pulping coffee by farmers who are not part of the farmers group

Sampled coffee farmers from AMCOS and those who were not under any farmers' groups were asked to explain whether they pulp coffee together or individually. The result shows that 48.3% of them were pulping their coffee individually. On the other hand, the results show that 43.3% of the respondents were pulping their coffee by renting the pulping machines either from individual farmers or coffee farmers groups. The remaining 8.4% of the respondents did not respond to the query as shown in Table 16.

Table 4.16: Pulping of coffee by farmers not belonging to CFGs

Pulping of coffee by non-CFG farmers	Frequency (n=60)	Percentage
Individually using their own pulping machine	29	48.3
Individual pulping using rented pulping machine	26	43.3
No response	5	8.4
Total	60	100

Source: Field Survey, 2013

4.4.7 Benefits of pulping the coffee in groups

The researcher requested the CFG members to mention the benefits of pulping coffee collectively. It could be observed that every member felt that there are benefits of pulping the coffee together. The following results indicate that 43.3% of the respondents clarified that the quality of their coffee has improved. The result also depicts that according to 36.7% of them, it resulted in reduction of costs while 20% explained that pulping coffee collectively simplified their work.

Table 4.17: Benefits of pulping the coffee in CFGs

Benefits of pulping the coffee in groups	Frequency	Percentage
Improved quality	13	43.3
Reduced cost	11	36.7
Simplified work	6	20.0
Total	30	100

Source: Field Survey, 2013

4.4.8 Pooling of coffee beans by CFGs/AMCOS members for selling

Further, the researcher wanted to know whether CFGs and AMCOS pooled coffee beans and if so, whether they were capable of collecting all the coffee beans produced by their members. Findings indicated that all sampled members of CFGs and AMCOS pointed out that their CFGs and AMCOS had been pooling coffee beans produced by their members for selling collectively. Further, more than 90% of the members of groups and AMCOS indicated that their organizations were able to pool all the coffee beans produced by their members. This implies that, one of the primary roles of coffee farmers' groups in the study area was to collect/pool and market the coffee beans produced by their members. Only

10% mentioned that coffee farmers' groups/AMCOS were not able to pool all coffee beans produced by their members as shown in Table 4.18.

Table 4.18: CFGs/AMCOS ability to pool all coffee beans of their members

Ability to pool coffee	Frequency	Percentage
CFGs/AMCOS had ability to pool coffee	54	90
CFGs/AMCOS had no ability to pool coffee	6	10
Total	60	100

Source: Field Survey, 2013

4.4.9 Coffee Farmers Groups/AMCOS provide timely market information to members

Timely market information might be very useful to any farmer to obtain considerable benefits. It could be observed that 76.7% (46 out of 60) members of CFGs and AMCOS pointed out that coffee farmers groups and AMCOS gave market information to their members. The results also show that 23.3% of the respondents stated that coffee farmers' groups and AMCOS were not providing market information to their members in the study area. Further, it is seen from Table 4.19 that 35 out of 60 (58.3%) respondents mentioned that groups provide market information timely while 25 respondents (41.7%) said that coffee farmers' groups were not able to provide market information timely.

Table 4.19: Farmers Groups/AMCOS provide timely market information to members

Availability of market information from CFGs/AMCOS	**Frequency**	**Percentage**
CFGs/AMCOS provide market information	46	76.7
CFGs/AMCOS do not provide market information	14	23.3
Total	60	100
Availability of market information on time		
Yes	35	58.3
No	25	41.7
Total	60	100

Source: Field Survey, 2013

4.4.10 Sources of farm inputs for farmers not belonging to CFGs

Further, coffee farmers who were not belonging to any coffee farmers' organization were asked to describe how they obtained agricultural inputs. Results in Table 4.20 show 76.7% of the respondents bought inputs from the *agrovet* shops available in the study area. The remaining 23.3% of the respondents mentioned that they exchanged inputs with their produce, i.e. some type of bartering. This implies that some of the coffee farmers were not getting good price from their produce since they sell raw coffee. This was the situation which was mostly faced by the coffee farmers who were neither members of coffee farmers' groups nor AMCOS.

Table 4.20: Sources of farm inputs for non-members of CFGs

Sources of farm inputs for non-members	Frequency	Percentage
Buying from *agrovet* shops	23	76.7
Exchange inputs with coffee beans	7	23.3
Total	30	100.0

Source: Field Survey, 2013

4.4.11 Individual ownership of hand pulping machine by non-members

The researcher wished to know whether individual coffee farmers who were not belonging to any farmers' organization owned hand pulping machine. Results show that 56.7% of them owned pulping machine. The remaining 43.3% did not own hand pulping machine.

Table 4.21: Ownership of hand pulping machine by non-members

Ownership of pulping machine by non-members	Frequency	Percentage
Individual farmers own pulping machine	17	56.7
Individual farmers do not own pulping machine	13	43.3
Total	30	100.0

Source: Field Survey, 2013

4.4.12 Main buyers of coffee beans and sources of market information

Further, researcher sought to know who, were the main buyers of the coffee beans produced by farmers not belonging to any coffee farmers' organization. The results show that 50% of the non-members pointed out that the main coffee buyers their coffee beans in the study area were local traders and middlemen. This implies that most of these coffee farmers who were not belonging to any farmers' organization were getting limited profit since local traders and middlemen buy the crop in much lower prices. The result also depicts that 26.7% of these respondents' sell their coffee to the coffee farmers' groups and AMCOS. Further, the results show that 23.3% of them were selling their coffee beans to the private company in the study area.

Moreover, the results show that 36.7% of these respondents were getting market information from CFGs and AMCOS. About one-third of them, i.e. 33.3% got market information from the local traders and middlemen while 30% pointed out that they

received market information from the government advertisement and using mobile phone by sending the message *KAHAWA BEI* to 15559.

Table 4.22: Main buyers of coffee and sources of market information for non-members

Main buyers of coffee beans from non-members	Frequency	Percentage
Local traders and middlemen	15	50.0
Farmers' groups and AMCOS	8	26.7
Private company	7	23.3
Total	30	100.0
Sources of market information for non-members		
Farmers' groups and AMCOS	11	36.7
Local traders and middlemen	10	33.3
Government advertisement and mobile phone	9	30.0
Total	30	100.0

Source: Field Survey, 2013

4.5 Performance of the coffee farmers' groups in production, processing and marketing

This part focused on examining the performance of CFGs in facilitating their members in coffee production, processing and marketing. It also looks on whether the coffee farmers were satisfied with the performance of CFGs and their extent of satisfaction.

4.5.1 Performance of farmers groups in the study area

Coffee farmers belonging to CFGs were asked to state whether they were aware of the activities performed by their groups. Results indicated that, 60% members of CFGs were aware of the coffee farmers' group activities and their performance in the study area. On

the other hand, 40% of these respondents were not aware of the coffee farmers' groups' performance.

Table 4.23: Awareness of members on the activities of CFGs

Awareness of CFG members	**Frequency**	**Percentage**
Aware of the CFGs activities	18	60
Not aware of the CFGs activities	12	40
Total	30	100

4.5.2 Activities performed by CFGs in the study area

The researcher further analyzed the overall activities performed by CFGs. It was observed that, CFGs have been collecting and transporting coffee beans produced by their members to the market as mentioned by 40% of the CFGs members and officials contacted for this study. The results also show that 10% of these respondents claimed that CFGs have been organizing coffee farmers to get extension service. Further, 32.5% of them stated coffee farmers' groups' ensured immediate payment to farmers for their coffee beans. The remaining 12.5% of these respondents pointed out that coffee farmer' groups enabled their members improve quality of their coffee beans.

Table 4.24: Activities performed by CFGs

Activities performed by coffee farmers' groups	**Frequency**	**Percentage**
To transport coffee beans produced by the farmers to market	18	40.0
Ensure immediate payment	13	32.5
To enable their members improve coffee quality	5	12.5
To organize farmers to get extension service	4	10.0
Total	40	100

Source: Field Survey, 2013

4.5.3 Income increase after joining the CFGs/AMCOS

Further, the study sought of information on whether CFGs and AMCOS had positive impact on the income of their members. The findings demonstrated that, 73.3% of the CFGs and AMCOS members stated that their income had increased after joining CFGs/AMCOS. Only 26.7% of these members mentioned that there was no change in their income. Further, the researcher probed these respondents on the extent to which their income had increased after they had joined CFGs/AMCOS. The results show that 68.3% of them pointed out there was a marginal income increase, 15% mentioned that it was negligible, 16.7% mentioned their income has substantially increased. This indicates that formation of coffee farmers groups have positive impact on their household income.

Table 4.25: Income increase for the group members

Income increase for group members	Frequency	Percentage
Income has increased after joining CFGs/AMCOS	44	73.3
Income has not increased after joining CFGs/AMCOS	16	26.7
Total	60	100
Extent of income increase for group members		
Substantially	10	16.7
Marginally	41	68.3
Negligible	9	15.0
Total	60	100

Source: Field Survey, 2013

4.5.4 CFGs/AMCOS find market for all coffee produced by members

The members of CFGs/AMCOS were asked to explain whether their organizations could find market for their coffee beans. The results in Table 4.26 show that, 84.5% of the respondents' stated that CFGs/AMCOS finds market for all their coffee produce and 15.7% of the respondents said that CFGs/AMCOS had no ability to find market for all the coffee they produced in the study area.

Further, the findings show that only 8.3% of the respondents stated that coffee farmers groups were able to find new market. The majority of respondents 91.7% explained that CFGs were not able find new market due to the fact that there was only one market for coffee in Tanzania that is at Moshi auction.

Table 4.26: Coffee farmers Groups/AMCOS role in market identification

Finding market by the CFGs/AMCOS	Frequency	Percentage
CFGs/AMCOS were able to identify market for coffee	52	84.3
CFGs/AMCOS were not able to identify market for coffee	8	15.7
Total	60	100.0
CFG/AMCOS' ability to find new market		
CFGs/AMCOS were able to find new market for coffee	5	8.3
CFGs/AMCOS were not able to find new market for coffee	55	91.7
Total	60	100.0

Source: Field Survey, 2013

4.5.5 Farmers' Groups/AMCOS ability to bargain

The findings of this research indicated that 98.7% of the members of CFGs and AMCOS and officials claimed that coffee farmers' groups were not able to bargain price. This is

due to the fact that the price of coffee has been set by Tanzania Coffee Board (TCB). On the other hand, it was mentioned by only one of these respondents said that the coffee farmers' groups were able to bargain for the coffee price in the study area.

4.5.6 Satisfaction with the performance of CFGs/AMCOS in achieving goals

The coffee farmers were asked whether they were satisfied with the performance of coffee of CFGs and AMCOS in achieving their goals. According to the results obtained, about 86.7% revealed that they were satisfied with the performance of CFGs/AMCOS. Moreover, the results show that only 13.3% of the respondents were not satisfied with the performance of these groups as shown in Table 4.27.

Further, the findings indicate that 10% of the respondents were highly satisfied with the performance of coffee farmers' groups while 75% of the respondents revealed that they were satisfied with the performance of coffee farmers' groups. Also about 1.7% was neutral, that means that they were neither satisfied nor dissatisfied while only 13.3% of respondents were not satisfied with the performance of CFGs/AMCOS in achieving their goals. Therefore, it can be concluded that the majority of the respondents were satisfied with the performance of coffee farmers' groups, because they achieved their set goals.

Table 4.27: Satisfaction with the performance of CFGs/AMCOS in achieving its goals

CFG and AMCOS members' satisfaction on goals achievement	**Frequency**	**Percentage**
Members of CFGs/AMCOS were satisfied	52	86.7
Members of CFGs/AMCOS were not satisfied	8	13.3
Total	60	100.0
Extent of members' satisfaction		
Highly satisfied	6	10.0
Satisfied	45	75.0
Neutral	1	1.7
Dissatisfied	8	13.3
Highly dissatisfied	0	0.0
Total	60	100.0

Source: Field Survey, 2013

The study further aimed to find out the reasons why some members of CFGs/AMCOS were not satisfied with the performance of CFGs/AMCOS in achieving their goals. They mentioned the following as the reasons. CFGs/AMCOS delayed payments for the coffee collected from their members, CFGs and AMCOS paid low price to coffee beans compared to local traders and private companies and their inability to increase quality of coffee due to absence of Coffee Pulping Unit (CPU) and poor administration.

4.5.7 Suggested measures to increase the satisfaction level of the members

The researcher wanted to obtain various suggestions on the measures to be undertaken to increase the satisfaction level of the CFGs members. These suggestions were sought from District Agricultural Officer, Village Extension Officers and Village Executive Officer. Findings show that the officials pointed out that coffee farmers' groups need to be enabled

for supplying farming inputs. They also mentioned that CFGs have to facilitate farmers to produce high quality coffee that would fetch good price in the market. Moreover, they also stated that presence of transparency in groups and good leadership may increase satisfaction level of CFGs members on the performance of groups.

The interviews also revealed the increasing coffee production on continuous basis and high rate of coffee farmers joining CFGs as indicators for the CFGs' goals achievements. Likewise they also pointed out that the ability of groups to purchase coffee pulping machines as an indicator of attaining group goals. Moreover, they explained that the standard of life of CFGs members had been improving after their joining CFGs. Some of these respondents also pointed out cooperation among CFGs members as another indicator of the success of CFGs in the study area.

4.6 Challenges faced by the coffee farmers' groups in supporting the group members

This section focused on investigating various problems and challenges that obstruct the performance of CFGs in supporting the group members. It looks at problems faced by coffee farmers when registering their group, constraints and challenges that were hurdles to the effectiveness and efficiencies of CFGs. Further, the section also explored respondents' suggestions on the ways to overcome problems facing CFGs.

4.6.1 Problems during coffee farmers' group registration in the study area

The results further showed that 40% of the members of CFGs pointed out that there is high registration fee for groups and it hindered group registration. Moreover, 26.7% of these respondents explained that there is poor knowledge and experience on CFGs among coffee farmers as a problem during CFGs' registration. The findings in Figure 4.2 further

describe that 10% each said that registration procedures for CFGs were difficult and of the reluctance of farmers to join groups was the problem.

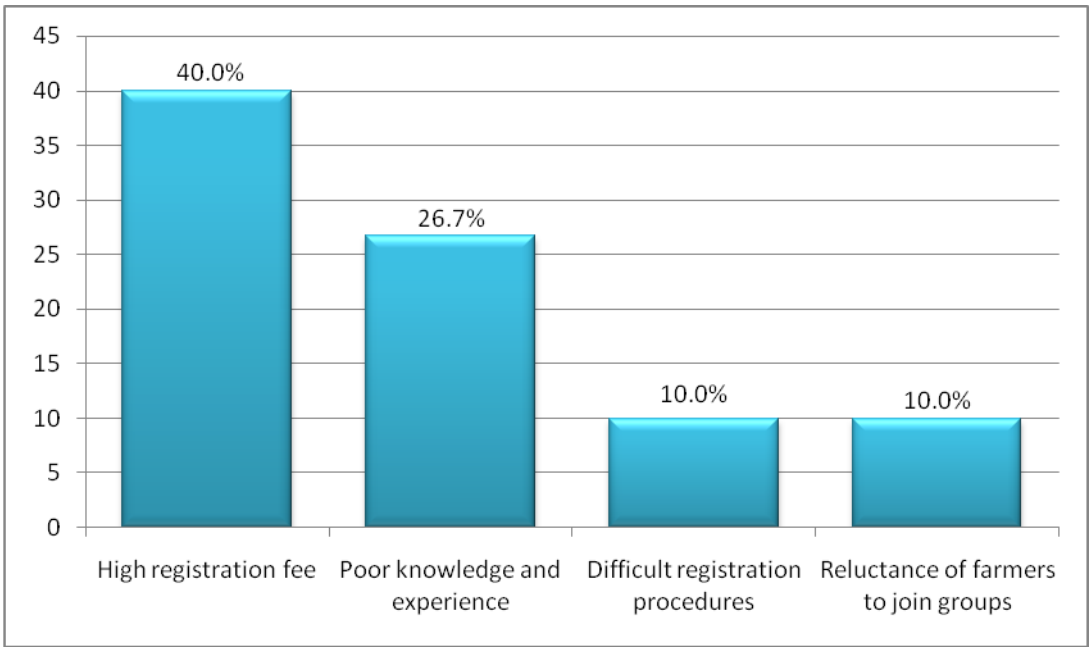

Figure 4.2: Problems during coffee farmers' group registration

Source: Field Survey, 2013

4.6.2 Major constraints facing CFGs and AMCOS

With regard to the major constraints faced by the CFGs/AMCOS, 85% CFG and AMCOS members identified price fluctuation as a limitation that was facing farmers groups and Agricultural Market Cooperative Societies while 45% of them pointed out that high price of inputs and low quality of inputs supplied to farmers was one of constraints. Results also showed that 43.3% respondents mentioned poor government support in terms of input subsidies was a constraint to the efficient of CFGs and AMCOS.

Table 4.28: Major limitations facing farmers groups

Limitations facing CFGs	Responses	
	Frequency	Percentage
Price fluctuation	51	85.0
High price of inputs and expired inputs	27	45.0
Poor government support	26	43.3
Financial shortage	18	30.0
Delayed availability of inputs	13	21.7
Poor infrastructure	7	11.7
Low education of members' group	6	10.0
Members' withdrawal	3	5.0
Members do not attend meetings in required number	3	5.0
Administrative problems	2	3.3
Members do not pool their coffee as a group	2	3.3

Source: Field Survey, 2013

4.6.3 Challenges faced by CFGs and AMCOS

Research finding also indicated various challenges that were faced by CFGs/AMCOS as mentioned by all the respondents as shown in Table 4.29. Many respondents (25%) mentioned delayed payment of coffee from Moshi coffee auction as a challenge to CFGs and AMCOS to make early payment to their members after pooling coffee from them. Moreover, 12% respondents claimed high interest rate from financial institutions and operation costs of coffee enterprises in the study area as one of the challenges faced. The results also depict that 21% respondents claimed that some members brought low quality coffee beans to CFGs/AMCOS. But the CFGs/AMCOS were facing the demand for equal payment to both low quality and better quality beans. Further, 18% respondents stated that diseases and unreliable rainfall was the challenge to CFGs hence their members (coffee growers) could not produce sufficient coffee.

Table 4.29: Challenges faced by coffee farmers' groups

Challenges faced by the CFGs	**Frequency**	**Percentage**
Delayed payment from coffee auction	25	25
Varying coffee quality but demand for same payment	21	21
Diseases and unreliable rainfall	18	18
High interest rate and operation cost	12	12
Lack of bargaining power	7	7
Poor administration	5	5
Unable to get export market	5	5

Source: Field Survey, 2013

4.6.4 Suggestions to overcome challenges facing coffee farmers' groups

The researcher wanted to learn from the officials including District Agricultural Officer, Extension Officers and Village Executive Officers on what has to be done to overcome challenges facing CFGs in the study area. These respondents mentioned that CFGs have to be provided with export market in order to increase income of coffee farmers and coffee market expansion. They further suggested provision of subsidies for coffee production inputs to improve coffee production in the area. Provision of extension service was also among the solutions to address the major challenges facing CFGs in Mbozi district.

4.7 Summary

This chapter focused on the discussion of the results. The profile of the respondents was presented initially. These respondents were members of CFGs and AMCOS and coffee farmers' who were neither member of CFGs nor AMCOS. Moreover, officials including District Agricultural Officer, Extension Officers and Village Executive Officers were consulted for this study. Major findings of this study include, CFGs enabled coffee farmers to access farm inputs, extension services, and reliable market. Further, they

indicated that, coffee price fluctuation, limited government support in terms of input subsidies and limited financial capital are the major challenges facing CFGs.

Next chapter presents the summary of the research work and conclusion based on the findings of the study. It also presents the major recommendations based on the findings of the study. After identifying the limitations of the study, it ended by suggesting areas for further research.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Overview

This chapter provides summary and conclusion of the study. Further, it provided recommendations based on the major findings of the study. In addition, its limitation and areas for further studies are mentioned at the end.

5.2 Summary

The study examined the role and performance of small scale coffee farmers' groups in Mbozi district, Mbeya region. The general objective of the study was to explore the coffee farmers' groups' contribution to small scale coffee farmers on coffee production, processing and marketing in Mbozi district, Mbeya region. Based on general objective, the researcher developed four specific objectives; (i) To identify the factors that influenced the coffee farmers' groups formation; (ii) To delineate the roles of the coffee farmers' groups in the coffee production, processing and marketing; (iii) To assess the performance of the coffee farmers' groups in facilitating the group members in the activities mentioned in the previous specific objective and (iv) To identify various challenges faced by the coffee farmers' groups in supporting the group members. These specific objectives were used to develop four research questions such as (i) What were the factors that influenced small scale coffee farmers to form farmers' groups? (ii) What were the roles performed by the coffee farmers' groups in the coffee production, processing and marketing in the study area? (iii) What was the performance level of the coffee farmers' groups in facilitating the coffee farming? (iv) What were the challenges faced by the small coffee farmers' groups?

A cross-sectional research design was applied in this study. Villages such as Igamba, Hatelele and Shiwanga were purposively selected due to their potentiality in coffee production in study area and presence of CFGs. A total of 100 respondents were selected for the study. Coffee farmers were stratified as those (a) belonging to Coffee Farmers Groups (CFGs) and (b) members of Agricultural Marketing Cooperative societies (AMCOS) and (c) coffee farmers not belonging to any farmers' organization. In total 90 farmers were selected as 30 farmers each were randomly selected from these strata. The remaining 10 respondents were officers including Village Extension Officers, Village Executive Officers and District Principal Agricultural Officer. They were purposively selected.

Primary data for this study were collected using the survey and interview methods having the instruments such as questionnaire and interview guide respectively. Questionnaire was administered to coffee farmers while interview guide was used to gather data form Village Extension Officers, Village Executive Officers and District Agricultural Officer. Secondary data were collected from district coffee production and marketing reports, Tanzania Coffee Board (TCB) and Tanzania Coffee Research Institutes (TaCRI)'s reports, papers and publications. Data obtained were analyzed using Statistical Package for Social Sciences (SPSS). The analyzed data were presented using Tables and Figures.

The research findings brought out the contribution of CFGs formation to small scale coffee farmers. These groups were enabling provision of extension services to farmers, ensured single installment of payment for coffee beans supplied by the members immediately after auctioning and facilitated them sharing of knowledge and experience among themselves**.** The CFGs were instruments to improve the quality for coffee through

pulping coffee collectively that can maintain uniform standards of the coffee. Moreover, CFGs also protected farmers from local traders and middlemen, who exploited the farmers by buying their coffee beans at lower prices at farm gate immediately after harvest and were purchasing coffee beans even before they were harvested. Due to CFGs, their members obtained better price for coffee beans. Further, increased market accessibility to farmers and cost reduction especially transportation cost from farm to market were achieved due to the CFGs. It might be noted that small scale farmers individually cannot manage to transport coffee to the coffee auction held at Moshi-Kilimanjaro.

Findings also showed that functions performed by the Coffee Farmers Groups (CFGs) enabled coffee farmers to obtain production inputs, extension services, loans from financial institutions. They also provided small credits to their members. Further, CFGs were able to perform the role of collecting coffee from their members consolidating and transporting to the market as well as providing market information to their members. The findings show that generally the coffee farmers were satisfied with the performance of their CFGs as they were able to pool their produce and make single installment of payment to their members immediately after auctioning of their produce.

Moreover, research findings brought out the various constraints and challenges faced by the CFGs. They include coffee prices fluctuation, inadequate financial capital, limited government support in terms of input subsidies, poor group administration and infrastructure, delaying of supply of inputs, high cost of the inputs, coffee diseases and pest, unreliable rainfall, high interest rate from financial institutions and delay in payment from coffee auction. The suggested solutions to overcome these constraints and challenges mentioned above involved; CFGs have to be provided with permission to access export

market directly in order to increase income of coffee farmers and coffee market expansion. Coffee farmers need to be provided with subsidies for inputs and increasing access to extension services to improve coffee production in the study area.

5.3 Conclusion

Based on the discussions and findings, the following conclusions were drawn relating to the different specific objectives. The formation of Coffee Farmers' Groups (CFGs) was successful in the study area. Though government does not provide adequate material and technical support such as training, credit and subsidies for inputs, the expectations of coffee farmers in forming and joining CFGs was high, believing that CFGs can be the panacea to their problems especially in marketing their produce.

Further, it can be concluded that roles and performance of CFGs in the study area were less satisfactory as data show that CFGs were just able to perform merely the role of pooling coffee from their members. They could not support the farmers during the early stage of coffee production through technical support and provision of credits that farmers can use for expanding their farms and for meeting other requirements to maintain coffee farms such as fertilizer, herbicides, insecticides, pesticides, and transportation. However, most CFGs were not well organized and strengthened to perform effectively and efficiently their many other roles.

5.4 Recommendations

The CFGs were regarded as the instruments that enabled coffee farmers to improve their living standards. The following recommendations were based on the research findings concerning the roles and performance of small scale coffee farmers' groups in Mbozi district, Mbeya region.

5.4.1 Formation of Coffee Farmer Groups

It is recommended that, there should be clear regulations or rules that guide CFGs' formation. Further, the registrations of CFGs should be done at the local government level as it will be close to farmers since at present the registration is done at the national level. Likewise, farmers have to be provided with the skills and knowledge on how they can form and organize their groups successfully. It is further recommended that all coffee farmers groups in the whole Mbozi district had to form their unions or federations under which small coffee farmers groups will be organized at the village level. There is a need to improve the abilities of CFGs in dealing with various problems and demands of coffee farmers, especially in matters pertaining to coffee production that involve inputs' price, quality and availability. They also have to be strengthened with regard to processing and marketing which involve prices setting, bargaining and dealing with price fluctuations.

5.4.2 Capacity development for CFGs

It is recommended that, Coffee Farmers' Groups (CFGs) had to be transformed into coffee agri-business enterprises through developing entrepreneurship skills among farmers, improving access and expansion of market focus on the foreign market in order to increase income of the individual farmers as well as of the group and country at large. There is also a strong need to develop good link between CFGs and financial institutions that will enable CFGs to obtain adequate loan for the capital and develop their own capacity of serving members and providing credits like Savings and Credit Cooperative Society (SACCOS).

5.4.3 Subsidies to coffee inputs

It is recommended that government had to provide subsidies to coffee production inputs. Findings show that coffee production inputs were not subsidized and as a result most small

scale coffee farmers failed to purchase inputs needed for coffee production such as fertilizer, pesticides, and insecticides due to their high prices. Hence, most of the respondents suggested provision of subsidies so as to improve coffee production in the study area. It may be noted that, coffee has significant contribution to Tanzanian economy, accounting for about 5% of total exports value and the main producers are small scale farmers (TCB & TCA 2012). Therefore, there is a need of subsidizing coffee production inputs so that small scale coffee farmers can access farming inputs to improve coffee production that will result in positive economic impact to individual farmers and eventually at the national level.

5.5 Limitations of the Study

Data were collected between January and February, 2013 which were the peak months for cultivation and weeding seasons in the study area. Therefore, farmers were very busy working in the farms that they did not have much time to spend with the researcher. This was overcome by visiting coffee farmers during evening hours when they were resting. Visiting them in their farms also enabled the researcher not only to overcome this limitation but also helped in making observations.

Another limitation was the reluctance of some farmers to be interviewed during the data collection session. The researcher had to interview respondents who were willing to provide relevant information for the study and left out farmers who were not ready to be interviewed.

The last limitation but not the least was the financial constraints. The researcher utilized limited money he had to accomplish this study.

5.6 Areas for further studies

As the study was limited to Mbozi district specifically the sampled villages, there is a need for similar studies to be done in other areas of Tanzania where coffee is grown and small scale coffee farmers' organizations are present. This may lead to the verification of the results and therefore will enable generalization across Tanzania.

There is a need to conduct both qualitative and empirical studies based on the structure and strengthening of Coffee Producers Organization in order to understand how to organize them efficiently to fill the void and gap created due to the collapsed farmers' cooperatives in 1970s (Eckert, 2007:117). There is also a need to strengthen small farmer organizations by providing them with technical assistance that will increase their productivity in a competitive market. Through improving the quality of their produce and enabling them to actively participate in marketing their produce, it might be possible to capture higher value in the supply chain. Studies may be carried out to find out the efforts needed to be undertaken by public and private sectors.

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APPENDICES

Appendix 1: Questionnaire for Coffee Farmers

Dear participants

I am a student enrolled at the University of Dodoma for Master of Arts in Development Studies (MA DS). I am undertaking a study on **"**CONTRIBUTION OF SMALL SCALE COFFEE FARMERS' GROUPS FOR COFFEE PRODUCTION, PROCESSING AND MARKETING IN MBOZI DISTRICT, MBEYA REGION**"** for my dissertation as a requirement for completing my studies.

The purpose of the study is to obtain information on the coffee farmer groups' contribution to small scale coffee farmers on coffee production, processing and marketing in the study area. The focus of the study is on the factors influencing farmers' group formation, roles, performance level and challenges faced by the small coffee farmers' groups.

Your participation in this study will enable the researcher to obtain valuable opinions and suggestions that will fulfill the intended objectives of the study. All your opinions will be used for academic purposes only and will be kept confidential.

Thank you for your cooperation.

Yours sincerely

MAO, Paul P.

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Instructions

This questionnaire consists of five sections. Section one is related to respondents' background and section two is devoted to factors influencing farmers to join farmers' groups. The section three is about roles of farmers groups. Section four focused on the performance of the coffee farmers' groups while section five is on challenges faced by the coffee farmers' groups. Most of these questions have been provided with multiple choices. Please put a tick mark (√) besides the answer(s) of your choice. There are a few open ended questions. For these questions you can answer in your own words in the spaces provided.

Section 1: Background information

This section needs the respondent's background information.

1. Personal information
    A. NAME
    B. SEX
    C. AGE
    D. SUB-VILLAGE
    E. VILLAGE

2. Highest level of education
    A. PRIMARY
    B. SECONDARY
    C. BACHELOR DEGREE
    D. OTHERS (PLEASE SPECIFY)

Section 2: Factors influencing the farmers to join farmers' groups

This section requires information on the factors that influenced farmers' groups' formation in the study area.

3. Since when are you growing coffee on your farm?
4. What is the size of the land you use to grow coffee?
5. Are there coffee farmers' groups/AMCOS in your area?

Details	YES/ NO	Number of groups/AMCOS
Farmers Groups		
AMCOS		

6. Are you a member of farmers' group/AMCOS? (Please write YES/NO) in the column 2

Farmers Groups (FGs)	
AMCOS	

7. If you are a member of Farmers Groups (FGs) or AMCOS member, since when you have been a member?

Institutions	Year of becoming the member
FGs	
AMCOS	

8. Are you aware of the coffee farmers' groups' performance in your area? (To be answered by AMCOS and farmers who are not in groups farmers)

   A. YES
   B. NO

9. If the answer to the above question is YES, please elaborate

10. Why do you prefer to be in AMCOS and not in farmers group? Please elaborate below (This question is applicable to farmers who are only members of AMCOS)

11. What is your purpose for joining coffee farmers' group/AMCOS? (It is possible to select more than one choice for this question and it is to be responded by farmers in FGs and AMCOS). Make a tick mark in case the choice is applicable to you.

	Benefits of joining	FGs	AMCOS
A	OBTAINING FARMING INPUTS		
B	EXTENSION SERVICES		
C	SHARING EXPERIENCE IN PRODUCTION		
D	ACCESS TO CREDIT		
E	RELIABLE MARKET		
F	INCREASED INCOME		
G	OTHERS (PLEASE SPECIFY)		

12. What are the factors influencing you to join coffee farmers' group (It is possible to select more than one choice for this question). This question is only to farmers belonging to coffee farmers' groups.

A. WEAK BARGAINING POWER OF INDIVIDUAL FARMERS
B. COST REDUCTION
C. PROCESSING ALONE IS DIFFICULT
D. INCREASED MARKET ACCESSIBILITY
E. BETTER PRICE FOR PRODUCE
F. GOOD PERFORMANCE OF FARMERS' GROUPS
G. OTHERS (PLEASE SPECIFY)

Section 3: Roles of farmers' groups.

This section has two parts. Part one is to be answered by both farmers in coffee farmers' group and those who are in AMCOS. Part B is specifically addressed to farmers who do not belong to farmers' groups.

Part one:

All questions in this part are to be responded by both coffee farmers in FGs and AMCOS. However questions 15, 20 and 21 are for farmers under FGs only.

13. Do the farmers receive inputs through their groups/AMCOS?

A. YES

B. NO

14. If YES, what kind of inputs do they receive?

15. Compare the inputs received through the farmers' group with those of other channels on the following aspects (to be responded by farmers belonging to coffee farmers' groups)

ASPECTS	**BETTER**	**THE SAME**	**WORSE**
Price			
Quality			
Timely availability			

16. Do the farmers' groups/AMCOS enable their members to get extension services?

A. YES

B. NO

17. Does the group/AMCOS enable farmer to get credit from financial institution?
    A. YES
    B. NO
18. Does your group/AMCOS own pulping machine?
    A. YES
    B. NO
19. If NO, where do you pulp your coffee?

20. Do the coffee farmers pulp their coffee individually or in group? (to be responded by only farmers belonging to coffee farmers' groups)
    A. INDIVIDUALLY
    B. IN GROUP
21. What are the benefits of pulping the coffee in a group? Elaborate (to be responded by farmers belonging coffee farmers' groups)

22. Does the farmers' group /AMCOS pool coffee from individual farmers for selling?
    A. YES
    B. NO
23. If your answer to the above question is YES, is the group/AMCOS able to pool all coffee produced by its members?
    A. YES
    B. NO
24. If your answer to the above question is NO, where do the farmers sell the remaining coffee?

25. Does the farmers' group/AMCOS give market information to their members?
    A. YES
    B. NO
26. Do you receive timely market information from the farmers' group/AMCOS?
    A. YES
    B. NO

Part B

To be answered by farmers who are not under any coffee farmers' groups

27. What opportunities do you think you are missing by not being in any coffee farmers group?

28. Why do you prefer to be out of farmers' group? Please elaborate below

29. How do you get farm inputs?

30. Do you own coffee pulping machine?
    A. YES
    B. NO
31. If your answer is NO, how do you pulp your coffee?

32. Where do you sale your coffee?

33. Where do you get market information?

34. Do you think farmers in the farmer's group are performing well in farming?
    A. YES
    B. NO
35. Do you wish to join coffee farmers' group?
    A. YES
    B. NO
36. If your answer to the above question is YES, please mention factors attracting you to wish to join coffee farmers' group

Section 4: Performance of the coffee farmers' groups

In this section question 37, 38, 39, 45, 46, 47 and 48 are to be answered by coffee farmers belonging to coffee farmers' groups only while the remain questions are to be responded by both farmers belonging to farmers groups and those who are under AMCOS

37. When was your coffee farmers' group formed?

38. Does your group have any registration?

A. YES

B. NO

39. Are the numbers of coffee farmers' group members increasing since its formation?

A. YES

B. NO

40. Is there any condition for joining the coffee farmers' group/AMCOS?

A. YES

B. NO

41. If YES, what are those conditions? Please mention below

42. Is the income of group members increasing after joining the group/AMCOS?

A. YES

B. NO

43. If the income of the group members has increased after joining the group/AMCOS, indicate the extent which it has increased

A. SUBSTANTIALLY

B. MARGINALLY

C. NEGLIGIBLE

44. Was the coffee farmers' group/AMCOS able to find market for all coffee produced by its members?

A. YES

B. NO

45. Did the coffee farmers' group find new markets for the members' produce?

A. YES

B. NO

46. If the answer to the above question is YES, please indicate the new markets accessed due to the formation of the farmers' group

47. Whether the farmers' group was able to bargain better prices for the members' produce?

    A. YES

    B. NO

48. If the answer to the above question is NO, please elaborate the reasons

49. Are you satisfied with the performance of your farmers' group/AMCOS in achieving its goals?

    A. YES
    B. NO

50. If your answer to the above question is YES, please highlight to what extent you are satisfied?

    A. HIGHLY SATISFIED
    B. SATISFIED
    C. NEUTRAL
    D. DISSATISFIED
    E. HIGHLY DISSATISFIED

51. If you are dissatisfied or highly dissatisfied with the performance of the farmers' group/AMCOS, please mention the reasons

Section 5: Challenges faced by the coffee farmers' groups

Instruction: For this section also, you can select by putting a tick mark beside the answer of your choice. It might also be possible to select one or more choices for a few questions in this section (questions in this section can be answered by all coffee farmers except question 52 is addressed to farmers belonging to coffee farmers' groups only).

52. When registering farmers group, what problems did you face?

    A. DIFFICULT REGISTRATION PROCEDURES
    B. RELUCTANCE OF FARMERS TO JOIN GROUPS
    C. HIGH REGISTRATION FEE
    D. POOR KNOWLEDGE AND EXPERIENCE
    E. LARGE NUMBERS OF FARMERS IN MEMBER GROUP
    F. OTHERS (PLEASE SPECIFY)

53. What are the major constrains faced by coffee farmers group?

A. FINANCIAL
B. MEMBERS' WITHDRAWAL
C. MEMBERS NOT PAYING FEES
D. POOR GOVERNMENT SUPPORT
E. MEMBERS DO NOT ATTEND MEETINGS IN REQUIRED NUMBER
F. PRICE FLUCTUATION
G. ADMINISTRATIVE PROBLEMS
H. POOR INFRASTRUCTURE
I. MEMBERS DO NOT POOL THEIR COFFEE AS A GROUP
J. OTHERS (SPECIFY)

54. Is there any other challenge faced by the coffee farmers' groups?

55. Do you wish to mention anything else on this subject?

THANKS FOR YOUR TIME AND COOPERATION!

Appendix 2: Interview guide for officials

Dear participants

I am a student enrolled at the University of Dodoma for Master of Arts in Development Studies (MA DS). I am undertaking a study on **"**CONTRIBUTION OF SMALL SCALE COFFEE FARMERS' GROUPS FOR COFFEE PRODUCTION, PROCESSING AND MARKETING IN MBOZI DISTRICT, MBEYA REGION**"** for my dissertation as a requirement for completing my studies.

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Thank you for your cooperation.

Yours sincerely

MAO, Paul P.

Mobile Phone 0717553341/0764735891

Email: paulomao26@yahoo.com

Instructions

This questionnaire consists of four sections with multiple choices and open ended questions. For multiple choice questions please put symbol tick mark (√) on your choice and for other questions provide your response in a space provided.

Section A: Background Information

1. Name
2. Sex
3. Qualification
4. Occupation
5. Age

Section B: Information on coffee farmers' group formation

6. How many coffee farmers' groups are in your area?
7. How many active coffee farmers groups are there?
8. Since when these coffee farmers' groups have started functioning?
9. What is the average number of farmers in these groups?
10. What was the purpose for coffee farmers' groups' formation? (It is possible to select more than one choice for this question
    A. OBTAINING FARMING INPUTS
    B. EXTENSION SERVICES
    C. SHARING EXPERIENCE IN PRODUCTION
    D. ACCESS TO CREDIT
    E. RELIABLE MARKET
    F. INCREASED INCOME
    G. OTHERS (PLEASE SPECIFY)
11. Does the government support coffee farmers' group formation?
    A. YES
    B. NO
12. If your answer to the above question is YES, what kinds of supports are given by the government? Please mention

13. What is the farmers' response toward forming farmers groups?
    A. VERY HIGH
    B. HIGH
    C. SATISFACTORY
    D. LOW
    E. VERY LOW

14. Are the numbers of coffee farmers' group members increasing since their formation?
    A. YES
    B. NO

15. Coffee farmers' group registration is done in what level?
    A. VILLAGE
    B. WARD
    C. DISTRICT
    D. REGIONAL
    E. NATIONAL

Section C: Information on role and performance of the coffee farmers' groups

16. Do the farmers receive inputs through their groups?
    A. YES
    B. NO

17. If YES, what kind of inputs do they receive?

18. Does coffee farmers' group own pulping machine?
    A. YES
    B. NO

19. If your answer to the above question NO, where does farmers pulp their coffee?

20. Does the farmers' group able to pool all coffee produced by their members for selling?
    A. YES
    B. NO

21. Was the farmers' group able to find market for all coffee produced by their members?
    B. YES
    C. NO

22. Did the farmers' group find new markets for their members' produce?
    A. YES
    B. NO

23. If your answer to the above question is NO, please elaborate

24. Whether the farmers group was able to bargain better prices for the members' produce?
    A. YES
    B. NO

25. If the answer to the above question is NO, please elaborate the reasons

26. Are the coffee farmers satisfied with the performance of their groups?
    A. YES
    B. NO

27. If they are not satisfied with the performance of their groups, elaborate the reasons

28. What measures should be undertaken to increase the satisfaction levels of the members with regard to the performance of the groups?

29. Do the farmers' groups achieve their goals?
    A. YES
    B. NO

30. If the answer to the above question is YES, please mention some indicators showing the success of farmers groups

31. If the answer to the above question is NO, what can be the possible reasons for farmers groups for not achieving their goals? Please list below.

Section D: Challenges faced by the coffee farmers' groups

32. What do you think are the major challenges faced by the coffee farmers' groups? (Please list below)

33. What are your suggestions to overcome these challenge faced by the coffee farmers groups?

34. Do you wish to mention anything else on this subject?

THANKS FOR YOUR TIME AND COOPERATION!