



**Mekelle University**



**College of Business and Economics**

**Department of Cooperative Studies**

**A Study on:**

**The Role of Multipurpose Farmer Cooperatives in the Supply Chain of Wheat in  
Gedeb-Hasasa Woreda, Oromia Regional State, Ethiopia**

**By:**

**Addisu Wondimu**

**Submitted in Partial Fulfillment of the Requirements for the Award of  
Master of Arts Degree in Cooperative Marketing**

**Principal Advisor: Teklay Tesfay (Asst. Professor)**

**September, 2011**

**Mekelle, Ethiopia**

**The Role of Multipurpose Farmers Cooperatives in the Supply Chain of Wheat  
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Mekelle University**

*This thesis work is dedicated to my sister Ketinash Wondimu whom I lost her for the last 20 years and for those who scarified their life for peace and love of nations.*

## Declaration

This is to certify that this Thesis work entitled **Role of Multipurpose Farmers Cooperatives in the Supply Chain of Wheat in Gedeb-Hasasa District, Oromia Regional State, Ethiopia** submitted in partial fulfillment of the requirement for the award of Master of Arts Degree in cooperative Marketing to the College of Business and Economics, Mekelle University, through the department of Cooperative Studies conducted by Addisu Wondimu Teklu, ID. No. CBE/PGS/001/01 is an authentic work done by him under my close supervision and guidance.

To best of my knowledge and beliefs, the substance included under this thesis work has not been submitted for the fulfillment of any award qualification in earlier time.

Name of the students: Addisu wondimu Teklu Signature.....Date .....

Name of the Adviser: Teklay Tesfay (Ass. Prof.) Signature..... Date .....

## **Biographical Sketch**

The author was born in 1984 in Amhara National Regional State, South Eastern Zone the then Menjar-Shankora Wereda to his mother Ateli Asefa and his father Wondimu Teklu. He attended his Elementary and Secondary Schools in Dera Junior School and Abyot Kirs Senior Secondary School, in Dera Town and Addis Abeba, respectively. He joined the-then Nazret Technical and Vocation Teacher Training College/ now Adama University/ in 2002/2003 academic year and completed his undergraduate studies with B.ED Degree in Business Management in July, 2006.

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## Table of Contents

Declaration.....	iv
Biographical Sketch .....	v
Table of Contents .....	vi
Acknowledgements.....	ix
List of Acronyms and Abbreviations.....	x
List of Tables .....	xi
List of Figures and Maps .....	xiii
Lists of Appendix Tables.....	xiv
Abstract .....	xv
CHAPTER I: INTRODUCTION .....	1
1.1. Background.....	1
1.2. Statement of the Problem.....	5
1.3. Objectives of the Study.....	7
1.4. Research Questions .....	7
1.5. Significance of the Study .....	8
1.6. Scope and Limitations of the Study .....	8
1.7. Organization of the Thesis.....	9
CHAPTER II: REVIEW OF LITERATURES .....	10
2.1. Theoretical Background.....	10
2.1.1. Basic Concepts and Definitions.....	10
2.1.2. Definitions and Concepts of Cooperative.....	12
2.1.3. Agricultural Marketing.....	14

2.1.4. Reasons to Organize Cooperatives.....	15
2.1.5. Role of Agricultural Cooperatives in Market.....	16
2.1.6. Historical Development of Cooperative and Policy Implication in Ethiopia.....	17
2.1.7. Overviews of wheat Production and Area coverage.....	20
2.1.8. Input-output Marketing Role of Agricultural Cooperative.....	22
2.1.9. Empirical Evidence on Cooperative and Supply Chain .....	24
2.2. Conceptual Framework.....	26
<b>CHAPTER III: MATERIALS AND METHODS .....</b>	<b>28</b>
3.1. Description of the Study Area .....	28
3.1.1. An overview of West Arsi Zone .....	28
3.1.2. Description of the Gedeb-Hasasa District.....	28
3.1.3. Socio-Economic Profiles of the District .....	29
3.1.4. Topographic Condition of the District.....	31
3.1.5. District Agricultural Extension Services.....	32
3.1.6. Farm Input Marketing in Gedeb-Hasasa District .....	33
3.1.7. District Wheat Production Trends .....	34
3.1.8. Supply of Improved Wheat Varieties in the District .....	35
3.2. Methodology Design.....	36
3.2.1. Sampling Design and Sampling Size .....	36
3.2.2. Sources and Methods of Data Collection.....	38
3.3. Methods of Data Analysis .....	40
3.3.1. Financial Ratio Analysis .....	40
3.3.2. Descriptive Analysis.....	42
3.3.3. Econometrics Model Selection and Specification .....	42
3.4. Operational Definitions of variables.....	44
<b>CHAPTER IV: RESULTS AND DISCUSSION .....</b>	<b>49</b>
4.1. Results of Ratio Analysis .....	49
4.1.1. Liquidity Ratio Analysis.....	49

4.1.2. Surplus Ratio Analysis .....	50
4.1.3. Leverage Ratio Analysis .....	51
4.2. Results of Descriptive Analysis .....	52
4.3. Results of the Econometric Analysis.....	87
CHAPTER V: CONCLUSION & RECOMMENDATIONS.....	91
5.1. Conclusion.....	91
5.2. Recommendations .....	94
5.3. Implication for Future Research Work .....	97
Bibliography.....	98
Appendix.....	102

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Addisu Wondimu

## **List of Acronyms and Abbreviations**

ACE	Agricultural Cooperatives in Ethiopia
ARD	Agricultural and Rural Development
CSA	Central Statistics Agency
EPRDF	Ethiopian People's Revolutionary Democratic Front
FCA	Federal Cooperative Agency
FDRE	Federal Democratic Republic of Ethiopia
FTC	Farmer Training Center
GDP	Gross Domestic Product
GHARDO	Gedeb-Hasasa Woreda Agricultural and Rural Development Office
GHWCPD	Gedeb-Hasasa Woreda Cooperative Promotion Office
GSDRS	Governance and Social Development Research Centre
Ha	Hectare
ICAs	International Cooperative Alliances
IFAD	International Fund for Agricultural Development
Km	Kilometers
MoFED	Ministry of Finance and Economic Development
MPFCs	Multi- Purpose Farmers Cooperatives
OFEDB	Oromia Finance and Economic Development Bureau
OCPA	Oromia Cooperative Promotion Agency
PA	Peasant Associations
PASDEP	A Plan for Accelerated and Sustained Development to End Poverty
PCC	Population Censuses Commission
RDPS	Rural Development Policy and Strategy
SACCOs	Saving and Credit Cooperative
SNNPR	South Nation and Nationality of Peoples Region
SPSS	Statistical Package for Social Science
USAID	United States Aid for International Development

## List of Tables

Table 2.1. Growth of Unions in Ethiopia from the year 2005 to 2008 .....	20
Table 2.2. Different Types of Crops Production of in Gedeb-Hasasa District .....	22
Table 3.1. Gedeb-Hasasa Woreda Livestock Population.....	30
Table 3.2. Different Types of Crop Production in Gedeb-Hasasa District.....	31
Table 3.3. Sample MPFCs and Sample Size Drawn from each Cooperative.....	37
Table 4.1. Ratio Analysis of the Five MPFCS based on two Years Audit Report .....	52
Table 4.2. Respondents' Socio-Demographic Characteristics .....	53
Table 4.3. Distribution of Members in selling their Wheat to the Cooperative and to others .....	55
Table 4.4. Frequency of Sample Farmers by Cooperative Price of Wheat .....	57
Table 4.5. Frequency of Response on Marketing Roles of Cooperatives.....	58
Table 4.6. Characteristics of Member Shareholding, Membership and Farming Experience .....	60
Table 4.7. Distribution Farmers by Reasons for Membership to Cooperative .....	61
Table 4.8. Major Crops Produced by Sample Farmers and Area Covered .....	63
Table 4.9. Distribution Framers by Land Ownership .....	64
Table 4.10. Distribution of Farmer Members Land Allocation and Usage Patterns .....	65
Table 4.11. Distribution Soil Fertility Status.....	66
Table 4.12. Distribution of Farmer Members' based on Usage of Farming Machinery .....	67
Table 4.13. Livestock Ownership of Members .....	68
Table 4.14. Members Level of Oxen Ownership Distribution .....	69
Table 4.15. Distribution Members Perception on the Role of Cooperatives .....	70
Table 4.16. Distribution Members Awareness Level about their Cooperative Matters .....	71
Table 4.17. Farmers use of Cooperatives as a Source of Fertilizer and their Ability.....	72
Table 4.18. Quantity of DAP and Wheat Seed Taken by Members from the Cooperatives .....	73
Table 4.19. Farmers in using Cooperatives as a Source of Fertilizer and their Ability.....	74
Table 4.20. Characteristics of Farmers in using Fertilizer for their Wheat .....	74
Table 4.21. Members Responses Concerning Farm Inputs Availability at the Right Time.....	75
Table 4.22. Members in Obtaining Required Farm Inputs and in Notifying their Demand.....	76
Table 4.23. Distribution of Members based Access to Training and Extension Service.....	78
Table 4.24. Distribution of Farmer Members based Distance Travelled .....	79
Table 4.25. Distribution of Farmer Member's Participation in Cooperative.....	81

Table 4.26. Distribution of Members Rating on the Services of the Cooperatives .....	82
Table 4.27. Demographic Characteristics of Traders .....	83
Table 4.28. Distribution of Traders on Seasonal Purchase & Transportation Costs .....	84
Table 4.29. Distribution of Traders Based on to Whom they Sell their Wheat .....	85
Table 4.30. Distribution of Traders on their Supply Routes .....	85
Table 4.31. Distribution of Traders based on Level of Trading .....	86
Table 4.32. Distribution of Traders Ownership of Warehouse and Car .....	86
Table 4.33. Traders Distribution on Seasonal Purchasing and Selling Prices of Wheat .....	87
Table 4.34. Effects of Explanatory Variables on Dependent Variable & its Significance .....	90

## **List of Figures and Maps**

Figure 2.1. Conceptual Framework.....	27
Figure 3.1. Maps of Ethiopia, Oromia and Study Area.....	29
Figure 3.2. Farm Input Distribution in the Study Area in the Past Five Years .....	33
Figure 3.3. District Wheat Production.....	34
Figure 3.4. Improved Wheat Distribution in the District.....	35
Figure 4.1. Diagrammatic Presentation of Supply Chain of Wheat in the Study Area.....	56

## **Lists of Appendix Tables**

Table 1. VIF of Continuous Explanatory Variables ( $X_i$ ) .....	102
Table 2. Contingency Coefficient of Dummy (Discrete Variables) .....	102
Table 3. Tropical Livestock Unit (TLU) Equivalent Conversion Factors.....	102

## **Abstract**

*Cooperative in general and MPFCs in particular is used as key pillar in the rural development strategy of Ethiopia to address the existing malfunctioning agricultural marketing system. This research is conducted on role of MPFCs in the supply chain of Wheat in Gedeb-Hasasa Woreda, Ethiopia. The main objectives were to identify financial performance, role of MPFCs in marketing farmers output, to investigate and describe wheat marketing channel, role of cooperative in farm inputs supply, members participation and perception to the cooperative service and determinant of MPFCs involvement in marketing farmers output and factors that motivates farmers to supply their wheat to the cooperatives. To accomplish this study both primary and secondary sources that combine qualitative and quantitative data were used. Moreover, two-stage random sampling was employed to select 5 MPFCs and 160 sample on basis of statistical random sampling technique of probability proportional to size. Structured interview schedule was used to collect primary data from famer members. Moreover, semi structured interview for sample traders and focus group discussion was held with committee members and organizer. Data analysis was carried out using financial ratio analysis, descriptive statistics and econometric model. Descriptive statistics like frequency, mean, standard deviation, minimum and maximum values had been used. Furthermore, financial analysis was done using 2 years audit report to assess the financial performance of the 5 MPFCs. Besides, econometrics model called a multiple linear regression employed using STATA software version 10 to investigate factors that influence farmers to supply their wheat to the cooperatives. As financial ratio analysis shows, cooperatives under investigation were not at better financial position to undertake the output marketing and in diversifying their services to satisfy farmers demand for services. MPFCs under investigation using current ratio all except Abdi Boru were below satisfactory level on the basis of the 2009/10 audit report. While in the year 2010/11 cooperatives current ratio was showed slight improvement. Surplus ratio of the MPFCs has been insignificant based on the two years audit report under investigation. Further, leverage ratio analysis shows that cooperatives under investigation for the last two years more than 65% of their assets were financed by outsiders rather than cooperatives own worth. As the result of descriptive analysis shows, most (47.5%) of the farmers did not use cooperatives as their farm outlet. Besides, MPFCs role in the study area in purchasing the members wheat rated as poor by majority (71.25%) of sample farmers and 47.5% and 31.88% sample farmers sold their wheat to wholesalers and local market respectively. Moreover, of the total sample, 31.25% of them rented-out their land to outsiders. Accordingly, of the 13 explanatory variables access to credit, yield of wheat and educational level found to exert direct and significant impact on farmers supply of wheat while, price offered and proximity to district market were found to have negative significant influence on farmers supply of wheat to the cooperatives. Improving financial capacity, extending credit and tractor service, training and education, delivery time of farm inputs, members' participation and saving habits of farmers, purchasing role of cooperatives, avoiding interferences, and minimizing bilateral role of traders were some of the interference areas that need to be considered by concerned stakeholders to improve the role and function of MPFCs in marketing out puts of farmers in the supply chain.*

Key words: Multipurpose Farmers' Cooperative Society

# **CHAPTER I: INTRODUCTION**

## **1.1. Background**

In most developing countries agriculture is an important economic sector for sustaining growth and reducing poverty. Moreover, agricultural sector dominate most developing countries' economies in terms of its contribution to GDP, employment and income. Thus, the sector growth and development has immense contribution for the overall process of socio-economic development of developing countries economy (Andizo *et al*, 2004). What is far said also holds true in the economy of most sub-Saharan countries in which agriculture plays prominent role. In the region the sector account at about 40% of GDP, 15% of exports and 60% - 80% of labor force (Agwe, 2007). As indicated in IFAD (2003), large majority of poor people in Eastern and Southern Africa live in the countryside. Besides, most of them generate a major element of their income and food security from small scale agricultural production and whose livelihood is largely dependent on agriculture.

Like most sub-Saharan counties, agriculture continues to be the mainstay of Ethiopia's national economy. According to CSA reports, agricultural sector accounts for 46.3% of GDP income, 83.9% of export earnings, and 80% of the labour force employment in 2006/2007 compared to 44%, 76.9%, and 80%, respectively in 2002/2003 (CSA, 2008). This implies that agriculture remains to be the backbone of the Ethiopian economy. However, in the upcoming five years the leading role of the agricultural sector is expected to decline upon the implementations of the growth and transformations strategy of the country. Despite the fact that agriculture is the main engine of the Ethiopian economy, it characterized by subsistence level of farming, lacks diversifications and productivity even though the government effort to tackle these bottlenecks are undeniable (MoFED, 2003). The ill performance of agricultural marketing contributed the lion's share for the agriculture sector not to bring rapid and sustainable development in the development of Ethiopian economy compare to other factors.

As evidence shows, the performance of agricultural marketing in Ethiopia is constrained by various factors such as lack of market facilities, poor linkage of research and extension, absence of marketing information, weak extension services, excessive price and supply fluctuations, limited

access to credit, poor quality of agricultural produce, inefficient handling including, storage, packaging and transportation problems (Wolday, 1994). Moreover, Eleni (2001) point out Ethiopian market are characterized by long supply chain, high transaction costs, inadequate communication and transportation infrastructure and high risk.

Generally, these and other factors are major constraints contributed for deprived performance agricultural marketing. Therefore, it calls for improving the marketing system to have better achievement in the development of agricultural sector in general and its production and productivity in particular. Daniel (2006) indicted that, the existence of efficient and effective marketing system can improve the farmers' levels of income by enabling them to add some value to their output, by minimizing transaction cost and valuing at better prices. He added also, the existence of well functioning marketing system has considerable contributions in improving production and productivity of agriculture by providing incentives to farmers and enabling them to be market oriented producers. On the other hand Yacob (2003) also argue that, building an efficient and well-balanced marketing structure is a necessary precondition for producers of agricultural output to meet the demands of an increasing population and transform agriculture from a sector where production is largely for subsistence purposes into a sector that produces marketable surplus. Therefore, these evidences portray that there is a need to build better performing marketing system that enable farmers to commercialize their farm output, to improve their access to technological inputs and market so as to pick up production and productivity. To do so, enhancing and strengthening the role of the cooperative in agricultural marketing is not questionable (MoFED, 2003). This is why so, cooperative can minimize the transaction cost, time, efforts; develop cost-effective and efficient marketing system. In addition, the coming together of primary cooperative can form union which enables the farmers to obtain storage, packaging, standardization of product, create chance to import farm inputs and supply of different services easily which was impossible at individual farmer level (MoFED, 2003).

Moreover, the role of cooperative in creating efficient and competitive agricultural marketing can be plausible through effective involvement in the marketing system. This enables to reduce the existing excessive trading chain and high transaction costs in the markets which neither benefit the farmer in surplus producing areas nor consumer in the food deficit areas (Eleni *et al.*, 2002). As cooperative

take part in the market, it can allow to add some values to the farmers' output and in creating effective and efficient agricultural marketing system (MoFED, 2003). Therefore, in order to tackle these marketing obstacles from its route and fill the gap, cooperatives are best means in supply chain in reducing actors in the chain, farmers' exploitation and minimizing transaction cost if they function well. In line with this, the current government strategy of Ethiopia aimed to extend cooperatives' services all over the country to supply production inputs to smallholders and to market surplus output produced by farmers' to the market (Bernard et al, 2010). Moreover, the current government has placed cooperatives at the forefront of its efforts to enhance agricultural productivity and smallholder commercialization in the rural areas (PASDEP, 2006). Therefore, expanding and strengthening cooperatives role in agricultural marketing as means to tackle the socio-economic problems of the farmers and to provide multifaceted services are current target of government.

Following the new economic and political liberalizations that took place in Ethiopia after overthrow of the Derg regime as many democratically governed, market oriented, members owned and controlled cooperative societies were prompted and organized. This has been not true under the previous regime. As a result, at present, in Ethiopia there are 33,636 and 212 organized primary and secondary cooperative respectively of which, 7118 (21.16%) and 80 (37.74%) were primary and secondary multipurpose farmer cooperative sequentially. The total member of primary cooperative reached to 5,622,362, (17.70% female) holding a total capital of 1,579,286,546 and that of unions are 5957 members cooperative with total capital of 647,242,668 Birr (FCA, 2010). Furthermore, according to GWCPO (2011), in the districts there are about 49 primary cooperative societies of these, 51% (25) of them are multipurpose farmer cooperative societies. In addition, there is one multipurpose farmers' union which consists of 25 MPFCs as member.

Even though, there is encouraging indicators of success in cooperative movement and in their role in Ethiopia, more is expected in organizing and promoting agricultural cooperative to play their significant role in enhancing the effectiveness and efficiency of agricultural marketing in Ethiopia. Of the different type of cooperatives, agricultural farmer multipurpose cooperative located in the rural part of the country aiming to extend multifaceted services to vast majority of rural poor. In addition, multipurpose farmer cooperative societies are organized in the rural areas to speedup

efficiency of the agricultural marketing, enhance bargaining power of farmers and market access and to promote agricultural development. Moreover, as pointed out by Daniel (2006), agricultural cooperatives have been organized to render economic benefits to their members and implement agricultural development policies directed specifically towards smallholders of the country. A multipurpose cooperative is a type of cooperative that undertakes more than one task or activity and provides different services at one place (such as marketing, credits, input supply, storage, grading etc.) which cannot be carried out by others. However, only the expansions and growth of cooperatives may not ensure better services to member and good performance in the agricultural marketing (Demeke, 2007). Most of the times role of MPFCs may not be as their name implies. Their services can be limited to only supply of farm inputs to farmers. However, multipurpose farmers' cooperative societies are expected to play major role through provisions of multi-faceted services to their members and nearby rural community to enhance production and productivity of farmers.

In line with these facts, being the study area is major wheat surplus producing, the research attempted to investigate the existing cooperative role and function of MPFCs in the supply chain of wheat, role of MPFCs in acting as source of farm inputs and marketing of output, their constraints, members perception on the services of the cooperative and participations by evaluating their financial performances. In addition, assessing the existing cooperative role and function in supply chain of wheat can enable to obtain lesson from weak and strong sides of the cooperatives to take corrective action when needs arise and scale up the strong sides obtained in one area to the other part of the country. That's why, assessing the overall role of multipurpose farmers' cooperatives society in supply chain of wheat become necessity to address the literature gap exists in the area and contribute valuable information's to policy makers and concerned stakeholders.

## **1.2. Statement of the Problem**

Despite the relative importance of agriculture to the Ethiopian economy, it characterized by substance level farming, lack production, productivity and backed by traditional farming practices (Wolday, 1994). Moreover, Bekabil (2004) indicates, limited resources, low levels of adoption and use of improved technologies and lack of adequate infrastructure and institutions that support agricultural development are the major factors behind low productivity of small scale agriculture in Ethiopia. In addition, of the other factors poor performance of the agricultural marketing also takes the lion's share for under performance of the agricultural sector (Jamel, 2008). To this effect, agricultural sector did not brought rapid and sustained development in the economy of the country.

Agricultural marketing is the key driving force for economic development and has a guiding and stimulating impact on production and distribution of agricultural produce (Rehima, 2006). Moreover, Daniel (2006) argues, only enhancing production and productivity did not ensure rapid growth and development in the agricultural sector. Thus, it requires more efforts to build efficient marketing system that serve as a spring board for the development of the other sectors. Wolday (1994) expressed that, the performance of agricultural marketing in Ethiopia is constrained by various factors. These are; lack of market facilities, weak extension services, absence of marketing information, excessive price and supply fluctuations, limited access to credit, poor quality of agricultural produce etc are the main one in the existing market situation. To these end, as the MoFED (2003), indicate expanding and strengthening the role of cooperative in general and multipurpose farmer cooperative societies in particular in marketing of output, extending credit, delivering relevant and timely information and supplying of farm inputs in the rural areas have twofold advantage. This is due to the fact that; multipurpose farmer cooperative societies enable farmers to pool their limited resources, meet need of farmers for agricultural inputs and credit, and improve market access and bargaining power of farmers in marketing agricultural products (UN, 2009). Furthermore, multipurpose farmers' cooperative societies provide multifaceted service such as: distributions of farm inputs, marketing of agricultural output, processing, credit services, storage facilities, packaging etc (Gizachew, 2005). Corresponding, Alem (2008) pointed out multipurpose farmer cooperative societies plays a significant role in supply chain of input/output by reducing difficulties of farmers to access to market in terms of cost, time, negotiations power they lack.

Though cooperatives are considered as an appropriate tool of rural development, in minimizing transaction cost, improving market access and bargaining power of farmers, they are restrained by different factors not to play their positive role on ground to the rural people. As evidence indicate supply chain mostly dominated by middle men and the marketing share of the cooperative in grain marketing is minimal. Besides, as result of ill performing market, neither small scale producer nor final users are benefited from the output and 95% of cereal marketed by smallholder was handled by private traders (Eleni, 2001). Moreover, it is estimated that only about 50% of global agricultural outputs are marketed through agricultural cooperative (UN, 2009). Similarly, Seid (2008) evidenced that grain purchasing share of cooperatives and the union from members and non members were not more than 31% whereas traders share at about 58% of the grain market. Moreover, Kindie (2007) found that 34.47%, 22.5% and 17.66% of marketed Sesame was channeled through wholesalers, assemblers and cooperatives respectively.

Therefore, in the area where this study has been conducted wheat is the major crop produced both by individual and state farm enterprises and marketed by farmers at individual or through cooperatives. However, farmers are not benefited from their produce since most of them sell their output immediately after harvest to fulfill their cash requirements and to payoff liability obligations at hand. As Gebremeskel et al, (1998) indicted, 79% of farmers grain output sell occur during harvesting season due to fear of storage loss and to meet their immediate cash requirement Further, during this period price of wheat in the study area is low while during plowing season it reaches at boom while, farmers are intended to purchase it become challenges due to running out of cash on the hands of the farmers. So, selling livestock or renting out land is taken as the solution to overcome their cash problem. Though, in the study area there are 49 primary cooperative societies of which, 25 (51%) MPFCs societies, to knowledge of the researcher there is dearth of information in the study area in relation to the role played by this MPFCs societies in overcoming these marketing constraints of farmers in the supply chain of wheat. Therefore, the focus of this study is to assess the role and function of this MPFCs societies in supply chain of wheat, its role in supplying farm input, credit services, purchase of farmers produce (Wheat), constraints, financial performances, members participation and their role in overcoming the socio-economic problems and to generate relevant information to fill dearth of literature in the study area.

### **1.3. Objectives of the Study**

#### **General objective**

The overall objective of this study is to investigate the role of multipurpose farmers' cooperative societies in the Supply chain of Wheat market in West-Arsi zone, in the Gedeb-Hasasa district of Oromia National Regional State, Ethiopia.

#### **Specific objectives**

The study has the following specific objectives:

1. To identify financial performances of multipurpose farmers' cooperative societies.
2. To assess the role of MPFCs in marketing farmers output and determinants that motivate farmers to supply their wheat.
3. To investigate and describe wheat marketing channel functioning in the study area.
4. To explore constraints of MPFCs in service provision and involvement in the marketing of wheat.
5. To assess the role of MPFCs in farm inputs supply and members' perceptions of the services.
6. To find out the level of participation of members in the cooperatives matters.

### **1.4. Research Questions**

This research was attempted to answer the following core questions after thorough investigation.

#### **1.4.1. Main Research Question**

- What is the overall marketing role of multipurpose farmers' cooperative society in the supply chain of wheat and what factors affect farmers' participation in the cooperative societies?

#### **1.4.2. Sub-Research Questions**

1. What does the financial performance of the cooperatives looks like?
2. What are the roles of MPFCs in output marketing and factors motivating farmers to supply their wheat to the cooperatives?
3. How is wheat marketing functioning in the study area?
4. What constraints do MPFCs have in the supply of farm inputs and marketing of output?
5. What is the role of MPFCs in the study area in terms of farm input supply?
6. What are the perceptions of the members towards cooperatives services and their level of participation in the cooperatives matters?

## **1.5. Significance of the Study**

Multipurpose farmers' cooperatives societies play crucial roles in the rural part of the country in protecting the interest of smallholders, improving farmers' livelihood through collective actions and in supplying farm inputs and purchasing of produce. One of the basic objectives of organizing and expanding agricultural multipurpose farmers' cooperative societies in the rural parts of the country is to enhance the marketing efficiency and to promote agricultural development (Daniel, 2006). Therefore, organizing and expanding agricultural multipurpose cooperative societies enable to address the smallholders' needs whose life's directly or indirectly dependent on the agricultural sector. The researcher found that it is important to make an assessment on role of MPFCs in the supply chain of wheat to come up with some empirical evidence.

The result of the study is helpful for policy makers, researchers, development planners, government offices and other stakeholders in obtaining valuable information about the role, function and challenges of MPFCs in the supply chain of wheat in the study area to design appropriate interference strategy to improve their expected role in this regard. Further, the potential users of this research finding would be farmers (producers) members, cooperatives, cooperative promotion office, researchers, government and non-government organizations who are supporting the overall activities of cooperatives and those who are working for the betterment of supply chain of farm output among the production and consummation areas. In addition this study was tried to address the dearth of literature in the area in terms of MPFCs role in the supply chain of wheat and factors influence farmer members to supply their wheat towards cooperatives.

## **1.6. Scope and Limitations of the Study**

This study was considered only one district from west Arsi Zone in consideration of time, cost and resource available at the disposal of researcher and timely bounded on the data of 2010/11. The scope of study was on the overall role or function of the multipurpose farmers' cooperatives societies in the supply chain of Wheat, factors influencing famers to supply their produce to the cooperative, farmers perception towards the MPFCs service, characteristics of distribution chain of wheat, farmers levels of participations' in MPFCs and roles of MPFCs in supplying farm inputs. Besides, five MPFCs were excluded from the sampling frame. These were *Chofira-Kaka*, *Chofira-*

*Shasbe, Qerensa Donnge, Hinja Milki and Hulugo Ititu* due to their inaccessibility, poor infrastructure and farmers members involved in wheat production in the area was minimal compared to the rest mainly due to topographic and altitude differences. Moreover, the researcher did not used those new members of cooperative whose years of membership to the cooperative was less than one year for interview purpose for the reason that they may not be aware and tell explicitly about their cooperative. Hence, the results of the study would be applicable and delimited to the area of the study and other areas whose activities and agro-ecological basically interrelated to the study area.

## **1.7. Organization of the Thesis**

This study mainly comprises of five chapters. The first chapter is an introductory part which consist background of the study, statement of the problem, objectives of the study, significance of the study, and scope and limitations of the study. The second chapter deals with the basic concepts, conceptual and empirical review of literature on marketing and cooperative role in supply chain, agricultural marketing, reason to organize cooperative, role of agricultural cooperative in market historical development of cooperative, overview of wheat production and area coverage, conceptual framework etc were discussed under this chapter. The third chapter presents methods of data collection and research methodology. The fourth chapter is devoted to the empirical results and discussion on the finding of the research work. The fifth chapter portrays the conclusions and recommendation drawn based on the findings of this study. Finally, the references and appendices were indicated on separate part towards the end of this thesis.

## **CHAPTER II: REVIEW OF LITERATURES**

### **2.1. Theoretical Background**

#### *2.1.1. Basic Concepts and Definitions*

**Supply Chain:** Supply chain defined in different literatures differently by sharing common meaning and concepts. According to FAO (2007), Supply Chain was defined as a sequence of processes, material, information and money flows that aim to meet final customer requirement, which take place within and between different stages along a continuum, from production to final consumption. Moreover, Supply chain can be defined as an integrated process where various business entities work together in effort to obtain their requirements from raw material supply till it reach to the final users in the form of finished product and ready for use (Benita, 1998). Vorst (2000), also explained Supply chain as system of “planning, coordination and control to all business process in the supply chain system to provide the highest value to the consumer at the lowest cost and at the same time to give the highest return to the stakeholder”. This implies that, supply chain are planned and coordinated means to deliver goods and services towards the customers at minimum cost / by reducing the long supply chain/ so as to meet the level of satisfaction expected by users from product or services at fair price. Therefore, supply chain indicate that the rout in which a product or services moves from area of production till the area where it will be consumed or used along the different actors in the chain.

**Marketing channels:** According to Kotler (1988) marketing channel can be viewed as sets of interdependent organizations involved in the process of making a product or services available for use or consumption. Besides, he indicate that, marketing channel decisions are among the most critical decisions that management facing; since the organizations decisions in choosing some form of channels intimately affect all other marketing decisions that will be taken by the manager. Furthermore, He argues that, marketing channels performs the work of moving goods from producers to consumers and it overcomes the critical time, place and possession gaps that separate

goods and services from those who would use them. Moreover, Abdissa and Dereje (2001) argued, marketing channels link producers and consumers over time and space. Furthermore, they indicate the food grains flow begins with the farmer who, after harvest, make decisions on how much she/he wants to store for household consumption, seed and payment in kind and sells the remaining food grain (market supply) to a trader or consumer in order to settle debts and contributions, taxes and to purchase consumer good. Therefore, making an investigation of marketing channels can enables to provide a systematic knowledge on the flow of goods and services from their production to their final destination.

**Distribution:** Distribution is one of the marketing function makes goods and services available from production to final users. It refers to the steps taken to move and store a product from the supplier stage to a customer stage in the supply chain. Chopra (2001) articulated that, distribution is a key driver force of the overall profitability of a firm because it directly impacts both the supply chain cost and the customer experience. Besides, he argued that good distribution can be used to achieve a variety of supply chain objectives ranging from low cost to high responsiveness to customer demand. As a result, business in the same industry often prefers to select very different distribution networks which can maximize their potential benefits.

**Marketing:** Market can be seen by different discipline authors differently holding different contextual meaning. According to Kotler and Armstrong (2003) market is the set of the actual and potential buyers of products. However, market conceptually, can be viewed as a process in which title of the goods are transferred from the owner to buyers who posses it exchange of values. Moreover, many people think marketing only as selling and advertising. But the modern concepts of marketing are far away from these. Marketing starts long before the organization has products at hand or service to sell. Marketing is the homework that managers must undertake to asses needs, measure extent and intensity of needs, develop product or service that bring maximum satisfactions to users better than competitors and determine whether a profitable opportunity exists (Kotler, 2002). Hence, marketing concept goes back to product or services idea invention. Kotler (2002) defined marketing as a social and managerial process whereby individuals and groups obtain what they need and want through creating and exchanging product and values with others.

### ***2.1.2. Definitions and Concepts of Cooperative***

According to the world wide umbrella of cooperative organization cooperative is defined as an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly-owned and democratically controlled enterprise (ICA, 1995). Moreover, according to USDA (2002) cooperative defined as social and economic enterprises which is owned and controlled by those people who use its services and share the benefits in accordance of their participations. It is not ambiguous in saying, cooperative is the only business organization which are ruled and guided by its own internationally recognized principles and values for their operation as compare to other business institutions.

The cooperatives principles are the philosophical attributes on which the cooperatives movement in worldwide was built to guide their operation. As per ICA (1995), cooperative bases on values of self-help, self-responsibility, democracy, equality, equity and solidarity. Further, in the tradition of their founders, cooperative members believe in the ethical values of honesty, openness, social responsibility and caring for others in their operations. Besides these, there are seven guiding principles in which cooperatives would be guided to perform their internal and external operations. These seven principles form the heart of the cooperative in which one principle is not independent from the rest. This is to mean that all principles are interdependent each other in which ignores of one leads to diminishing the remaining. At the same time, cooperatives operation and efficiency need to be evaluated in relation to how well they respect all the principles, rather than one principle to say they are real and effective cooperative.

According ICA General Assembly held on 23<sup>rd</sup> September 1995, in Manchester, the following seven basic guiding principles were stated.

**First Principle: Voluntary and Open Membership:** Cooperatives are voluntary organizations open to all persons able to use their services and willing to accept certain responsibilities of membership, without gender, social, racial, political or religious discrimination.

**Second Principle: Democratic Member Control:** Cooperatives are democratic organizations controlled by their members, who actively participate in setting their policies and making decisions. Women and Men, serving as elected representatives, are accountable to the membership. In primary cooperatives, members have equal voting rights (one member one vote) and cooperatives at other levels are also organized in a democratic manner.

**Third Principle: Member Economic Participation:** Members contribute equitably to, and democratically control, the capital of their cooperative. At least part of that capital is usually the common property of the cooperative. Members usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any or all of the following purposes: developing their cooperative, possibly by setting up reserves, part of which at least would be indivisible; benefiting members in proportion to their transactions with the cooperative; and supporting other activities approved by the membership.

**Fourth Principle: Autonomy and Independence:** Cooperatives are autonomous, self-help organizations controlled by their members. If they enter into agreements with other organizations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their cooperative autonomy and independence.

**Fifth Principle: Education, Training and Information:** Cooperative provides education and training for their members, elected representatives, managers, and employees, so that they can contribute effectively to the development of their cooperatives. They inform the general public – particularly young people and opinion leaders – about the nature and benefits of cooperation.

**Sixth Principle: Cooperation among Cooperatives:** Cooperatives serve their members most effectively and strengthen the Cooperative Movement by working together through local, national, regional and international structures. These will be attained through horizontal and vertical integrations among level of the cooperatives.

**Seventh Principle: Concern for the Community:** Cooperatives work for the sustainable development of their communities through policies approved by their members. Cooperative may engage in different social and community development work like construction of roads, school, health center, electricity, water services etc.

### ***2.1.3. Agricultural Marketing***

Agricultural marketing is part and percale of marketing that undertakes various activities. It involves in moving agricultural outputs from their area of productions to the end users. Moreover, as Tejinder (2011) indicate, agricultural marketing perform various interconnected functions starting from planning of production, growing, harvesting, grading, packaging, transportation, storage processing, distributions, advertizing and sales all together. Parallel to this Helm (1968) pointed out; the process of agricultural marketing includes all those activities, arrangement and preparations which assist the farmer in disposing of their marketable surplus to the market. Furthermore, the same author pointed out that, farmers' are unable to sell their produce directly to the end users, with the exception of a limited amount which they may sell on the local market. Hence, cooperative was aimed at assisting the agricultural producer to market their agricultural outputs by enhancing their negotiation power. Besides, cooperative enables farmers to be benefited from their produce by providing an efficient marketing system in areas in which suitable marketing facilities do not yet exists or of an alternative marketing system, due to inefficiency or deliberate extortion.

Besides, Rehima (2006) expressed that agricultural marketing is the main driving force for economic development and has a guiding and stimulating impact on production and supply of agricultural produce. Furthermore, she added that to cop-up and satisfy the ever growing population living in urban and rural part of Ethiopia and the slight rise in level of income are demanding more organized channels for processing and distributions of agricultural products to end users. Moreover, She argue that only increase in production doesn't result better benefits to farmers; it is the farmers' access to reliable information and marketing facilities that enable them to plan their production more in line with market demand, to schedule their harvests at the most profitable times, to decide which markets to send their produce. Moreover, as Tejinder (2011), indicated agricultural marketing functions are various and differ in its nature. According to the same source, the functions of agricultural marketing is classified in to three broad categories namely exchange functions, Physical functions and Facilitative functions.

#### ***2.1.4. Reasons to Organize Cooperatives***

Human being as social animals it has long history in working together and in cooperating themselves to protect their interest and tackle problems since its existence. Conceptually cooperative is defined by various authors differently. However, according to International Cooperatives alliance (ICA) definition of 1995 which is taken as universal, cooperative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise (ICA, 1995). As the definition indicates, cooperative can be established to overcome socio-economic problems faced and used as tools to attain economies of scale of disadvantageous group.

In line with this, different theoreticians stated different reasons for the need to have cooperation among human being and to form business that is owned and controlled by the member to solve their socio-economic problems. According to Rapp and Ely (1996), people associate themselves under cooperatives and organize cooperative's society to improve their income to solve their socio-economic problems, to provide and obtain required services to members and non-members. Furthermore, they argue that cooperative can be established to improve bargaining power of farmers, minimizing the transactions costs, to improve product or services quality etc. As indicated on the reports of GSDRS (2008), cooperatives can be organized to overcome some of the barriers of poor farmers' like access to markets by generating economies of scale; opening up access to information through better market networks; pooling resources and improving individual bargaining power through collective action.

As well, United Nation (2009) indicated cooperative can be organized as business and social institutions for the benefits of their members. Cooperative can provide better services especially at time of unpleasant and instances of market failures in the economy. Furthermore, well functioning cooperative can serve in better manner in the rural area where the involvement of the government and private sector is underprivileged. Likewise, existences of cooperative in the rural area promote and support entrepreneurial development, create productive employment, raise income and help to reduce poverty while enhancing social inclusion, protection and community building. Parallel to this,

Bijman and Ruben (2005) indicate, cooperatives can be established to overcome market failures (access constraints and uncertain outlets), to enhance economies of scale, to reinforce bargaining power of farmers, to share risks that arise in operations, so as to reduce transactions costs in marketing chain and contribute to innovations. As pointed out by Daniel (2006), agricultural cooperatives was organized in Ethiopia to render economic benefits to their members and implement agricultural development policies directed specifically towards smallholders of the country as they are the basic driving force of the agriculture sector. Therefore, cooperative has multirole in the societies that can be played if conducive and attractive policy environment and support are offered on ground.

#### *2.1.5. Role of Agricultural Cooperatives in Market*

As evidence indicate, the movement of agricultural cooperative had its starting point mainly in Germany where Friederich Wilhelm Raiffeisen (1818-88) and Wilhelm Haas (1839-1913) built up within a few years a fairly complete system of rural cooperation, including credit, supply and, soon after marketing cooperatives to strength the cooperative movements (Helm, 1968, P2). This turn out to be the starting points for the establishment and expansions of agricultural cooperatives in world wide.

Further, as the same source indicate agricultural cooperatives enables farmers to pool their limited resources to enhance earning capacity, meet need of farmers for agricultural inputs and credits, improve market access and bargaining power of farmers in marketing agricultural products. It estimated that 50% of global agricultural outputs are marketed through agricultural cooperative (UN, 2009). In Africa, agricultural cooperative are playing crucial role in developing market to farmers in the rural areas, reducing transaction costs and in promoting participation of small farmers in to broader market. However, this positive role of agricultural cooperative and pace of small farmer participation in to the broader market was restrained by different factors not to play their positive role on ground to the rural people. Among other factors that constrained cooperative role are as result of distrust arise due to parasitism and state interference in the affairs of cooperatives in past even currently in most African countries (UN, 2009). Furthermore, Suleman (2009) indicted that; well functioning agriculture cooperative can play a prominent role in farm input supply and in

marketing of farmers output. Besides he added that, agricultural cooperatives can stand on behalf of small farmers and transact out the business in a cost effective manner and create ability to supply the required agricultural inputs to farmers. So that production can take place at the right time that can have positive impact on productivity of small holder.

In country where agriculture sector plays prominent role in the economy of the country the role cooperative in general and that of agricultural cooperative in particularly is unhidden fact. Ethiopia's agricultural market is characterized by inefficiency and lack of competitiveness among actors in the chain. This indeed neither benefited the producer nor the end users or consumers from agricultural outputs (Eleni et al, 2002). Without effective and efficient involvement of cooperative in the development process, where millions of farmers are engaged in subsistence agriculture on fragmented farm plots, it would be impossible to have sustained and efficient agricultural marketing system to come out in Ethiopia (MoFED, 2003). Though modern agricultural cooperative in Ethiopia started in the early 1960's and considered as an appropriate tool of rural development, they restrained by different factors not to play their positive role on ground to the rural people.

#### ***2.1.6. Historical Development of Cooperative and Policy Implication in Ethiopia***

The spirit of cooperation and self-help has long history in Ethiopian communities which have been practiced and still operating both in the rural and urban areas of the country through their traditional and cultural associations particularly in the farming community. As Alem (2008) indicated, cooperation in Ethiopia has been practiced as tradition of working and social norms of the society above all in the farming community it is common practice. For instance, Iqub, Idir, Wonful, Jigie, Dabo etc are the most common traditional cooperation of the country. However, modern cooperatives in Ethiopia introduced in the year 1960 (MoARD, 2002, cited in Daniel, 2006). However, some documents reviles that modern cooperatives movement started in Ethiopia in the early ninth sixty where the first saving and credit cooperatives in Ethiopia were established by the Ethiopian road authority employees in the year 1957 and followed by SACCOs of Ethiopian Airlines in the year 1960 (Wolday, 2004). The first "Farmer workers Cooperative" declaration number 44/1960 was declared during Imperial Haileselassie I laid bases for modern cooperative movement. By the time the main aim of establishing cooperative was to promote economic interest

of Ethiopia and members through efficient cultivation and development of land made available to them and to sale on profit basis the output produce from the land. Moreover, cooperative is allowed to arrange production, processing, transportation, marketing of agricultural products and commodities etc as the proclamation indicate. However, the progress and growth of cooperative become challenges and invisible as result of various constraints such as land was in the hand of reach landlord which does not benefited the majority of poor landless people (Negarit Gazeta, 1966).

Further, during the military regime since 1974, different proclamations were issued like proclamation No. 71/1975 and proclamation No.138/1078 to establish cooperative such as: services cooperative, agricultural producer cooperative, housing, Thrift and credit, handicraft etc. Despite the fact that, this policy frame work were stated under different period it was not push growth one footstep ahead in the cooperative movement of the country. These was resulted due the fact that, all the efforts made to restructure cooperative when power was shifted from landlord to socialism was not to seeped up cooperative movement of the country but it were geared towards direct control of cooperative and turning them to use as government political instruments rather than socioeconomic development instrument. Besides, as evidence indicate most of the cooperative established during the period were dissolved shortly after downfall of the regime and farmers developed negative attitude towards cooperative till recent time due to most elite of the time (USAID/ACE, 2005).

After the downfall of the Derg regime power has shifted to EPRDF which resulted in abolishing the command economy system and brought new economic and political liberalizations in the country. These pave the way to promote community based democratic institutions like cooperative to be established and reorganized. Since then different transformation has been done by government that ranges from decentralizations of power to re-organizing cooperatives by issuing different proclamations. This allowed cooperatives to be established based on the ICAs principles and on the bases of free members participations, members owned and democratically governed and market oriented cooperatives. Furthermore cooperative is taken as key players in the rural agricultural development strategy. This is clearly indicated on the national macroeconomic policy framework of Agriculture Development Led Industrialization (RDPS, 2001). These attractive macro-economic policy environments enabled cooperative to show rapid progress from year to year in terms of

membership, types of sector they engaged and capital amount pooled both in the urban and rural parts of the country. These benefited most small scale farmers and promote spirit of self-help and co-operation's to tackle poverty as an integral part of agricultural development to sustain development in the sector to end poverty (Jemal, 2008).

As results, in the country as a whole there are about 33,636 primary cooperatives involved in different activities with a membership of 5,622, 362 and with a total capital of 1,59, 286,546 Birr until the year (FCA, 2010). Of these, SACCOs takes 8,220 (19%) of primary cooperative and with total membership of 618422 and 45% of the member being female which was the highest compare to MPFCs in terms of membership. Whereas, Multipurpose farmers primary cooperative society take a total 4,360,857 members with only 13% female members and total of 7118 (21%) primary cooperatives. In terms of Unions level there are about 212 unions with the total membership of 5,957 member primary cooperatives and total capital of 647,242,668 ETH Birr. Out of these Union, multipurpose farmers primary cooperative union take the leading in terms of numbers that is 80 (38%) with total member of 2397 mainly whose members was Multipurpose farmers cooperative engaged in marketing, input supply activities and with total capital of 1,700,750, 85. While others are engaged in Coffee, Dairy, Honey, forestry, animal marketing, sugar cane, fruits and vegetables etc activities in the country (FCA, 2010).

According to the information of FCA (2010) in terms of regional distribution of multipurpose farmers cooperatives union in the country 31(39%) found in Tigray, 25(31%) in the Amhara regions followed by 18 (26%) in Oromia and the remaining 4% found in Benishangul Gumez and Dire Dawa. This information indicates that there is regional disparity in on the number of MPFCs found in the country. Furthermore in Oromia regional state where this study was conducted, till the end of the year 2005 there were 2,612 primary cooperative with membership of 1,453,010 and with capital of 135,766,840 Birr. From the year 2006-2010 in the region the number of primary cooperatives shows drastic changes both in the amount of capital and membership. In the 2010, there were 9658 primary cooperatives with membership of 1359042 male and 2485552 female a total of 1,607,594 members and a capital of Birr 579,252,230 (OCPA, 2011).

Before the year 2005 in the region there were 40 unions with member primary cooperative of 1074 and with capital of 30,098, 607. However, this number grown in to 101 with member cooperatives of 4194 and capital of 383159244 till the end of the year 2010. In addition, in the regional state there are two Federations namely; Agricultural and Mineral Federation. Agricultural Federation consists of 42 member unions' and with capital of 21,000,000 Birr. Whereas mineral Federation has 6 unions as members with total capital of 2,800,000 Birr (OCA, 2011). Furthermore, according to the information from Gedeb-Hasasa district cooperatives promotions office (2011), there are 49 cooperatives in district, 16 (32.65%) SCCOs, 1 (2.041%) irrigation, 3(6.12%) mineral, 2 (4.082%) special seed multiplier and 2 (4.082%) are consumer cooperatives while, 25 (51%) of them are Multipurpose farmers' cooperative societies with memberships of 966 female and 5933 male member with total capital of 1,570,827.14 Birr.

**Table 2.1. Growth of Unions in Ethiopia from the year 2005 to 2008**

Years	Union amounts	Members society	
		Amounts	Capital
2006	122	2532	115,263,216
2007	145	2955	161,239,152
2008	162	3650	156,017,631
2009	177	3826	185,472,337
2010	212	5957	647,242,668

*Source: FCA, annual publication Amharic Version Bulletin June, 2009/10*

### **2.1.7. *Overviews of wheat Production and Area coverage***

In the year 2006 the world produced 598 million tons of wheat. The top five wheat producing countries in the world were China, India, United States of America, the Russian Federation and France. Besides, countries which are not far behind were Canada, Germany, Australia and Ukraine (FAO, 2007). The European Union produced at about 117.6 million tons of wheat, which is 20% of the world's total production of wheat. As the same indicate, as the individual European Union countries concerned, France (35.4 million tons), Germany (22.4 million tons) and Great Britain (14.7million tons) are at the top in terms of production quantity. Together these countries produced more than 60% of the total European Union wheat production.

Cereals are the major food crops both in terms of the area coverage and volume of production obtained in Ethiopia. Cereals are produced in larger volume compared with other crops due to the fact that, they are the principal staple crops both as cash crops and food items for most households in rural and urban areas. Wheat is one of the most important cereal food crops grown in Ethiopia. It is the fourth dominant crop in area coverage and in the total output wheat ranks second following maize in Ethiopia (Gethahun, 2006). As indicated in White et al. (2001), Ethiopia is the second largest producer of wheat in Sub Saharan Africa countries next to South Africa. The annual wheat production in the country is estimated at about 2.46 million tones' (CSA, 2007). Furthermore, according to Hailu (1991), Ethiopia is the largest wheat producing country in sub-Saharan Africa with about 0.75 million ha of durum and bread wheat. In Ethiopia about 60% of wheat areas are covered by seed type called durum where as 40% by bread wheat.

In addition, as Central Statistics Agency report indicted, Out of the total grain crop area in Ethiopia, 78.23% was under cereals. Of these, Teff, maize, wheat and sorghum took up 22.13%, 15.77%, 12.97% and 14.41% of the grain crop area, respectively. Besides, of the total production in the country, Cereals contributed 84.69% of the grain production. Maize, wheat, Teff and sorghum made up of 22.97%, 14.83%, 17.69% and 16.38% of the grain production, in the same order (CSA, 2009). Of the current total wheat production area, 75.5% is located in Arsi, Bale and Shewa (Hailu, 1991). Particularly Gedeb-Hasasa district is well known in the country for its wheat production potential. As evidence indicates out of the 13 million ha land which is classified as suitable land for wheat production, 46% of it is located in Arsi and Shewa areas (Hailu, 1991). In the area where this study was conducted, wheat is the major crop produced in terms of coverage and output carried out both with government seed enterprises and private farmers.

**Table 2.2. Different Types of Crops Production of in Gedeb-Hasasa District**

Types of crops	2007/2008		2009/2010		2010/2011	
	Area/ ha	Yield/qt	Area/ ha	Yield/qt	Area/ ha	Yield(qt)
Wheat	30989.5	898695.5	307026.5	851961.5	37182	1487280
Barely	23926	430668	23640	398862.8	19080	447200
Teff	196	980	140	897	184	840
Maize	1735	69400	-	-	1500	69514
Bean	1533	18396	1274	12483	2216	33240
Peas	734	5138	876.3	7707	950	11400
Chick peas	9	27	51	204	24	592
Field peas	-	-	502.5	3517.5	1200	1800
Oil seed	5220.5	31328	4071	36533.5	4130	37170
Cabbage	27	135	54.5	218	191	1528
Total	64370	1454768	337635.8	1312384	66657	2090564

Source: GHARDO, 2011

### ***2.1.8. Input-output Marketing Role of Agricultural Cooperative***

As Helm (1968) highlighted, cooperative can enable to improve the farmers' level of income by assuring a better return for their output through combined bargaining power, price stabilization, lower trade margins and the search for better markets than other business enterprise. Furthermore, agricultural cooperative create the ability for the supply of required agricultural inputs to farmers to make production at the right time that enhance productivity, assure to farmers access to market to supply and market outputs produced by individual farmers. In addition, by strengthening their cooperation and integrations among different structure of cooperative can enable them to grade, standardize, and value addition and processing of agricultural outputs to meet customer demands (Suleman, 2009).

Primary multipurpose farmers' cooperative in Ethiopia accounts 20% of the total cooperatives established in the country and almost all of them are the exclusive farm input suppliers to the farmers both to members and non-member in the last two decades (FCA<sup>b</sup>, 2010). Cooperatives have led in improving services to farmers to meet members' needs even though small or no net margins are made for the cooperative in every operation. Though these cooperative are distributing farm inputs to members and non-member farmers; they are facing challenges due to some

interference on their distribution, lack proper collection of payment from non-members and lack of skilled manpower (FCA<sup>b</sup>, 2010). Besides the various challenges that the cooperative was faced, they are showing remarkable role in importing and distributing farm input particularly fertilizer to farmers under the domestic market. Starting from the year 2004, cooperative union in Ethiopia started to import fertilizer from abroad (Abera, 2010). As the same source indicate during the year 2008 up to 677,450 DAP and 228,750 Urea a total of 906,200 metric ton of fertilizer was imported and distributed to farmers'. Moreover, the purchase of inorganic fertilizers of Ethiopia in 2009 crop season was increase to 710,000 tons, of which 62% was Di-ammonium phosphate (DAP) and remaining 38% was urea. In year 2010 on average cooperatives have 70% in importing and more than 80% distributing role (FCA<sup>b</sup>, 2010).

According to ACDI/VOCA (2005) evaluation of agricultural cooperative in Ethiopia, fertilizer sold by cooperatives was 86, 636 MT in 2003 and increased to 208,565 MT in 2004 at 141%. This accounted in part due to increase in membership and as result of sales carried out to members who deserve to take more as result of efficient marketing role of primary cooperative and union. Moreover, the growth in sales was attributable as result of sale done to non-members. Further, as the same source indicate Union and member cooperatives sold over 125,000 liters of agricultural chemicals and 95% of improved seeds sale was concentrated in cereal producing region of Oromia, Amhara, SNNPR and Tigray.

Moreover, according to FCA<sup>c</sup> (2010), in the year 2004 three cooperative unions alone imported about 100,000 ton of fertilizer while 2005, 175,000 tons of fertilizer were imported by 7 cooperative unions. As the same source indicate, in the year 2006 and 2007 about 228,700 and 327,500 ton of fertilizer were imported by 7 and 11 cooperative unions respectively. From the year 2004-2007 the 14 cooperative unions that found in four regional states of Ethiopia namely Tigray, Amhara, Oromia and SNNPR imported 906,220 ton of fertilizer from the foreign market to home country. These amounts were at about 70% of the countries yearly fertilizer imports. Of the total fertilizer imported to the country, at about 6.8% Tigray, 20.5% Amhara 63.7% Oromia and 9% SNNPR were covered by those cooperative union found in the so far stated regional states respectively.

In addition, as evidence indicates Cooperatives involvement in domestic market is at growing stages almost all multipurpose farmers' cooperative unions collect marketable grain surplus of members and sold at competitive market price. The market share of cooperatives is at low level it varies from 5% to 8% (FCA<sup>b</sup>, 2010). However, cooperatives role in grain marketing is constrained by various factors such as shortage of finance, poor and inadequate warehouse, weak entrepreneurship skill, poor linkage with other cooperatives, etc which leads them not to play their expected role in marketing chain.

#### ***2.1.9. Empirical Evidence on Cooperative and Supply Chain***

Studies so far conducted by researchers concerning roles of cooperatives in Input/output marketing and marketing chain by raising different issues assessed as empirical evidence under here. As the study conducted by Jemal (2008) using simple percentage analysis, ratio analysis, descriptive statistics and econometrics model indicate, services rendered by MPCs neither consistency nor based on members demands that were offered to members with the exceptions of input supply and credits services. The effort of the promotion office of the district found to be little in providing promotional support to overcome the cooperative problems. He added that the entire cooperative under his investigations based on liquidity analysis, were below satisfactory levels. In addition there is significance difference in age of farmers, livestock ownership, total annual income and sex, access to inputs and credits, membership status, educational status, member's satisfaction and access to alternatives marketing opportunities that showed significant differences between the two study districts. Besides, probability of participation and intensity of participation appear to be significant and positively influenced by educational status, sex, age, number of paid up share capital, off-income, total livestock owned, access to input credits membership status, access to alternatives market and member's satisfaction while the influence of members age, off-farm income and access to alternative marketing had inverse relationship and significant to determine participations of members.

In his study on performance of primary agricultural cooperatives and determinants of members decision to uses as marketing agent in Adaa Liben and Lume district Daniel (2006) employed Tobit Model. As his finding indicate that family size, prices charged for the teff by the cooperative, positions in the cooperative, patronage, farm size yield of teff, patronage and distance of cooperatives from the home of farmers were found to be significant and positively related to farmers to market their teff through the existing MPCSs society. Moreover, Embaye (2010) found that the quantity of butter produced, frequency of extension agent contact and market information access increases the chance of household selling butter to the market. Whereas, family size distance to development center tended to decrease the likelihood of selling butter. Moreover, kindie (2007) indicted that yield, numbers of Oxen, modern inputs used, sesame area available, time of selling and foreign language spoken were found significantly to affect the household supply of Sesame to market.

As well as Asewel (2010) in his study on analysis of rice profitability and marketing chains the case of Fogera Woreda, he came up with results using both descriptive and econometric model like Tobit. Market information access, quantity of paddy produced, extension contact with farmers and total livestock value are significant and positively related to decision to sell rice. Whereas, educational level of household and quantity of rice produced was affected volume of rice supply. In addition he indicated that family size determines volumes of sales negatively. Further, Woldemichael (2008) on his study on dairy marketing chain show, age of household, family size, educational level, experience in dairy production and distance from milk market were found to exert significant effect on households' market participation. Moreover, Belete (2008) by employing both descriptive statistics and econometrics models using LIMDEP software found that; family size, production of maize, household membership, use of fertilizer, patronage refund and cooperative leadership were significantly affect members participation to sell their maize to the cooperative. He added also, lack of capital, poor marketing management, lack of storage, lack of reliable marketing information and transportation facilities were the major constraints that hamper maize marketing performances of the cooperative in the study area.

Furthermore, as study on the role of cooperative in the supply chain indicates that the role of the cooperative in the market was characterized by less market share compare to other marketing agents.

As Seid (2008) study indicates, cooperatives failed to have grain assembling market in remote rural kebeles and this benefited traders. He added also grain purchasing share of cooperatives and the union from members and non members is not more than 31% whereas traders share at about 58% of the grain market. Moreover, Gabre-Madhin (2001), indicate that the relative proportion of grain traded by farmers with numerous market actors in the marketing chain of grain; 31%, 36% and 20% was sold to consumers, rural assemblers, regional traders and retailers respectively. According to Wolday (1994) many Maize producers have different market outlets. As the same source indicates, 40% and 35% of farmers' production was flow through rural assemblers and wholesalers, respectively. Moreover, Kindie (2007) found that 34.47%, 22.5% and 17.66% of marketed Sesame was channeled through wholesalers, assemblers and cooperatives respectively. Besides, it is estimated that 50% of global agricultural outputs are marketed through agricultural cooperative (UN, 2009). Further, Eleni (2001) added that 95% of cereals marketed by smallholders in Ethiopia were handled by private traders. This signify that the share of cooperative in this regards was insignificant in the supply chain compare to others actors in the chain. Generally, Cereals are the major food crops produced in the study area both in terms of area coverage planted and volume of production. Wheat is one of the major crop used as food item and commercial crop both in the rural and urban areas. Therefore this research made an attempt to assess the role of MPFCs in supply chain taking wheat crop as a target output. In line with this facts, the study attempted to investigate the role of MPFCs society in supply chain of wheat and come up with certain finding that challenge the cooperatives in their efforts to carry out their expected role and functions in purchasing and marketing of farmers output.

## **2.2. Conceptual Framework**

After under taking review of various literatures, 13 independent variables were hypothesized for this study to influence supply of wheat to the cooperatives. However, one has take in to account that this is not the only factors that push the farmers to supply their wheat to the cooperative and might exert positive or negative influences on the quantity of wheat supplied to the cooperative. Multipurpose cooperative societies have a great potential to serve the need of rural smallholders better than others business type. As the name multipurpose indicates, they are expected to play multifaceted role like:

paying a competitive price, supplying inputs, improving marketing chain and minimizing the transactions costs, improving the bargaining and market access of farmers, storage services, searching alternatives market for farmers produce, credit services, technical support, market stabilization and protecting the interest of members etc. are some the potential area where MPFCs can play their role.

**Figure 2.1. Conceptual Framework**



**Source:** Own drawing

## **CHAPTER III: MATERIALS AND METHODS**

### **3.1. Description of the Study Area**

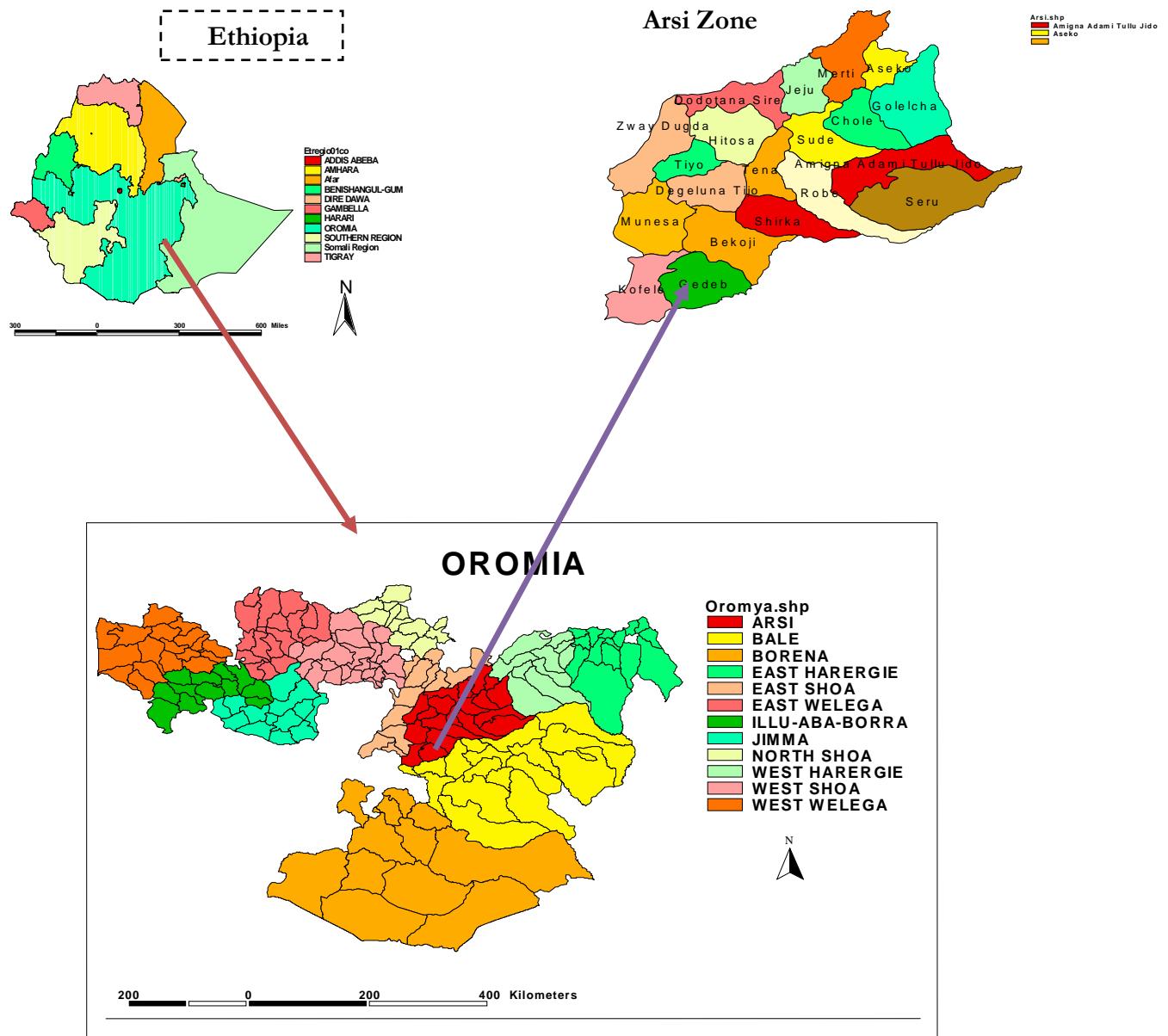
#### *3.1.1. An overview of West Arsi Zone*

West Arsi zone is one of among the 18 administrative zones of Oromia Regional State. The zone is located at about 251km from capital city Addis Ababa within the rift valley region. The zone extends from  $6^{\circ}12'29''$  to  $7^{\circ}42'55''$  latitude and  $38^{\circ}04'04''$  to  $39^{\circ}42' 08''$  longitude. The capital city of the zone is Shashamane which has a total area of  $124009.99\text{km}^2$  (OFEDB, 2011). West Arsi zone has an estimated population of 1,975,295 of which male 49.58% (979,414) and 50.42% (995,881) female both in urban and rural part (PCC, 2008). The zone has 12 districts in which Gedeb-Hasasa is one of it. Moreover, the zone are potentially rich particularly for farming practice due to its agro climatic condition that is 45% and 39.6 was cool/alpine/ and subtropical respectively. This makes the zone more suitable for cereal crops like wheat, teff, barely and maize in which maize covers the largest portion of cultivated land area.

#### *3.1.2. Description of the Gedeb-Hasasa District*

Gedeb-Hasasa is located at about 286 km away from the capital city, Addis Ababa in the southeast and 86 km away from the capital city of the zone, Shashamane in the east direction. Six districts of the zone border *Gedeb-Hasasa* district in four directions. These districts are *Kore* and *Kersa*, *Onkolo*, *Dodola* and *Laga-Wabe*, and *Kofale* and *Kore* in the north, east, south and west geographical directions, respectively. According to GHARDO (2011), the district has about 32 Keble's, of these 25 of them are rural based administrative (peasants associations) which is the largest share of the administrative of the district and 7 of them are under the town administration.

**Figure 3.1. Maps of Ethiopia, Oromia and Study Area**



### 3.1.3. Socio-Economic Profiles of the District

The district population is estimated to be 187,799 of which 50.53% and 49.47% were females and males respectively (PCC, 2008). With an estimated area of 1135 square kilometers, *Gedeb-Hasasa* has an estimated population density of 149.2 people per square kilometer, which is greater than the zone

average of 132.2 (CSA, 2008). Of the total population of the district 46.73% accounts for economically active age (15-64) group of the population. According to GHARDO (2011), the district has 25 PAs that have 27, 842 farmers with a total of 96,505.12 ha of cultivatable land and total livestock population of 269744.2 Tropical Livestock Unit (TLU) (See Table 3.1). The farming calendar of the districts is from June to August and like most part of the country rain fed agriculture is practiced. According to the same source, the living styles of the people in the area are characterized by mixed-farming and petty trades which account about 98% and 1.97% respectively. The farmers' rear different livestock such as cattle, sheep, goats, horse and equine basically to generate additional income to supplement the income generated from agricultural produce.

**Table 3.1. Gedeb-Hasasa Woreda Livestock Population**

No.	Type of livestock	Numbers	Tropical Livestock
1	Cow	80454	80454
2	Ox	62880	62880
3	Heifer	49420	37065
4	Weaned calf	30679	10430.86
5	Calf	32160	8040
6	Goats	17707	2301.91
7	Sheep	147269	19144.97
8	Local	88625	1152.125
9	Horse	28079	30886.9
10	Mule	647	711.7
11	Donkey	22178	15524.6
Total TLU			<b>269744.2</b>

Source: GHARDO, 2011

Agriculture is the most important source of household income in the study area. The major cash crops which grown in the area are wheat, barley and maize respectively in terms of coverage sequentially. Thus, the district is primarily known for its major cereal crops production while wheat takes the lion's share both as a staple as well as relatively commercial crop. As indicated in the figure below, the total land cultivated in 2009/2010 and 2010/2011 was 337635.8 and 66657 ha respectively. Out of these, wheat occupied the lion's shares in terms of area coverage which accounts 56% and 71% of production of crops in the districts in the year 2010/2011 (See Table 3.2).

In the same year, the respective yield obtain from the land covered by crops was 1,312,384 and 2,090,564 quintal respectively.

**Table 3.2. Different Types of Crop Production in Gedeb-Hasasa District**

Types of crops	2007/2008		2009/2010		2010/2011	
	Area covered/	Yield/qt)	Area	Yield/qt	Area	Yield(qt)
Wheat	30989.5	898695.5	307026.5	851961.5	37182	1487280
Barely	23926	430668	23640	398862.8	19080	447200
Teff	196	980	140	897	184	840
Maize	1735	69400	-	-	1500	69514
Horse Bean	1533	18396	1274	12483	2216	33240
Cowpeas	734	5138	876.3	7707	950	11400
Lentils	9	27	51	204	24	592
Field peas	-	-	502.5	3517.5	1200	1800
linseed	5220.5	31328	4071	36533.5	4130	37170
Cabbage	27	135	54.5	218	191	1528
<b>Total</b>	<b>64370</b>	<b>1454768</b>	<b>337635.8</b>	<b>1312384</b>	<b>66657</b>	<b>2090564</b>

Source: GHARDO, 2011

### **3.1.4. Topographic Condition of the District**

The area is among one of the highlands of the country. The district altitude ranges from 2300m to 3200m above sea level. The district is one of the densely populated areas and thus small landholdings similar to most high-lands of Ethiopia. It has two basic agro-climatic conditions; namely, high land ('Dega') which account 35% of the areas and consists of 9 (nine) peasant associations and 65% Middle land ('Woyina-Dega'). Of the total 25 peasant association in the area 16 of them included under this agro-ecological zone. The area is mainly characterized by rainfall type that exists almost throughout a year with the average annual temperature of 20 °C with the maximum and 10 °C the minimum averaging 15°C (GHARDO, 2011). Gedeb-Hasasa woreda topographic condition characterized as 85% plain, 11% rough and 4% mountains respectively. As the same source indicates, the annual average rainfall ranges from 650 millimeters to 700 millimeters. The soil of the area is 45%, 42% and 15% accounts for loam, clay loam and vertisol soil type respectively. As result of suitable agro-climatic conditions in the district and large part of the land being plain (85%) made it the area to be potentially suitable for large scale mechanized farming for both government and small-scale private peasant (GHARDO, 2011).

### ***3.1.5. District Agricultural Extension Services***

In a country where agriculture plays a prominent role in the overall economy and where more than 80% of the population livelihood, employment and income directly or indirectly are dependent on agriculture; supporting this sector with better technology and intervention mechanism become significant in Ethiopia like most developing country. To speed up the development of agricultural sector and to bring sustained improvement in the livelihood of the farmers expending extension service to reach the target farmers is one appropriate rural strategy in the rural policy of Ethiopia. To attain this end current government of Ethiopia designed different intervention policy and extension strategy which support and serve as springboard to reach the smallholders with new innovations and technology so as to improve their know-how and deliver information. Of the different intervention method used to channel the new know-how and technology to enrich farmers'; extension services is one mean. To attain this, human powers which are specialized in the field of natural resource management, livestock protection and management, cooperative etc were geared to provide technical support to farmers so as to enhance their production and productivity.

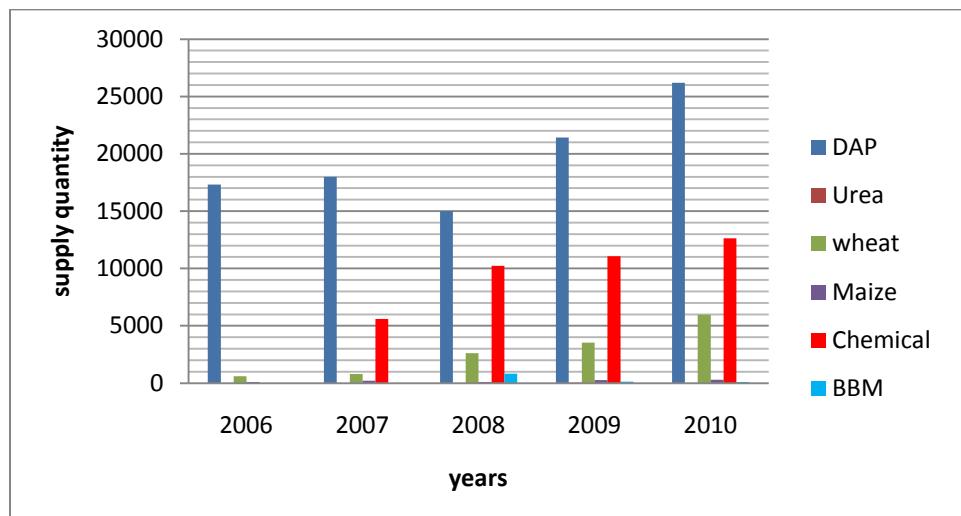
In line with this fact, in the study district human power specialized in the field of agriculture, natural resource management and cooperative etc. in general at Diploma level are assigned at each peasant association level. The ratio of development agent (DA) to farmers in the districts in year 2006 were 1:479 persons where as in the year 2010 it is reached to 1:268 persons. This created conducive condition for farmers to have an access to different technological innovation, adoption and information that enables farmer to be market driven producer. These have been ample opportunities to the cooperative to mobilize the rural community. However, in the study area the frequency farmers contact with extension worker was less for the reason that the DAs mostly stay in town rather than being around the peasant association and at the same time they did not engaged in practical activity due to village FTC are not well furnished and lack of practical know-how in their field of specialization. Furthermore, farmers' tendency and initiation to use the DAs, was found to be poor. The revised agricultural extension policy of Ethiopia favors the establishment of farmers training center (FTC) under each peasant associations in rural part of the country. On the basis of this, in the district 15 FTC which have demonstration site and 6 FTC that started provision of

training to farmers are operational to upgrade farmer's skill and to familiarize them with new technology.

### ***3.1.6. Farm Input Marketing in Gedeb-Hasasa District***

Farm input marketing and distribution in the study area basically undertaken by the district union in conjunctions with district agricultural bureau and the primary cooperatives. As figure below depict, in the past five years in the district the distribution of farm inputs to the farmers are in progress. For instance fertilizer supply in the area took the leading followed by different chemicals such as weed, pesticides, insecticide etc. Besides, improved seed supply was showing increasing trends. This implies as farmers have more access to farm inputs and improved seeds it enhance farmers production and productivity. At the same time when amount of yield that framers are producing increases more is expected from cooperative to play their level best in searching better market for their members produce and in supplying different machinery at time of harvesting and plowing of land so as make mechanized way of farming for better life of the rural poor. In doing so, it will have positive contribution to economy of the country. However, supply of BBM was showing declining as result that the farmers once they purchase it make serve for two or three years (See Figure 3.2).

**Figure 3.2. Farm Input Distribution in the Study Area in the Past Five Years**



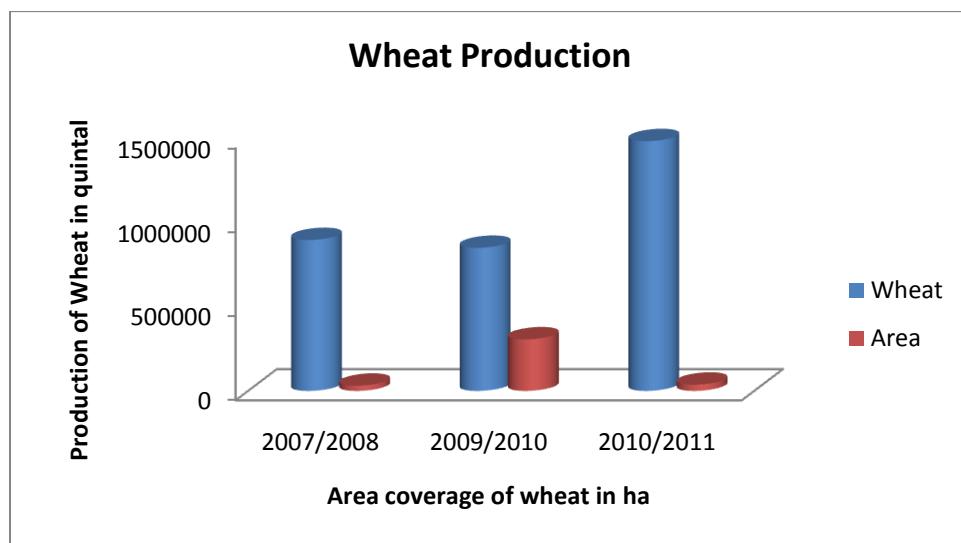
Source: GHARDO, 2011

### **3.1.7. District Wheat Production Trends**

As the figure below shows, the total land covered by wheat in the production year of 2009/2010 was more than the two remaining years. However, in relation to the amount of yield obtained in each year; it is showing steady increase except slight decline for the production year of 2009/2010. Besides, the figures indicate that the farmers' level of productivity was increasing due to the fact that with less hectares coverage in the year 2010/2011 compared to the production year of 2009/2010 the amount of output obtained was highly significant (See Figure 3.3).

This implies that, the farmers' access to farm inputs and improved seed varieties are increasing as a result their level of productivity increased. Therefore, supplying farm inputs and improved seed varieties to farmers at the right time with right quantity enables the farmers to enhance their productivity which intern results in economic improvement of farmers that will have positive contribution to the economy of the country. However, this has to be supplemented by strengthening the performance and marketing role of the cooperative in the area to bring sustainable changes in the livelihood of farmers.

**Figure 3.3. District Wheat Production**

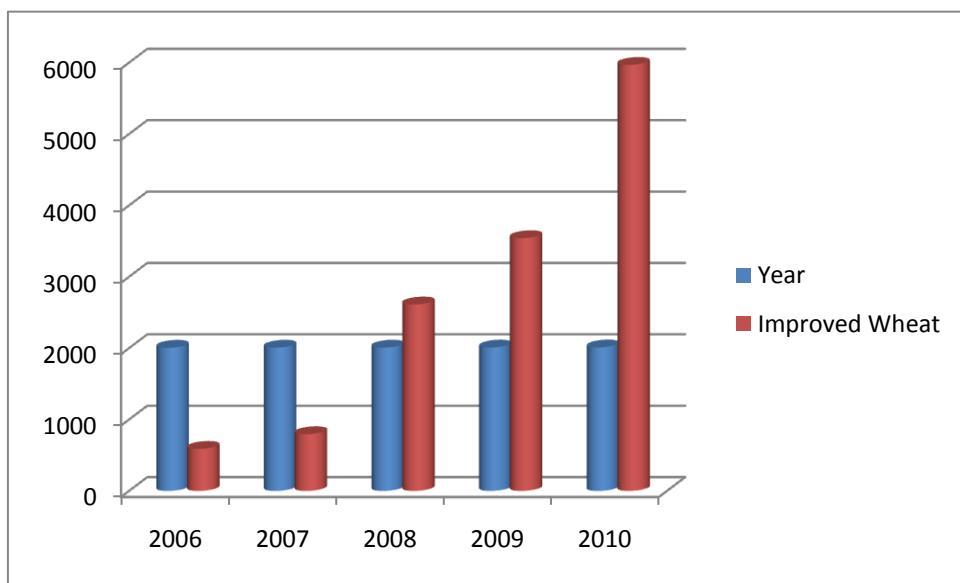


Source: GHARDO, 2011

### **3.1.8. Supply of Improved Wheat Varieties in the District**

As figure below shows in the districts the supply of improved seed varieties of wheat in the area was shows an increasing trend. This implies the farmer's access to the improved wheat seed varieties from year to year was showing positive progress. This would have direct impact in wheat productivities of the farmers as results more surpluses which benefits farmers. As current government of Ethiopia is going towards specialization of area in production; making available improved wheat seed verities in the area where wheat production is dominant; enables to attain the intended objectives of area specialization in wheat cereal crop in the study area.

**Figure 3.4. Improved Wheat Distribution in the District**



Source: GHARDO, 2011

## **3.2. Methodology Design**

### ***3.2.1. Sampling Design and Sampling Size***

The main goal of sampling in the study is to obtain a set of elements that gives the real representation of the total population to make inferences from it. There are two ways of sampling techniques probability and non-probability sampling. In this study, probability sampling techniques had been followed for the reason that each item of the universe has an equal chance of inclusion in the sample and ensures the law of statistical regularity (Kothari, 2004 p 60).

#### **3.2.1.1. Members and Cooperatives Sampling Procedures**

In study area there are 25 rural peasant associations and in each PA one MPFC found. Of these, five MPFCs were omitted from the sampling frame due to the fact that farmer members involvement in wheat production was minimal compared to the remaining due to topographic and altitudinal differences. In addition, their inaccessibility due to their poor infrastructural facilities for transportation even for cart makes difficult to incorporate in the target population. Moreover, the five MPFCs omitted from the sampling process were those cooperative which found adjacent to mount *Kakka* and *Koffale* district such as *Chofira-Kaka*, *Chofira-Shashe*, *Qerensa Donnge*, *Hinja Milki* and *Chofira Hulugo Ititu*. Therefore, the study used only 20 multipurpose farmers' cooperative societies as target population/universe/ to establish the sampling frame. In this study two-stage random sampling was employed. In the first stage, considering the total number of 20 primary multipurpose farmers cooperative in study area as well as resource, time and geographically scattered members, five primary multipurpose farmers' cooperatives society were randomly drawn for the purpose of this study using lottery method. In the second stage, on the basis of statistical random sampling technique of probability proportional to size (PPS) total amount of sample respondents from each multipurpose farmer's cooperative was determined. This method assures that those cooperatives whose members are larger have the same probability of getting into the sample as those in smaller ones, and vice versa (Therese, 2004).

Moreover, a major determinant of sample size is the variability of the population characteristics under investigation. This implies, the greater variability of the characteristics, the larger the sample size and the smaller variability, the smaller sample size is required (Fullerton et al, 1982). Hence, in the study area the target populations were homogeneous in nature the sample was drawn from this target population. Therefore, by considering the available resource and time at the disposal of the researcher as well as homogenous nature of the population, a total of 160 farmer members' respondents were selected using systematic random sampling technique. Then, to select the specific individual member to be interviewed from five MPFCs societies, systematic random sampling had been followed. This was for the reason that, systematic sampling can distribute chances of selection evenly among the whole sample lists compare to simple random sampling (Kothari, 2004 p 63). Then, based on lists of the members of multipurpose farmer cooperative societies from each sample cooperatives unity of analysis to be interviewed were drawn. The proportion of sample size from the total number of members of the sample MPFCs was 15.795% (160/1013) per cent.

**Table 3.3. Sample MPFCs and Sample Size Drawn from each Cooperative**

S.N.	Name of MPFCs	Membership in number			Sample size at 15.795%
		Male	Female	Total	
1	Abdi Boru Bucho	167	23	190	30
2	Urje Wakantera	242	15	257	40
3	Walti Tamela	125	5	130	21
4	Wakentara	292	58	350	55
5	Ibsa Gudina	83	3	86	14
Total				1013	160

Source: GHDCO, 2011

### **3.2.1.2. Traders Sampling**

There is no clear data in the district about how many traders are there in the study area involved in wheat trade. This was due to fact their number fluctuate at the time of harvesting and after harvest. Therefore, to obtain representative sample of traders prior to implementation of full scale survey, informal survey was conducted to come up with clear pictures of traders engaged in wheat marketing chain in the study area. Then after information were collected from the district Trade Bureau about the total number of registered grain traders. However, it become difficult to obtain the

exact figures of traders involved only in wheat trade in the area. Due to this fact Purposive sampling techniques was used to select 10 traders who trade basically wheat. To collect the data interview checklists were used and administered during the market day/i.e. Tuesday and Saturday/to find out the alternative supply route/chain/ of wheat in the area. The reason behind taking traders sample was to find out the alternative supply routed used by farmers and assess the role of traders in this aspects and purposive sampling techniques was employed due to unavailability data about exact number of traders engaged only on wheat trade in the district.

### ***3.2.2. Sources and Methods of Data Collection***

#### ***3.2.2.1. Sources of Data***

To achieve intended objectives of the research both primary and secondary sources of data were employed. Moreover, in this study both qualitative and quantitative data were used to describe the role of cooperative and find out the perception of farmers to the cooperative using both measurements. Primary information related to sex, age, educational background, religion, family size, marital status, farming experience, years of membership, quantity of wheat supplied and harvested, means of transportation, extension contact, livestock ownership, landholding, shareholding, reasons for membership, farming experience, dividend, means of harvesting etc were collected from primary source using the method specified below.

Furthermore, Secondary information were collected from different offices such as Federal cooperative Agency, Oromia cooperative Agency, Oromia Economic and Finance Development Bureau, district agricultural and cooperative office, Gedeb-Hasasa Union, district trade office, Journals, research papers, Internet, CSA and other relevant publications and documents were used so as to supplement the primary data. Here, information related to age, sex and total number of members, types of cooperative, wheat yield in the area, livestock population, amounts of improved wheat and inputs supplied to farmers, total land area, temperature, capital of cooperative, audit report etc. were collected from districts Cooperative Promotion and Agriculture and Rural Development Offices.

### ***3.2.2.2. Methods of Data Collection***

Different tools of primary data collection methods had been used to collect the raw data from sources. Accordingly, structured interview questionnaire was used for sampled farmers' members, semi structured interview for traders and focus group discussion for selected cooperative leaders and cooperative office workers. Focus group discussion was conducted with committee members of three selected cooperative and cooperative office workers so as to attain dual objective that is, minimizing the limitations of questionnaire methods and to obtain supplementary information through cleared stated check list. Moreover, it helped the researcher to find out clear pictures about marketing structure of wheat, constraints of the cooperative and to grasp additional information. In addition, Semi-structured interview was conducted to collect data from traders who are involved in the supply chain of wheat. Besides, a structured interview questionnaire was designed and administered for the selected sample farmer members. Structured interview questionnaire is selected by considering the benefits that the method has compared to other methods of primary data collection to obtain in-depth, insight information and at the same time mostly due to farmers literacy level. Besides, this method provide safe basis to make generalization/ inference/ about population, require lesser skill on part of interviewer and more economical (Kothari, 2004 p103).

The questionnaires were pre-tested on selected respondents for consistence, clarity and to checking of the vagueness of terms used. And on the basis of the results of the pre-test necessary modifications or adjustments were made to make it clear and meaningful before the execution of the survey. Moreover, so as to obtain reliable data from the sample respondents, the purpose of the study were explained to the respondents prior to the actual interview was conducted. Three data enumerators who were professional in the field of cooperatives and agricultural economics from the districts cooperatives offices and who are capable of speaking, reading and writing in local language "Afan Oromo "was hired to collect the required data. Training was given to data enumerators concerning how to conduct proper interview, questioning, data recording and deep explanations about each questionnaires subject matter to create clear idea about the interview questionnaire. Furthermore, during data collection period the researcher did proper follow-up and observations to end with reliable data by traveling to each peasant association by cart with data enumerators. Data collection was carried out beginning from February to the end of March 2011.

### **3.3. Methods of Data Analysis**

Prior of analyzing the data collected, checking its completeness, editing, organizing and coding work was carried out to attain the stated objectives of the study. In this particular study, both descriptive and econometrics model had been employed to address the specific objectives of the study. Specifically, descriptive statistics like mean, standard deviation, percentage, frequency and minimum and maximum value was used by employing statistical software called SPSS version 16. Moreover, financial ratio analysis was used to evaluate financial performance of the MPFCs using liquidity, profitability and leverage ratio. Besides, econometrics model called a multiple linear regression was employed using STATA software version 10 to test factors influencing famer members to supply their wheat towards cooperatives. Besides, statistical tests such as higher percentage value and test of significance were used for interpretation of data and reach at conclusion. The descriptions of each methods of data analysis are presented below.

#### ***3.3.1. Financial Ratio Analysis***

According to Elisabeth (1995), financial statement analysis is defined as the process of evaluating relationship between component parts of financial statements to obtain better understanding of the firm's position and performance. Similarly, Pandey (1994) explained financial analysis as the process of identifying the financial strength and weakness of the firm by properly estimating relationship between the items of the balance sheet, the profit and loss account. Moreover, according to David (2010) financial statement can be organized to fulfill the external reporting obligations and for decision making purpose. The same source added that, ratio analysis refers to selection, evaluation and interpretation of financial data, along with other pertinent information to assist investment and financial decision making. Hence, making financial analysis was aimed to identify the strength and weakness of the cooperative so as to suggest some remedial action to be taken by the stake holders based on the result of the analysis to insure the viability of the cooperative within short and long-term. If this so, under the present study three ratio analysis method i.e. liquidity, profitability, leverage ratio were used to analyze the financial position of the cooperatives. This is due to the fact that, financial capacity of the cooperative can determine the cooperative ability to involve in different business activities and to diversify its services to satisfy the members' economic interest.

### **3.3.1.1. Liquidity Ratio Analysis**

This ratio provides information about cooperatives ability to meet its short-term or immediate obligation using assets that is most readily converted in to cash. It is a measure of general liquidity and is most widely used to make the analysis for short term financial position or liquidity of a firm. The standard used by most firms to measure the liquidity of the business to provide loan or continue what they started before is 2:1.

$$\text{Current Ratio} = \text{current Asset} / \text{current liability}$$

### **3.3.1.2. Surplus Ratio Analysis**

Surplus ratio measures to what extent the businesses are successful in earning a net return on its operations and demonstrate how well the firm is making investment and financing decisions to collect profit from its business transactions. Profit is an important objective of cooperative even though it is not the prime goal, hence poor financial performance of cooperative indicates as basic failure, which probably leads to the cooperative being going out of business operations through time (David, 2010). Therefore, the cooperative surplus has to be significant that can enables them to sustain in their operations and diversify their service to be competitive.

$$\text{Return on the Total Asset} = \text{Net income} / \text{Total Asset}$$

### **3.3.1.3. Leverage Ratio Analysis**

The leverage ratio measures the extent of the firm's "total debt" burden. It reflects the cooperatives ability to meet both short and long-term debt obligation. Besides, most creditors value this ratio due to the fact that it measures the capacity of the cooperative revenues to support interest and other fixed charges. In addition it indicates if the capital base of the cooperative is sufficient to pay off the debt in the event of liquidation (David, 2010).

$$\text{Debt Ratio} = \text{Total Debt} / \text{Total asset}$$

### 3.3.2. Descriptive Analysis

Prior to analysis, the data collected was checked for consistency and completeness. Next, the data were coded and entered in to Statistical Package for Social Science (SPSS) computer software in order to make the data ready to the analysis. In this study, descriptive statistics like percentages, mean, standard deviations, frequency, minimum and maximum and tables were employed to describe data descriptively.

### *3.3.3. Econometrics Model Selection and Specification*

In this study to identify factors that push the farmer members to supply their wheat to the cooperatives a Multiple Linear Regression Model was used. Moreover, to test the influence of the explanatory variables on the dependent one data analysis was carried out using STATA software Version 10. The model is specified as follows:

Where,

Y - is the value of the dependent variable (in the case of this study quantity of wheat supplied to the cooperatives).

$\beta_0$  – the intercept that shows the average effect on Y if all variables excluded from the model

The parameters  $\beta_1, \beta_2 \dots \beta_n$  are the regression coefficients of parameters

i= the i<sup>th</sup> observation

$U_i$  - The total error of prediction (residual).

$X_i = f(\text{Sex of members, age, Farm size, Access to credit, Amount of yield of wheat, Cooperative price for wheat, Contacts with Extension workers, Educational level of members, Family size, Proximity to the village market in hrs, years of membership to cooperative, livestock ownership, regularity of marketing services})$ . Further, to make it clear and more expressive based on Gujarati (2004); the model had been rewritten as follows containing both quantitative and qualitative explanatory variables.

$$Y_i = \beta_0 + \beta_1(FS)X_i + \beta_2(Yld)X_i + \beta_3(Ed)X_i + \beta_4(D4)X_i + \dots + \beta_n(Dn)X_n + U_i \dots (2)$$

Where,

FS= family size

Yld= yield

Ed= education

D4...Dn = Dummy variables where 1 for existence and 0 non-existence

Moreover, it is statistically advisable to figure out the existence of multicollinearity problem between continues explanatory variables and degree of associations among the discrete variables prior of running the model. Multicollinearity is refers to the existence of more than one exact linear relationship among explanatory variables, and collinearity refers to the existence of a single linear relationship. The issue of multicollinearity may arise due to fact that explanatory variables may have highly liner relationship. Prior to application of the econometrics model to make inference about the variables, all hypothesized variables were tested for existence of multicollinearity problem. The existence of multicollinearity may result in, smaller t-value, the estimated regression coefficient to have wrong sign and high  $R^2$  value. Moreover, it may cause large variance and standard error with wider confidence interval deviation which means the coefficients cannot be estimated with great precision or accuracy (Gujarati, 2004). In this study to detect the existence of multicollinearity among the continuous explanatory variables variance inflation factors (VIF) technique was used (Gujarati, 2004). Thus, the VIF can be stated as,

$$VIF(X_i) = \frac{1}{1 - R_i^2}$$

Where;

$R_i^2$  = It is the multiple correlation coefficients between  $X_i$  and other explanatory variables.

The largest the value of  $R_i^2$  will result into higher value of VIF ( $X_i$ ) which cause higher collinareatly among the variables. Most of the time as a rule of thumb for continuous variables values of VIF

greater than 10 are taken as a signal for the existence of multicollinearity in the model. In the same manner; to test existence of collinearity (degree of association) among dummy variables, contingency coefficient (CC) was computed for each dummy variable. According to Healy (1994), if the value of contingency coefficient is greater than 0.75, the dummy variables have collinearity. The formula used to calculate contingency coefficient look like the following

$$CC = \sqrt{\frac{X^2}{N+X^2}}$$

Where;

CC = contingency coefficient

N= is total sample size

$X^2$ = Chi-square of random variable

### 3.4. Operational Definitions of variables

In the course of identifying the variables that affect the roles of multipurpose cooperative society in serving as market for farmers produce the following explanatory and dependent variable are stated.

#### Dependent variable

**Quantity of wheat supplied to cooperatives by members':** This indicates the amount of wheat supplied by members to the cooperatives and measured in terms of quintal. It is continuous dependent variable.

#### Independent (explanatory) variables

1. **Sex of members (SM):** this shows the members biological characteristics. It is dummy variables, male score one and zero otherwise. The logic is that female headed households have more chances of participation in cooperatives than male headed one since the male headed one has more exposure to different information and marketing networks than female ones. Hence, it is assumed that female headed farmer members supply more to the cooperative than male headed one.
2. **Age of member (AGM):** refer to the number of years that the respondent is being from birth to survey date conducted. Age is continues variable and assumed to have positive influence on production of farmers as result of experience and know-how. However, it is hypothesized that aged

individual have negative expectations about cooperative benefits due to past cooperative trends in our country. Which inter has negative influence on marketing of their produce to the cooperative.

3. **Family Size (FAMS):** the assumption here is that as the family size become larger, the smaller would be the quantity of output to be marketed through cooperative. This variable is a continuous variable and it refers total numbers of family that the members have. Thus, the family size will affect member farmer supply of their wheat negatively since what produced largely may be consumed by the members.
4. **Access to credit (ACSCRDT):** this is dummy variable, which is expressed in terms of member's access to credits to purchase inputs from cooperative. This variable takes a value of one if the farmers' members have access to credit and zero otherwise. It is assumed that, access credit would have positive influence on members to market their produce and use inputs from cooperative.
5. **Amount of yield of wheat (YLD):** this is a continuous variable and it refers to the amount of wheat that farmers would obtain in terms of quintal in the study area during the study period. It is assumed that, the larger the amount of wheat the farmers produce, the more would be the tendency to market their produce through the MPFCs societies. Thus, this variable is expected to influence marketing roles of multipurpose farmer cooperative positively.
6. **Years of membership to cooperative (YMESHIP):** It is years of membership that how long the respondent being a member of cooperative since his/her membership and holding continues value. The hypothesis here is that as farmers have long stay as member of the cooperative they know the benefits of participating in cooperative and might have positive perceptions to the cooperatives and can participate more in supplying their wheat to the cooperatives more than those who have less years of membership. Therefore, in this study this variable expected to influence members marketing of their wheat through the cooperative positively.
7. **Cooperative price for wheat (CPWHT):** this is dummy variable taking the value of 1 if the price of cooperatives for farmer's wheat is fair/competitive or better than other middlemen's in the area, and 0 otherwise. It is assumed that the price offered for wheat by the cooperative society influences

farmers positively to market their produce through the society and their participations if the price is fair or better.

8. **Contacts with Extension Services (EXTSVS):** this is continues variable measured in terms of days that members have contact to extension workers in the study area. It is assumed that as farmer members have more contacts with extension workers, the better would be the information about market, and use of agricultural inputs which in turn increases their production and marketable surplus to the society. Therefore, this variable is expected to influence members' supply of produce to the cooperatives positively.
9. **Educational level of members (EDULM):** This is a discrete variable and indicates the number of years that the farmers attend formal education. Hence, it is treated as discrete variable where,"0" represent illiterates, "1" indicate read and write, "3" represent 1<sup>st</sup> cycle,"4" and "5" indict primary and secondary education. It is assumed that, as the number of years the member attended formal education become high, the members would have better know-how about the benefit of cooperative and it enhance their access to market information (Daniel, 2006). Hence, those members who have a better educational background would have better chances to participate actively and market their produce than those who are less educated. Therefore, this variable has positive impacts on the farmers in supplying their wheat and marketing role of the society.
10. **Household Land holding Size (HHLHS):** this is a continuous variable and it refers to the total areas of farm land that members hold in terms of hectares. It is assumed that as the total area of farmland the members hold are larger, the higher would be to use cooperatives as means to market their produce and primary source of inputs to their farms. Thus, it is assumed that, this variable would have positive influence on members marketing of their produce through cooperatives.
11. **Proximity to the district market (PXMDM):** it refers to the distance from homestead of members to the district market place. It is assumed that, as number of hours that members travel to reach nearby district market is high, there would be more tendencies to sell the produce to the cooperatives and not otherwise. The distance is measured in terms of hours travel for one trip. It is a continuous variable that can influence supply of wheat to the cooperative positively.

- 12. Members Total Livestock Holding (TLUSH):** it is continuous independent variable measured in terms of tropical livestock unit (TLU) the number of livestock that the respect respondent hold during the survey period ( Ox, Cow, Donkey, Horse etc). It is assumed that as the household has more livestock it will have impact on their production and productivity; however, member tendency to sell their wheat to the cooperatives will be negatively influence those members who hold more livestock to supply their wheat to the cooperative.
- 13. Marketing services (MKTSVS):** it is dummy variables taking the value of one (1) if the cooperative provides regularly marketing services (purchase of wheat from farmers) and zero (0) otherwise. It is assumed that as the cooperative provide regularly marketing services to members (purchase of wheat from farmers); members use cooperative to market their produce and have positive influence on the supply of wheat to the cooperative.

### **3.4.2.3. Operational Definition of Concepts**

**Supply chain:** In this study Supply chain operational as the route in which output / inputs / of the farmers moves from its source to its users/ destinations/ and supply chain of wheat indicate the flows of wheat from farmers towards end users.

**Role:** In this study role operationally defined as cooperative function/contribution/ in marketing wheat and supply of farm inputs in the study area and its implication to its farmer members.

**Table 3.4. Summary of Definitions and Measurements of Variables used in the Model**

Variables	Definitions	Unit of Measurement	Expected Sign
ACSCRDT	Members access to credit	Dummy	+
YLD	Yield of wheat of farmer	in quintal	+
YMSHIP	Memberships to cooperative	in years	+
CPWHT	Price offered by cooperative	Dummy	+
EXTSVS	Members contact to DA	in days	+
EDULM	Educational level of members	Discrete	+
HHLHS	Members land holding size	in hectares	+
FAMS	Family size of farmer members	in number	-
PXMDM	Distance travelled to reach district	in hours	+
SM	Sex of farmer members	Dummy	+
AGM	Age of members'	Number of years	-
TLUSH	Livestock ownership	TLU	+
MKTSVS	Regularity of marketing services	Dummy	-

## **CHAPTER IV: RESULTS AND DISCUSSION**

This part of the thesis presents the findings and discussion of the study under different parts. The first part presents the results of financial ratio analysis based on 2009/10 and 2010/11 audit report followed by descriptive statistics and econometric analysis using SPSS (Version 16) and STATA software version 10 to analyze the factors influencing farmers to supply their wheat to the cooperatives respectively. In this study descriptive statistics like mean, standard deviations, simple percentage, frequency and tables and significant level were used to present the findings of the study.

### **4.1. Results of Ratio Analysis**

Ratio analysis refers to selection, evaluation and interpretation of financial data, along with other pertinent information to assist investment and financial decision making (David, 2010). Hence, the aim of making financial analysis is to identify the strength and weakness of the cooperatives so as to take remedial action based on the result of the analysis and thereby insure the viability of the cooperatives in short and long-term. Therefore, in the present study three ratio analysis namely liquidity, profitability, leverage ratio were used to analyze the financial position/performance/of the five MPFCs societies. Financial capacities of the cooperatives can determine their ability to involve in different business activities and diversify services to satisfy the members' economic interest. On the basis of this fact and based on the two years (2009/10 and 2010/11) audit report of each cooperative, financial analysis of the five MPFCs were carried out.

#### ***4.1.1. Liquidity Ratio Analysis***

This ratio provides information about the cooperative's ability to meet short-term or immediate obligations using assets that is most readily converted in to cash. The standard stated to measure the liquidity of most firms is 2:1 to provide loan or continue providing loans. Accordingly, based on the two years' audit report of the five sample MPFCs liquidity ratio was analyzed. As table 4.1 depicts all cooperatives but Abdi Boru, in the district under investigation performed below the desirable yardstick based on 2009/10 audit report. But they remain liquid to cover their short term obligation for the reason that most of MPFCs were having a current ratio of above 1.00. Among the sample MPFCs the highest and the lowest current ratio scored 2009/10 were 2.06 and 1.06 which belongs

to Abdi Boru and Ibsa Gudina MPFCs respectively. The average current ratio of the sample cooperatives in the same year was 1.53 while in the year 2010/11 the average current ratio was 1.64 while, 2.59 and 1.08 the highest and lowest current ratio scored by Walti Waqentera and Ibsa Gudina respectively. Moreover, in the year 2010/11 the current ratio of the cooperatives under consideration were showed slight improvement in which the highest improvement recoded by Walti Waqentera at 2.59(See Table 4.1).

As the current ratio of analysis of the cooperatives show, the financial performance of the MPFCs was showing slit increment or improvement even though it is not satisfactory. This implies that their current liabilities are showing negligible decrease and their current asset was in a positive position. However, the cooperatives need to make more improvement in their operation so as to attract more asset which enables to pay off the high current liabilities and be at better financial position to be competitive in the market to meet the rising demand of the members. At the same time it indicates cooperatives were not at sound financial position to undertake marketing of farmers output in better and competitive manner than what is now.

#### ***4.1.2. Surplus Ratio Analysis***

Surplus ratio measures how far the business is successful in earning a net return on its operations and demonstrates how well the firm is making investment and financing decisions to collect profit from its business transactions. Profit is an important objective of cooperatives, so poor performance indicates a basic failure to the firm, which probably leads to the cooperative being going out of business (David, 2010).

Surplus ratio of the sample MPFCs were found to be insignificant in both audit years. As shown in Table 4.1, the surplus ratio in the year 2009/10 was 34.5% Maximum and with no/0/the Minimum surplus ratio which goes to Abdi Boru and Urji Waqentera respectively. The average profitability ratio in the same year was 13.2%. Whereas, in the year 2010/11 the profitability of the sample cooperatives ranges from 16.3% to 1.1% the highest and the lowest profit level respectively with an average surplus of 6.8%. The above figure implies that the surplus level of the cooperatives under investigation shows a sharp decline by 6.4% in the year 2010/11. This further implies that the

cooperatives have ineffective operation and business activities during the period. This might cause dissatisfactions and dropouts of members as the cooperatives are not feasible; even though the prime objective of establishing cooperatives is not profit; unless the cooperatives earn some level of profit that will result in patronage, it becomes meaningless for its existence or to improve economic status of members.

#### ***4.1.3. Leverage Ratio Analysis***

Leverage ratio measures the extent of the firms' "total debt" burden. It reflects the cooperative's ability to meet both short and long-term debt obligations. Mostly creditors value this ratio because it measures the capacity of the cooperative revenues to cover interest and other fixed charges. In addition, it indicates if the capital base of the cooperative is sufficient to pay off the debt in the event of liquidation of the cooperative (David, 2010). As shown in table 6, all the cooperatives in the district finance a portion of their assets with debts, i.e. they have been using financial leverage to finance their current assets. In the year 2009/10 the average debt-asset ratio of the sample MPFCs was 64.7%. This indicates on average the greater (64.7%) proportion of the assets of the MPFCs under investigation was financed by creditors than their own worth. But, as the 2010/11 audit report analysis shows, the average debt to asset ratio reached 66.7%, while two cooperatives namely Walti Waqentera and Abdi Boru have shown slight decrease in the debt to asset ratio compared to the previous audit year; the remaining cooperatives shows an increment(See Table 4.1).

The leverage ratio analysis portrays, for the last two years more than 65% of the cooperatives assets were financed by creditors rather than the cooperatives' own worth. This implies, most of the funds that were used as operational capital in the cooperatives were not their own worth. Besides, it indicates only small proportion of the asset was financed by the cooperatives worth which may lead to insolvency and prohibit cooperatives involvement in different business activities. Furthermore, decision making problem may arise due poor financial background. As a result, the role of the cooperatives in marketing and diversifying their services will be hampered (will be insignificant).

**Table 4.1. Ratio Analysis of the Five MPFCS based on two Years Audit Report**

Years Name cooperative	2009/10			2010/11		
	CR	DR	ROTA	CR	DR	ROTA
Walti Waqentera	1.566	0.563	0.188	2.593	0.373	0.163
Urji Waqentera	1.818	0.491	0.000	1.369	0.711	0.012
Abdi Boru	2.065	0.479	0.345	2.270	0.436	0.145
Walti Tamela	1.302	0.735	0.106	1.178	0.831	0.011
Ibsa Gudina	1.057	0.932	0.028	1.084	0.914	0.038
Average	1.531	0.647	0.132	1.636	0.667	0.068

*Source: own computation from 2 years audit report, 2011*

## 4.2. Results of Descriptive Analysis

To give clear picture about the sample respondents' socio-economic characteristics, farmers perception towards cooperatives, role of cooperative in marketing of input/output and other characteristics of cooperative, descriptive statistics like frequency, mean, percentage, standard deviation, minimum and maximum values were used by employing statistical software called SPSS Version 16.

### 4.2.1. Respondents' Socio-Demographic Characteristics

The age distribution of the sampled farmers ranges from 28 to 70 minimum and maximum respectively. The average age of sampled members was 43.02 years. This signifies that the sample farmers are at an economically productive age. As depicted in Table 4.2, the majority (96.87%) of the sampled respondents lie within age range of 25-64 while the remaining (3.13%) are above the age of 64. This implies that most of (96.87%) the members of the cooperatives at the study area are found to be economically productive (15-64) compared to the more aged ones. According to OFEDB, the size of economically active population in the district accounts for about 46.73% of the total population. This may create favorable opportunities for bringing changes. The average family size of the respondents was 9.45 which are greater than the regional average of 5. The maximum family size is 25 family members' with standard deviation of 4.28 persons. This implies, in the study area an extended family size were observed that can have significant impact up on the amount of surplus to be supplied to the cooperative as more of produced can be consumed when the family

size are more. This results in fewer amounts of wheat surplus to be left to be supplied to the cooperative.

Moreover, of the total sample farmer members studied, 18.75% and 81.25% were female and male headed house hold respectively. Besides, most (90.63%) of the farmer members of the cooperative are married. While 1.88%, 1.25% and 6.25% were single, divorced and widowed sequentially (See Table 4.2) and 78.75% of the respondents were Muslims followed by 20% Orthodox Christians. Better educational background of farmer members is believed to have positive impact on their readiness to accept new ideas, innovations and technology than uneducated ones. As shown in table 6 a significant number of members (33.12%) and 23.13% has attended 1<sup>st</sup> cycle education and primary education respectively while 24.37% were uneducated (See Table 4.2). This implies most of the members in the study area were educated and have better access to education. This is a good opportunity for the cooperatives to inculcate and train the members to produce better leaders for betterment of its marketing role in the area. These can further strengthen the cooperatives' involvement in business activities and marketing of outputs effectively.

**Table 4.2. Respondents' Socio-Demographic Characteristics**

List	Number of respondents	Percent(%)
Sex		
Male	130	81.25
Female	30	18.75
Marital status		
Married	145	90.63
Single	3	1.88
Divorced	2	1.25
Widowed	10	6.25
Educational level		
Illiterate	39	24.37
Read and write	10	6.25
Grade 1-4	53	33.12
Grade 5-8	37	23.13
Grade 9-12	21	13.13

Continued (Table 4.2)

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Religion			
Muslim	126		78.75
Orthodox	32		20
Protestant	2		1.25
Age			
25 - 64 years	155		96.87
> 64 years	5		3.13
Mean	(43.02)		
Std. dev	(7.99)		
Family size			
Mean	(9.47)		
Std.dev	(4.28)		

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Source: Survey result, 2011

#### ***4.2.2. Cooperative's Role in Output Marketing***

As the survey result reveals 35.63% and 16.87% of the respondents marketed their wheat through cooperatives occasionally and often respectively; 47.5% of them never sold their wheat to the cooperatives. In addition, an average of 5.87 quintals with standard deviations of 3.73 quintals of wheat was supplied with a Minimum and Maximum of 1 and 13 quintals respectively. This implies, most (47.5%) of the members are not using the cooperatives as their marketing outlet or the cooperatives were not serving as alternative market for farmers' output. As UN (2009) indicated only 50% of agricultural output was marketed through cooperatives. Besides, as Seid (2009) indicated cooperative and Union purchasing share was not more than 31% due lack of capital and poor members participation and loyalty. Gebremeskel et al (1998) indicates of the total farmers' annual sales of grain; 79% sales occur immediately after harvest. However, cooperatives' marketing role in the area during this period has been found to be insignificant compared to other marketing agents who are acting in the supply chain of wheat. This caused the farmer members to be exposed to low price or sell their output when the price of wheat was low i.e. at the time of harvesting, due to lack of money to pay-off fertilizer liability, pay for harvesting machinery (combiner) and other expenses. Moreover, about 94.37% of the respondents sold their wheat to other marketing agents parallel to the cooperatives whereas the remaining 5.63% not (See Table 4.3). To be specific 47.5%, 31.88%and 13.75% did sold their wheat to wholesalers, local market and consumers respectively.

The same result was obtained by Kindie (2007) in which 34.47%, 22.5% and 17.66% marketed supply of Sesame was channeled through wholesalers, assemblers and cooperatives respectively. as Fulton (1990) indicated, if the cooperatives are not able to offer competitive price for farmers' output eventually they loss their market share. This implies the farmer members use both the cooperative and other marketing agents as their route to sell their wheat to the market. Thus, the mere existence of cooperatives in the area did not increase the bargaining power, save time, effort, and cost or solve market access problems of farmers. For this reason, cooperatives output marketing role did not flourish in the area as result members mostly tend to supply their wheat to other marketing agents rather than cooperatives. Therefore, cooperatives are expected to function well in study area by involving themselves in the supply chain effectively as economic institutions to attain the objectives they are established for.

**Table 4.3. Distribution of Members in selling their Wheat to the Cooperative and to others**

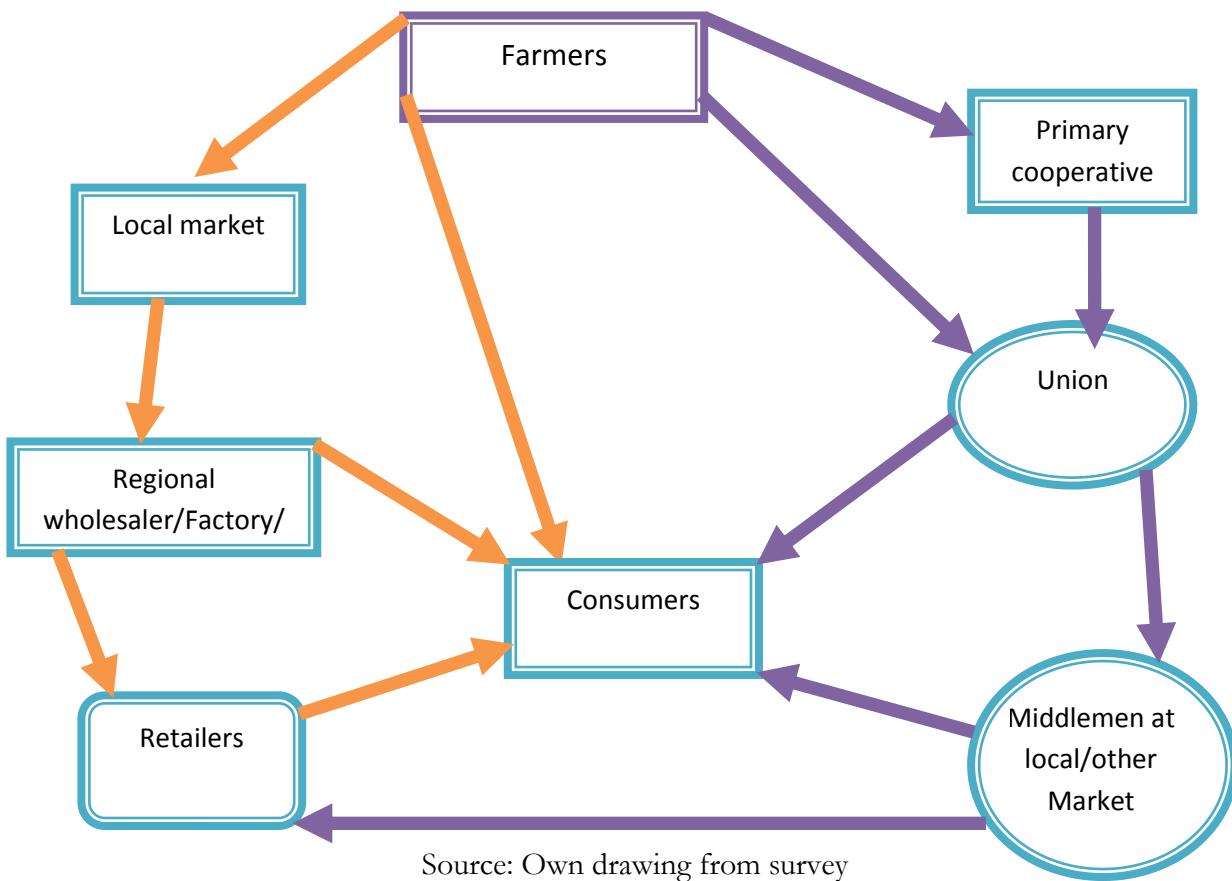
Responses	Frequency	%
<b>To cooperative</b>		
Yes	27	16.87
No	76	47.5
Sometimes	57	35.63
<b>To other agent</b>		
Yes	151	94.37
No	9	5.63
<b>To whom</b>		
Wholesaler	76	47.50
Retailer	3	1.87
Local market	51	31.88
Consumer	22	13.75
Wholesaler & local market	4	2.5
Wholesaler & consumer	1	0.63
Retailers & local market	3	1.87

Source: own computation from survey, 2011

As indicated by sample members, they sold their wheat to other marketing agents than through cooperatives due to various reasons. 45% and 48.75% of the sample members indicated that they did not sold their wheat through cooperatives due to mismatch (the cooperative do not purchase at the time when they want to sell) and for the reason that the cooperatives do not purchase their wheat regularly and at the time of harvest when surplus output is there and low price offered by

other agents. Besides, the remaining 5%, 0.63% and 0.63% claim low price/compared to other marketing agent/, measurement problem/due to lack of proper measurement equipment/and lack of trust on cooperatives as their basic reasons raised by members. This designates that cooperatives in the study area are not providing competitive marketing services to their members', this will result in members' disloyalty, less participation, ill viability of the cooperatives, poor financial capacity and inability to bring significant economic improvement in the livelihood farmers. Moreover, members' economic interest to the cooperative was not fulfilled in this regard but for farm input supply even though this was not the only intended purpose cooperatives shall serve. Furthermore, 22.5% of sampled respondents sold their wheat during harvesting time on farm while 77.5% did not. This implies 22.5% of sample farmers sold their wheat on farm to pay off their liability due to lack of money to pay off the combiner harvesting charges which could been minimized by effective involvement of the cooperatives in the marketing of outputs and by extending credit services during harvesting season. The figure below shows the alternative supply routes used by farmers.

**Figure 4.1 Diagrammatic Presentation of Supply Chain of Wheat in the Study Area**



#### **4.2.2.1. Price Offered by Cooperatives to Farmers' Wheat**

Cooperatives are basically meant to safeguard their members' interest from middlemen exploitation, to improve their market access and enhance farmers' negotiation power by purchasing their produce at competitive prices. Nevertheless, 49.38% of the respondents were opine that cooperatives do charge low prices to their wheat output compared to other marketing agents while 39.38% confirm high prices(See Table 4.4). This implies that, most (49.38%) of sampled members did not sell their wheat to the cooperative unless the price offered by the cooperatives is fair or equal to market price compared to the other agents. Besides, the price offered by the cooperatives was found to be unattractive to farmer members to sell their wheat towards the cooperative which affect the marketing role of the cooperatives negatively. This is because the farmers did not consider the benefits of selling to cooperatives and ill functioning of the cooperatives in this regard. Moreover, in the long run, as Fulton (1990) indicated, if the cooperatives are not able to offer competitive price for farmers' output eventually they loss their market share.

**Table 4.4. Frequency of Sample Farmers by Cooperative Price of Wheat**

Criteria	Frequency	%
Fair/competitive	18	11.25
High	63	39.38
Low	79	49.38

Source: survey, 2011

#### **4.2.2.2. Role of MPFCs in Acting as Alternative Market for Farmers' Output**

The overall role of the sample MPFCs in the area in acting as an alternative market was perceived to be insignificant with 51.25% say no. Besides, the role of the sample MPFCs in purchasing the members' wheat is rated as poor by majority (71.25%) while the reaming average of 28.75% rated it as positive. This implies that the cooperatives role and function in serving as competitive market for farmers outputs were null in the study period. This is due to different factors:- poor financial capacity, ill organization and management, lack of business skill and know-how about cooperatives' role among the cooperative leaders, fear of risk and poor members' participation.

Agricultural marketing activities are mainly based on speculation which requires flexible and responsive decision making process in the cooperative. In this regard the committee members and members' commitment or participation are determinant factors. However, the study found that the committee members lack commitment, knowhow, flexibility and responsiveness to the market. This made the farmers not to enjoy the benefits of the cooperative membership and ownership despite farm inputs supply they obtain once in year. This implies the role of the cooperatives in providing regular marketing services and purchasing of output of the farmers was not worth to mention except for the distribution of farm inputs to farmers once in year. Hence, the members were forced to deliver their output to local market and negotiate on price to sell their output. At this time members may not have the negotiation power which may result in less price to their output; this has been true when it was through cooperative. In addition, it costs time, money and effort of the farmers that could have been used for other productive activities.

Moreover, the figures imply that the cooperatives did not protect the interest of members from middle men exploitations, low pricing and transportation cost in this particular study. But cooperatives were intended to serve and solve their members' and nearby rural community socio-economic and marketing access problems.. In addition, even if cooperatives were expected to provide multi services to its members and nearby community; the study identified that most of the cooperatives were not functioning as expected.

**Table 4.5. Frequency of Response on Marketing Roles of Cooperatives**

Responses	Frequency	%
<b>As alternative market</b>		
Yes	78	48.75
No	82	51.25
<b>Wheat purchasing role</b>		
Very good	5	3.13
Good	41	25.62
Poor	114	71.25

Source: Survey 2011

### ***4.2.3. Years of Membership and Farming Experience***

#### **4.2.3.1. Duration of Membership in the Cooperative**

The survey result discloses that, the minimum and maximum years of membership to the cooperative were 2 to 8 years respectively. Moreover, the average membership in the cooperative is 4.96 years. The minimum and maximum share holdings were 1 and 4 with an average and standard deviation of 1.74 and 0.77 shares among sample sequentially (See table 4.6). This implies that the number of share holdings was too few per person which becomes constraint to the financial capacity of the cooperatives to engage in different businesses and diversify their services. Basically share capital of the poor was not invested in economic activities to bring changes in the life of members rather it was kept in Bank only for the sake of interest. Only increasing the number of members of the cooperative cannot become a solution for the poor to solve their socio-economic problems. This is to signify, motivating, educating and creating attractive environment to the farmers to pool their resource in the form of share and building saving habit of farmers enable to enhance the financial capacity of the cooperative. This indeed, can help the cooperatives to engage in profitable business transactions and purchase of wheat which can help the poor to improve their economic status together by pooling their resources. This can result positive participation of farmers by supplying their wheat to the cooperative and improvement in their livelihood.

Besides, as the survey result shows the greater part of the membership of the cooperatives is male dominated. Even though the number of women in the district is 50.23% of the total population, women participation and membership to the cooperative in the district was too low compared to male participation (GHCO, 2011). This is like trying to clump only using one hand so as to bring changes in the livelihood of rural people of the area without involving majority of women in the development process. A focus group discussion with committee members also indicates those members with more years of membership were expected to be active participant in the cooperative, for they have tested the benefits of the cooperative, have more sense of ownership, concern to the cooperative and have more shares compared to the new one however, due to negative experience about cooperatives in the past, older individuals observe cooperatives with an evil eye compared to younger ones. Despite the fact that the number of shares held by the members being is limited; the survey result discloses that 69.38% of members were paid in dividend while 30.62% did not.

The average dividend received by members was 120.93 Birr. Besides, 50% and 29.32 % farmer members received dividend below and above mean respectively.

**Table 4.6. Characteristics of Member Shareholding, Membership and Farming Experience**

	Mean	Std. Dev	Minimum	Maximum
Membership (years)	4.96	1.56	2	8
Shareholding (number)	1.74	0.77	1	4
Farming experience (years)	18.59	7.25	5	40

Source: computed from survey result, 2011

#### **4.2.3.2. Farming Experience**

Farming experience is an important factor which enables the farmers to gain knowledge and skill in the field of farming and be market oriented. This enables the farmers to decide which crop type to harvest, timing and benefits of producing market oriented outputs and when and where to market it.

Pertaining to the farming experience of members, the average years of farming experience of household heads is 18.59 years with standard deviation of 7.25 in the sample. Likewise, the farming experience of sampled members or household heads range from 5 to 40 years (See Table 4.6). Farming experience enable farmers to have more exposure to farming and challenges in the farming business; they can possess the know-how in how to perform their farming practices by taking lesson from yesterday. As a result it enable them to decide which crop type to harvest, which crops type are more demanded in the market, timing and benefits of producing market oriented outputs. Thus, cooperatives have significant role in this manner: in providing relevant training and timely information to members to enhance their production and productivity. In doing so, the members outlook towards the cooperatives and in supplying their wheat can be improved. This indeed can help the cooperative to strength its involvement in supply chain of wheat.

#### **4.2.3.3. Reasons for Membership to Cooperative**

As the principles indicate membership to cooperative is open and voluntary; it is not compulsory to become a member of certain cooperative. It imply that cooperative is open to all who are able to use their services and willing to accept certain responsibilities of membership, without gender, social, racial, political or religious discrimination (ICA. 1995). However, in most cases of less developed countries like Ethiopia where farmer level of literacy rate is low, experienced negative reminiscence about cooperative the need for education, persuasion and motivation become pivotal to pool the farmers towards cooperative membership.

In line with this fact, the study result portrays that 60% of farmers have become members of cooperatives to obtain multifaceted services like credit, fertilizer and education. For instance, 15% and 13% became members of a cooperative to obtain credit services and improve their livelihood respectively. This figure implies that most farmers become the member of the cooperatives to obtain multifaceted services from the cooperative. However, cooperatives currently are not in a position to provide multifaceted services rather they are focused only on the distribution of farm inputs. On the other hand, multipurpose farmer cooperative societies are plying insignificant role in supplying consumable commodities, purchasing of wheat and in stabilizing the market. This discourages the farmer members' participation and supplies their wheat to the cooperative; this may hamper the role of the cooperatives in the supply chain of wheat.

**Table 4.7. Distribution Farmers by Reasons for Membership to Cooperative**

Reasons	Frequency	%
Credit	24	15%
Fertilizer	9	5.625%
To improve livelihood	21	13.125%
As result of education	5	3.125%
Based on own motives	5	3.125%
Other <sup>1</sup>	96	60%

Source: Survey 2011

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<sup>1</sup> Other indicates a combination of more than one service needs of members.

#### ***4.2.4. Source of Marketing Information***

Information in the 21<sup>st</sup> century is power to be competitive and exist viably in the business operations. Information can enable farmers to develop negotiations power in the market. Mostly, farmers have trust on the information delivered by the cooperative and formal source like radio which enhances member participation to sell their output and make decisions based on factual and timely information (Embaye, 2010). Therefore, information becomes power to the cooperative and members when it is timely, accurate and relevant. However, deficiency of information makes farmers to have weak negotiation ability in marketing their output. As Embaye (2010), indicated informal source of information are believed to be less accurate, inconsistent and delayed for production and marketing decisions to be carried out.

In line with this fact, the study confirms that 38.13%, 4.38%, 10.63% and 16.88% sample members obtain marketing information from local market through observation, extension workers (DA), cooperative promoters, retailers and wholesalers respectively. Moreover, 4.38% obtain information from local market and extension workers, 3.75% local market, retailer and wholesalers, 3.12% local market and wholesaler, 8.13% local market and retailer, 1.88% from cooperative promoter and wholesaler, 0.63% local market and cooperative promoter, 3.75% from extension workers and wholesaler and 0.63% from cooperative promoter and local market, finally, 1.88% sample members obtain the marketing information from extension worker and cooperative promoter. The figures imply, most of the respondents obtain marketing information from informal sources through personal observation of the market which may not be accurate and timely while the farmers make selling decisions that benefits them at the right time and at right price.

#### ***4.2.5. Major Crops Produced by Sample Farmers***

The study area has great potential for wheat production. The study discloses that all respondents produce wheat. Besides, the average yield harvested was 31.69 quintals with standard deviation of 29.58 quintal among sample on an average land area of 2.24 ha with standard deviation of 1.70 ha among unit of analysis (See Table 4.8). The minimum and maximum wheat harvested during the study period was 1 and 180 quintals sequentially. Moreover, the lowest cash crops produced by

sample members were Bean (3.75%) followed by Teff (5.63%). This implies wheat output harvested was the highest yield amount that the farmers' members obtained. However, compared to area

coverage, the amount of yields that were harvested by sample farmers were not satisfactory due to the rust disease which occurred during the study period affecting mainly wheat crops by causing Reddish brown color on the leaves of the wheat that decrease the productivity of wheat.

**Table 4.8. Major Crops Produced by Sample Farmers and Area Covered**

Crops	Area covered (ha)				Yield in Quintal			
	Ave	Std. dev	Min	Max	Ave	Std. dev	Min	Max
Wheat	2.24	1.70	0.5	15	31.69	29.58	1	180
Barely	0.94	0.60	0.13	5	12.97	11.48	1	75
Maize	0.31	0.16	0.1	1	5.08	3.21	0.25	20
Bean	0.19	0.15	0.1	0.5	2.25	1.54	1	5
Peas	0.30	0.14	0.06	0.5	2.52	1.45	0.25	6
Teff	0.19	0.21	0.25	0.5	1.94	1.04	0.5	3.5

Source: Survey, 2011

#### **4.2.6. Farming Characteristics**

##### **4.2.6.1. Land Ownership**

Land is one of the core driving production factors used by farmers for their crop production and rearing their livestock. Further, land in the rural part of the country are one of the major asset used as means of accessing to technological farm inputs and obtain extension services (Jamel, 2006). The size of land ownership of sampled farmers ranges from 1 ha to 12 ha with average of 3.77 ha with standard deviation of 1.32 ha among sample units. Furthermore, most (45%) of sample farmers in the study area have land holding with range of 3.1 – 4 ha while only 6.82% of them have land holding greater than 5.1 ha (See Table 4.9).

**Table 4.9. Distribution Framers by Land Ownership**

Size in ha	Frequency	%
1 – 2.5	14	8.8
2.6 – 3	39	25
3.1 – 4	72	45
4.1 – 5	23	14.38
>5.1	12	6.82
Min	1	
Max	12	
Mean	3.77	
Std. dev	1.32	

Source: Survey, 2011

#### 4.2.6.2. Land Renting Situation of Farmer Members

Of the total sample farmer member, 31.25% of them were rented-out their land to outsiders and while 21.88% rented-in an additional land to enhance their level of output. Besides, the total land that was rented out is 56.25 hectares during the study periods. The average land size rented out was 1.13 hectares with standard deviation of 0.56 hectares among sample farmer members. As the standard deviation of the sample members shows there is immense difference among the sample units based on the size of the land rented out. Members rented out their land so as to solve their socio-economic problems. The basic reasons pointed out by farmers to rent-out their land were shortage of money to plow their land through tractors, to purchase improved wheat seed, lack of courage to plow all the land they have and economic problems during the dry season. This implies that, renting out the land by members may result in less amount of yield to be harvested that resulting in poor supply to the cooperatives which in turn, hinders cooperatives successful involvement in the supply chain of wheat.. At the same time it may create economic crisis, shortage of food, enable to sustain economically compared to those who do not rented out their land.

Moreover, 25.62% did not allocated land for grazing for their livestock where as 74.38% of sample members allocated an average of 0.72 ha of land for grazing with standard deviation of 0.37 ha among sample (See Table 4.10). This implies the farmer members can have better chances to feed their livestock and enables them to have better traction power. These definitely can have positive

influence on their wheat production and productivity that result in more surpluses to be supplied to the market.

**Table 4.10. Distribution of Farmer Members Land Allocation and Usage Patterns**

Farm size	Rented-out	Shared-out	Grazing	Rented-in
<sup>2</sup> Respondent	50 (31.25%)	9 (5.63%)	119 (74.38%)	35 (21.88%)
Total land (in ha)	56.25	11	86.11	51.75
Min	0.25	0.5	0.25	0.25
Max	4	3	2.5	5
Aver.	1.13	1.22	0.72	1.52
Std.dev	0.56	0.79	0.37	1.08

Source: Survey, 2011

#### 4.2.6.3. Level of Soil Fertility

The study shows that as to member perception and experience of the farming, 72.50% of them have farm land with good fertility status while 10.63% with poor fertility status (See Table 4.11). This implies most of the farmers in the study area have fertile land which is good opportunity to increase production and productivity of farmer members that can yield surplus to the market. This can create conducive opportunity for MPFCs to involve in marketing of farmers produce by searching market for their output. At the same time, through effective integrations among urban consumer cooperatives it enables to improve the marketing system among production and consummation areas. This ended can ends with farmer members' benefit and final consumers. Moreover, only fertile soil by its self is not an end for better productivity, it needs good care and use of improved seeds to enhance the farmers productivity in sustain manner to improve their livelihood. To do so, cooperative expected to play its role in delivering improved varieties of seed and farm inputs to members at the right time with standard quality. In this regard, even if cooperatives in the study area are playing positive role but lacks capacity in delivering farm inputs at the right time to its members.

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<sup>2</sup> Computation was done out of the total sample size (n=160)

**Table 4.11. Distribution Soil Fertility Status**

Status of soil	Frequency	%
Poor	27	10.63
Good	116	72.50
Very good	17	16.88

Source: survey 2011

#### **4.2.6.4. Members' Uses of Farming Machinery**

As depicted from in the table below, on average 66.87% of the respondents used tractor to plow their land often and occasionally while 33.13% of sampled members did not used. This indicates that the members more or less they are adapting to the modern framing practice compare to the traditional one and have good habit in using farming machinery. However, the cooperative role in this regard was null. As indicated by sample members during harvesting and plowing period, they were exposed to different constraint regarding machinery supply due their cost, lack of money for payment, inaccessibility etc. These have been an opportunity to the cooperative and the union in the area to diversify their services by considering this service. For instance, to plow one hectare of land in average the farmers were incurred 420.16 Birr with standard deviation of 322.43 among sample per hectares. Providing diversified services based on majorities members participation and interest enable cooperatives to attract more members towards the cooperative as well as to keep satisfied the existing members. In doing so, cooperative can motivate the farmer members to supply their wheat to the cooperative and take advantage by involving in the marketing chain of wheat.

Moreover, as the table 4.12 depict, of the total respondents more than 93% of the farmer members were used combiner to harvest their wheat in the study period. This implies that in the study area the majority of the farmers were using combiner to harvest their crops. This was attributed due to plain nature of the land topographic in the area. However, it coasted the farmers to incur an average of 31.46 Birr with standard deviation of 7.94 Birr among sample units per quintal to harvest their wheat. The minimum and maximum payment that was incurred by farmers per quintal to harvest their wheat using combiner was 25 Birr and 45 Birr respectively. Hence the farmers were expected to sell their wheat on farm (22.5%) or livestock to pay for the combiner.

This implies, though the farmer members have more demand towards the combiner services and at the same time they were incurring high harvesting costs. The role of the cooperative in prioritizing the farmers demand for the services and problem solving capacity found to be insignificant since all services of combiner was under the control of private traders. Even though, the cooperative were affiliated under the umbrella of Gedeb Farmer union to strength their negotiation power and services by pooling their financial capacity together it did not brought a sustained services which mostly desired by members apart from distributing farm inputs.

**Table 4.12. Distribution of Farmer Members' based on Usage of Farming Machinery**

Response	Frequency	%
<b>Tractor usage pattern</b>		
Often	26	16.25
No	53	33.13
Sometimes	81	50.63
<b>Harvesting means</b>		
Combiner	149	93.125
Labor force	6	3.75
Both	5	3.125

Source: own computation, 2011

#### **4.2.6.5. Livestock Ownership**

Livestock is one of production means and serve different purpose to the rural community special in less developed countries where agriculture is prominent in economic sector. Animals are considered in the study area as the main source of draught power, indicator of wealth, and means of additional income, source food, milk production, means of transportation etc. Moreover, there are different types of livestock types which were owned by sampled respondents such as equine, oxen, cow, sheep, goats; hen etc while cow was leading in terms of number followed by Oxen. The survey result portray that, the total livestock population owned by the sample respondents was 1773.80 in TLU equivalents. While, 1.8 and 51.5 are Minimum and Maximum livestock owned by members in TLU

equivalent respectively. Accordingly, 11.09 in TLU equivalent is the average livestock holding with standard deviation of 6.82 among the sample farmers (See Table 4.13).

**Table 4.13. Livestock Ownership of Members**

<b>Type</b>	<b>Total sample (n=160)</b>			
	<b>Mean</b>	<b>Std. Dev</b>	<b>Minimum</b>	<b>Maximum</b>
TLU	11.09	6.82	1.77	51.54
Donkey	1.05	0.88	0	4.9
Oxen	2.77	1.78	0	13.00
Cows	3.57	3.30	0	20
Sheep's	0.73	0.69	0	31.00
Goats	0.10	0.22	0	1.43
Calves	0.87	1.02	0	9.18
Horse	1.65	1.20	0	5.50

Source: Computed from survey, 2011

#### **4.2.6.5.1. Size Oxen Owned**

Table 4.14 depicts that most (43.75%) of sample member owned two oxen while 3.75% sample member never owned any kind of oxen. Therefore, those cooperative members that have pair or more oxen have more tendencies to use their oxen to plow their land so that they can cover their land through crops and use the cooperatives as their main source of farm inputs than those who did not own Oxen. Furthermore, livestock populations cushion member farmers from selling their wheat at the lower prices relatively immediately after harvest for they serve as a source of income to pay off their personal debts. In addition as members indicated in their reply their livestock's were serving as source of additional income, milk and their manure as organic fertilizer to enhance the fertility of their land. Moreover, the more the number of Oxen owned by the farmers, the more it contributes better to cover their land on time and influence their productivity positively resulting in more surplus to be supplied and marketed.

**Table 4.14. Members Level of Oxen Ownership Distribution**

Number Oxen	Frequency	%
0	6	3.75
1	20	12.5
2	70	43.75
3	19	11.88
4	24	15
> 4	21	13.12

Source: own computation, 2011

#### **4.2.7. Perception and Awareness**

##### **4.2.7.1. Perception of Members on Role of the Cooperative**

To evaluate the perception of members on the cooperatives role, certain questions were posed to identify their reaction. The variables used to assess the farmers' perception were marketing role, source of farm inputs, credits, safeguarding farmers' interest from middlemen exploitation, improving economic status, in delivering information and in increasing production and productivity of members. In view of this, 59.4%, 83.37%, and 44.4% of the sample members indicated that marketing, credit provision and information role of the cooperatives are rated as poor while 56.87%, 68.12% and 71.87% of them perceived positive in farm input, enhancing production and productivity and in improving their economic status (See Table 4.15).

This result portrays, members perception on the role played by the cooperative was found to be low in acting as alternative market to their produce, in extending credit to its members and in delivering reliable and up to date marketing information. However, it has undeniable contribution with regards to farm input supply, improving economic status and improving their production and productivities.

**Table 4.15. Distribution Members Perception on the Role of Cooperatives**

Variables	Categories	Frequency	%
As alternative market	Poor	95	59.375
	Good	58	36.25
	Very Good	7	4.375
Farm inputs	Poor	9	5.625
	Good	91	56.875
	Very Good	60	37.5
Credits	Poor	143	83.375
	Good	16	10
	Very Good	1	0.625
Middlemen exploitation	Poor	46	28.75
	Good	86	53.75
	Very Good	28	17.5
Improving economic status	Poor	29	18.125
	Good	115	71.875
	Very Good	16	10
Information	Poor	71	44.375
	Good	77	48.125
	Very Good	12	7.5
Production and productivity	Poor	26	16.25
	Good	109	68.125
	Very Good	25	15.625

Source: Survey, 2011

#### 4.2.7.2. Member Awareness on Cooperative Matters

To evaluate the farmer members' awareness on cooperative matters some measurement tools were used to identify their views. Accordingly, most (84.38%) of the members were aware about their cooperative objectives whereas 53.25% and 54.38% were not aware about their cooperatives capital and total members in the cooperative. This implies that, most of the members have awareness about the cooperative objectives. Therefore, as members become more aware about their cooperative matters they may contribute valuable ideas and strengthen their cooperative operation by readdressing the gap of their cooperatives matters. However, members' accesses to continued education and training on cooperatives matter were minimal.

**Table 4.16. Distribution Members Awareness Level about their Cooperative Matters**

Variables	Frequency		Frequency	
	Yes	%	No	%
Objectives	135	84.38	25	15.63
Capital	70	43.75	90	53.25
Total members	73	45.625	87	54.375
Credit requirements	103	64.375	57	40.23
Services	118	73.75	42	46.09
Duties and responsibility	129	80.64	31	19.375
Financial position	88	55	72	45

Source: survey, 2011

#### 4.2.7.3. Owner of Cooperative and Benefits of Making Transactions

As table 4.17 shows, most (90%) of the members are aware about the real owner of the cooperatives while 10% of them replied as the government being the owner of the cooperatives. This implies that, as members feel sense of ownership they can have better participation and attitude towards cooperatives. However, still some members suspect on the real owner of the cooperative. This implies there is gap of knowledge and awareness among members about the ownership of the cooperatives which may affect their participations and commitments towards cooperatives. Moreover, the table below depicts, 81.25% of the farmers have awareness about the benefits making transaction with the cooperatives. This is a good opportunity for the cooperatives to motivate and push the farmers to supply their wheat towards the cooperatives. However, the cooperatives' poor financial capacity, lack of business skill, dependence on the union to purchase wheat, routine yearly activities, and weak committee members, lack of training to members and leaders of cooperative constrained the cooperatives not to use these opportunities.

**Table 4.17. Farmers use of Cooperatives as a Source of Fertilizer and their Ability**

<b>Reponses</b>	<b>Frequency</b>	<b>%</b>
Government	16	10
Members	144	90
<b>Benefits of Making Trxn</b>	<b>Frequency</b>	<b>%</b>
Yes	130	81.25
No	30	18.75

Source: Survey, 2011

#### *4.2.8. Role of Cooperatives in Farm Input Marketing*

As the study conducted by Daniel (2006) indicated cooperatives were serving as a source of fertilizer for about 94.7% of the sample farmers. He added also an average of 4.64 and 2.39 bags of DAP and Urea respectively were taken by sample farmers from the cooperatives. In line with this fact, the same result was found in this present study. Cooperatives are serving as the primary source of fertilizer for 98.12% of sample farmer members. Moreover, 50.62%, 37.5% and 10.01% of members took fertilizer from the cooperative on credit, cash and both respectively. Besides, the average quantity of DAP and improved wheat seed taken from the cooperatives by sample members were 2.01 and 2.5 quintal respectively (See Table 4.18). Further, only 46.87% of sample respondent used improved wheat varieties during the study period. Among sample members there is a substantial variation in their access and usage of improved wheat varieties. It is found that the farmers use of improved wheat is less because of the price of improved wheat, limited access, fear of its productivities due to lack of information about the varieties and uses of the existing seed varieties were the main ones among other factors that lead to immense variations among sample units in usage of improved wheat varieties.

**Table 4.18. Quantity of DAP and Wheat Seed Taken by Members from the Cooperatives**

List	Mean	Std. Dev	Minimum	Maximum
DAP (qt)	2.011	1.227	0	10
Improved Wheat (qt)	2.5	2.25	0	12

Source: Computed from Survey result, 2011

Furthermore, the survey result reveals that 63.75% of sample members do not have the ability to purchase fertilizer from the cooperatives on cash basis should the cooperative does not render fertilizers on credit (See Table 4.19). While 36.25% sample members are able to purchase fertilizer on cash. In addition, if farm input supply is only on cash basis it will have significant impact on the member farmers' production and productivity for the reason that 49.52% of the farmer will decrease the quantity of fertilizer uses if cooperatives do not provide fertilizer credit. At the same time, 18.45% use compost while 14.56% stopped fertilizer usage. Whereas, 18.45%, 0.97%, 14.56% and 1.94% stated their alternative to be use of compost (organic fertilizer),use of compost/decrease quantity/, stop to use fertilizer or decrease quantity of usage respectively.

This implies, unless proper survey about members ability to purchase fertilizer and other farm inputs on cash basis is not carried out, it would result negative impact on farm inputs usage by farmers in particular and production and productivity of the members farmers in general. At the same time the role of the cooperative in solving economic problems of their members by availing the services desired by members was insignificant. Extending various mechanisms for fertilizer access, usage of farmers and their cash purchasing ability need to be considered before pushing all farmers to purchase fertilizer and other farm inputs on cash basis only. To this effect, proper survey of members' ability and designing mechanism in which farmers' purchasing power can be enhanced and the financial capacity of cooperative can be improved worth to mention. Furthermore, 86.25% of farmers used other farm ingredients like weed chemical, pesticide and rust chemical especially in the year 2010/11 when in the area wheat was affected by rust which causes reddish-brown spots on the leaf of the wheat plant. Due to that the member's chemical usage was increased. Some of the chemical used by sample farmer members for their wheat were 24D, Tilt, and Topic etc.

**Table 4.19. Farmers in using Cooperatives as a Source of Fertilizer and their Ability**

Responses	Frequency	%
<b>Fertilizer Purchase</b>		
Yes	157	98.125
No	3	1.875
<b>Ability in purchasing on cash</b>		
Yes	57	35.63
No	103	64.38

Source: survey, 2011

#### 4.2.8.1. Use of Fertilizer

As the table below indicates, 98.13% of sample respondents used fertilizer to their wheat crops in the study area. This indicates that the farmers' tendency in adopting modern farm inputs is showing improvement even though the scientifically advisable amount of fertilizer application is not fulfilled by the members due to economic and other constraint.

**Table 4.20. Characteristics of Farmers in using Fertilizer for their Wheat**

Responses	Frequency	%
Yes	157	98.125
No	3	1.875

Source: survey, 2011

#### 4.2.8.2. Cooperatives Role in Supplying Farm Inputs at the Right Time

The survey result indicates that majority (73%) of the sample farmers were not satisfied on the cooperatives delivery time of farm inputs. The figure implies that most of the farmers do not obtain the farm inputs at the right time when they require it. Delay in delivering farm inputs to the farmers can affect the farmers' level of productivity which will also affect the supply amounts of the farmers to the cooperatives. In addition, it causes the members to loss their trust towards the cooperative and to switch to other suppliers that may result in the purchase of outdated and poor quality of farm inputs. Most farmer members indicated that more than 38%, 65%, 52% of cases pesticides,

improved wheat seeds and weed chemicals were not supplied at the right time respectively. Besides, Combiner and Tractor services were not offered at all by all cooperatives under investigation.

**Table 4.21. Members Responses Concerning Farm Inputs Availability at the Right Time**

Types	Yes	%	No	%	NS <sup>3</sup>	%
Responses	43	26.88	117	73.12		
Fertilizer	121	75.625	39	47.266		
Pesticide	59	36.875	61	38.125	40	25
Improved seed	56	35	104	65		
Weed chemicals	77	48.125	83	51.875		
Combiner & tractor services					160	100

Source: survey, 2011

#### **4.2.8.3. Role of MPFCs in Addressing Farm Inputs Demand**

Table 4.22 depicts most (72%) of the sample members did not notify in written to their cooperative about the types and amount of farm inputs they desire prior to the supply period. As the members indicated they did not notify for the reason that the cooperatives did not requested, lack of awareness, only through informal discussion and it wasn't learnt to do so. This implies that, the cooperatives were not making proper demand survey about how much farm inputs and type was desired by farmers.

Therefore, prior demand identification of the members enables the cooperatives to minimize tied-up capital, avoid delivery of unwanted farm inputs, timely delivery & to provide demand driven marketing services to the members. Thus, requesting supply demand from the members are bases to make the business plan of the cooperative and to manage their financial resource effectively for a better services. Furthermore, as table 4.22 depicts 79.4% of the sample members did not obtained the farm inputs they demanded from the cooperatives. This implies that the role of the cooperatives

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<sup>3</sup> NS represents the services is not supplied

in meeting the farm input demand of farmers were poor. This is due to their financial constraints of the cooperatives, lack of coordination in identifying the demand of farm inputs by requesting the farmers to notify their farm input requirements (with 72% did not notify) and lack of properly planned farm inputs delivery system accounts for the flirty of the cooperatives in this regard.

**Table 4.22. Members in Obtaining Required Farm Inputs and in Notifying their Demand**

Responses	Frequency	%
<b>Trends in Notifying</b>		
Yes	45	28.125
No	115	71.875
<b>Demand of Farm Inputs</b>		
Required	33	20.625
Not required	127	79.375

Source: survey, 2011

#### ***4.2.9. Members Exposure to Training***

Training is one of the basic instruments used to enlighten the farmer members with basic objectives, principles, values, benefits etc of the cooperative so as to develop positive attitude and knowledge about their cooperative and attract more members towards the cooperative so as to strengthen the human and financial capacity of the cooperatives. However, as the survey result indicates 66.87% of sample member farmers did not obtained any kind of training about cooperative. Whereas, 33.5% of members are obtained training on benefits of cooperatives, farm and resource protections, record keeping and basic cooperatives leadership skills.

The figure in table 4.23 below implies that the role of cooperatives in educating and providing continued training its members is poor. This can have impact on both members' participation and their awareness which can thus, hinder the progress of the cooperatives. As the fives principles of the cooperative indicate, Cooperative provides education and training for their members, elected representatives, managers, employees, etc so that they can contribute effectively to the development of their cooperatives (ICA, 1995). Furthermore, they can inform the general public particularly

young people and opinion leaders about the nature and benefits of cooperation. Thus, training is one of the key instruments need to be used by cooperatives by stating clear plan and budget to its effect. However, the role of the cooperatives in this regard was found to be insignificant in providing continued education and training to its members, community and leaders of the cooperative. Besides, the survey result indicates that the members have less access to training which will hamper the overall participation of members in the cooperatives and cooperatives' role to attain its intended objectives. This also have considerable impact on members in supplying their wheat to the cooperatives and their participation in the cooperative matters. This is due to lack of proper follow-up and promotion of cooperatives by promotions office of the district. The office lack commitment and devotion in providing and equipping the farmers with the required information apart from following election of committee and collecting reports. Moreover, even though there exist higher institutions which provide education and training on cooperative fields for the past 25 years, the role of the Ardaita ATVET College's in organizing model cooperative and strengthening the leaders of the cooperative through training was null. Moreover, the college role in providing community based services in its field of specializations was not worth to mention.

#### **4.2.9.1. Members Access to Extension Services**

Table 4.23 depicts that more than 94% of the sample member farmers have exposure to extension services rendered by development agents. Moreover, it is found that contact with extension workers shows high variability. Members indicated that the purpose of the contact with extension workers was to obtain information about farm inputs and market, in how to keep the livestock, natural resources, land plowing time and method, benefits of cooperatives, how to use farm inputs and bee keeping.

**Table 4.23. Distribution of Members based Access to Training and Extension Service**

Responses	Frequency	%
<b>Training Exposure</b>		
Trained	53	33.13
Not trained	107	66.87
<b>Extension access</b>		
Yes	151	94.375
No	9	5.625

Source: Survey, 2011

#### ***4.2.10. Distance Travelled to Reach the Nearest Market***

Proximity to different market and information centers has its own economic and social benefits to farmer members by saving their time, effort and cost to be used for other productive activities. Gebremeskel et al (1998) depicted that the farmers supply their grain to market by travelling 5 up to 20 km away from their homestead by carrying or using pack animals to reach the intended targets.

In line with this fact, the sample farmer members travel on average 2.46 walking hours to reach the district market area with standard deviation of 1.12 hours among sample unit. Besides, the minimum and maximum hours travelled to reach the district market were 0.25 hours and 5 hours respectively. On the other hand, on average it takes 0.81 walking hours to reach the cooperative with standard deviation of 0.52 hrs and with minimum and maximum of 0.17 and 3.17 hrs respectively (See Table 4.24). The result indicates that the average distance traveled from their homestead to reach cooperative compared to the district market is 1.65 walking hours less. This implies that the distance that farmers need to travel to reach the district market from their homestead compared to cooperative from their homestead is very far. This resulted indeed the members to be exposed to average additional costs of transportation of 9.58 Birr per quintal of wheat with standard deviation of 4.02 Birr per quintal for those who use carts as means of transportation to reach district market. While the minimum and maximum transportation payment incurred by farmers was 2 and 20 Birr by carts respectively to reach district market. Poor performance of cooperative in the marketing aspects in the area made the framer members to travel long hours to reach the market. However, it had been possible to improve this if cooperative undertake marketing task effectively, which significantly save

the time, effort, cost and walking load of members. However, this really did not happen yet in the area due to deprived performance of cooperative in this circumstance.

**Table 4.24. Distribution of Farmer Members based Distance Travelled**

Distance in hrs	Cooperative Frequency	%	District Market Frequency	%	Village Frequency	%
< 0:30	56	35	6	3.75	6	53.75
0:31 -1:00hrs	53	33.125	25	15.625	70	43.75
1:01 – 2:00hrs	46	28.75	43	26.875	3	1.875
2:01 – 3:00 hrs	4	3.125	38	23.75	1	0.625
>3:01hrs	-	-	48	30	-	-
Total	129.54hrs			393.48hrs		89.14hrs
Minimum	0.17hrs			0.25hrs		0.17hrs
Maximum	3.17hrs			5.00hrs		2.5hrs
Mean	0.81hrs			2.459hrs		0.559hrs
std.dev	0.52hrs			1.124hrs		0.338hrs

Source: survey, 2011

#### ***4.2.11. Constraints Affecting Cooperatives Marketing Role***

Based on focus group discussion held with different committee members of the three cooperatives indicate that the basic factors that impede cooperative marketing role in the supply chain were lack of capital, unskilled working force, lack of commitment from committee members, fear of marketing risk, poor members participation, frequent committee changes due to mischief and dependency on the union. Besides, the cooperatives were forced to supply farm inputs to non-members as result paybacks to the services were not carried out by the non-members at the right time and it results in loss to the cooperative. It is found of the MPFCs under investigation, particularly in Urji Waqentara MPFC loss has occurred due to uncollected amount of fertilizer of non-members and shared among members as raised during group discussions held with committee members. At the same time involvement of different stakeholders in the decision making of fertilizer distributions, such as Union, agricultural and cooperative office, Woreda officers until peasant association administrator in the affairs of the cooperative and lack of business skill created major hindrance on the cooperative overall activities. The other point that was raised by the committee members during decision was risk. Risk and business are two inspirable things which cannot be avoided but require proper

planning and responsive marketing decisions to be competitive in the business and minimize the risk. Hence, cooperative members in this regard lack the knowledge, commitment, and flexible decision making power and business skill which tied-up the cooperatives role expected to be played by in the market.

#### ***4.2.12. Members Participation in Cooperative Matters***

For the success of cooperatives members' participation is determinant factor. The success or the failure of the cooperative is largely determined by its members' participation. Member participation in a cooperative matters can be determined by various factors. In this study, to assess the level of members' participation certain criteria were used. To mention some in purchasing farm inputs, in selling their wheat, using services, taking credit, attending meeting, approving dividend allocation, participating in election and in approving annual plan etc were employed to find out their level of participation.

Accordingly, as the table below indicates 100% of the members did not have participation in making savings in the cooperatives. It was reasoned out by the members that the cooperative did not offer the service and 90.63% did not participate in cash credit services and members were passive (55%) in using the services of cooperatives. Furthermore, members were passive (44.37%) in participating in bylaw amendment and most (56.87%) are active in attending meeting and using the services of the cooperatives (See Table 4.25). Generally members' participation in cooperative decision making and its matters was found to be passive which affect the cooperative role negatively. Mostly members absent themselves from the cooperative affairs after nominating their leaders taking them as the only responsible individuals in matters of the cooperative. However, without active involvement of members, a committee by itself cannot bring any significant contribution on the cooperative development. As a result cooperative performance did not flourish in its marketing role in the area. As observed during data collection the general assembly meeting of Urji Waqentara, members do not come at the right time, less members' participation, diffused agenda of discussions, more absentees, too many problems, lack of patience till the end of the meeting etc were the main problems observed.

**Table 4.25. Distribution of Farmer Member's Participation in Cooperative**

Variables	Measurement Criteria					
	often	%	sometimes	%	Not at all	%
Farm input purchase	98	61.25	60	37.5	2	1.25
Selling of wheat	27	16.87	57	35.63	76	47.5
Using services	67	41.875	88	55	5	3.125
Taking credit	1	0.625	14	8.75	145	90.625
Purchasing on Credit	3	1.875	28	17.5	129	80.625
Attending meeting	91	56.875	60	37.5	9	5.625
Approving dividend	67	41.875	64	40	29	18.125
Election	90	56.25	44	27.5	26	16.25
Approving plan	82	51.25	45	28.125	33	20.625
Saving	-	-	-	-	160	100
Approving audit report	62	38.75	65	40.625	33	20.625
By-law amendment	44	27.5	45	28.175	71	44.375
Sharing responsibility	64	40	61	38.125	35	21.875

Source: survey, 2011

#### **4.2.13. Members Rating of MPFCs Service Provision**

Member satisfactions are built by adding value to products, improved facilities, equipments and services, obtain market access or broaden market opportunities (Rapp and Ely, 1996). In this study members were expected to rate their cooperative based on certain basic services offered; accordingly 86.9%, 75.6%, 58.8% and 88.1% of members rated their cooperative credit services, purchasing of their wheat, consumable commodities supply and machinery supply services as poor respectively. However, cooperatives farm input supply (i.e. fertilizer) was rated as satisfactory by the farmers. This implies that the services of the cooperative were generally not satisfactory and needs some improvement to create satisfaction to its members. Moreover, cooperatives are not at the position to offer delighted satisfaction to its members in the study area.

**Table 4.26. Distribution of Members Rating on the Services of the Cooperatives**

Rating	Inputs	Credit	Purchasing	Commodities	Machinery
Poor	13	139	121	91	141
%	(8.1)	(86.9)	(75.6)	(58.8)	(88.1)
Good	98	21	39	64	15
%	(61.2)	(13.1)	(24.4)	(38.1)	(9.38)
Very good	49	0	0	5	4
%	(30.6)	(0)	(0)	(3.1)	(2.5)

Source: Survey, 2011

#### *4.3.1. Demographic Characteristics of Traders*

To obtain clear picture about wheat marketing chain in the study area it is important to find out the other alternative supply chain of wheat. Therefore, on the basis of these facts semi-structured interview was conducted with randomly selected wheat traders in the area. Accordingly, the following discussion points were forwarded.

As the study result indicted the average age of traders were 36.70 years with standard deviation of 5.23 years among sample with minimum and maximum age of 28 and 45 years. This implies that most of the traders in the study area were at economically productive age (15-64). In relation of gender of sample traders, all of them were male headed respondents implying most traders in the study area was male dominated one. Besides, concerning the religious characteristics of traders 60% and 40% were followers of Muslim and Orthodox Christian religion respectively. Education is the basic instruments that can be used to bring behavioral changes. In relation to this, 70% of the sample traders were attended secondary education and 30% primary education. This implies most of the traders involved in wheat trading in the area were educated one which can enable them to obtain information and improve their decisions making capacity.

**Table 4.27. Demographic Characteristics of Traders**

Variables	Frequency	%
Sex		
Male	10	100
Female		
Religion		
Muslim	6	60
Orthodox Christian	4	40
Education		
Primary 1-8	3	30
Secondary 9-12	7	70
Age		
Mean	36.70	
Std. Dev.	2.91	
Min	28	
Max	45	

Source: Survey, 2011

By its nature agricultural trading practices requires responsive decision making skills and flexibility towards the market demand. More or less educated individuals are better in this regards. Traders take the advantage of market responsiveness in the study area as result of their educational background and experience. This makes them to be more competitive and dominant in the supply chain of wheat in the area since cooperative decisions making mostly time taking, requires the agreement of most of the committee members whereas the agricultural marketing by its nature requires more responsive decision making. This makes the cooperative advantage to be taken off by traders and most farmers tend to supply their wheat to local traders in the market.

Furthermore, the majority of traders were performing wheat trading practices as owner and managers of the business and all of the sample traders found to be male headed one. Their initial source of capital and working capital of traders for 80% were both from borrowing and own while 20% only from their own source. As pointed by sample traders, the major constraints faced during their operation were high price fluctuations of wheat, market instability, lack of storage, lack of information about foreign import of wheat, transportations costs, lack of standard and quality of wheat supply of farmer among main factors raised.

### **4.3.1. Wheat Purchase and Transportation Payment of Traders**

The table below shows the average trading experience of sample traders was 6.70 years. Whereas, the sample traders incurred to transport a quintal of wheat on average of 33.33, 19.14 and 22.33 Birr respectively to reach the respective market in Addis Ababa, Hawassa and Yirgalem respectively (See Table 4.28). In addition, those traders who did not have warehouse incurred monthly average payments of 325.00 Birr with standard deviations of 68.92 Birr among sample traders. Moreover, the monthly average purchase of wheat by traders during harvesting and dry season was 500 and 289 quintals with standard deviations of 133.33 and 219.25 quintals among traders respectively. All of (100%) the sample traders indicated that their main source of wheat at the time of purchase was the farmers who came to the local market at their warehouse.

**Table 4.28. Distribution of Traders on Seasonal Purchase & Transportation Costs**

Descriptions	Mean	std. dev	Min	Max
Trading experience (yrs)	6.70	5.23	28	45
Warehouse monthly payment	325.00	68.92	250	400
<b>Transportation Payment/quintal</b>				
Addis Ababa (Birr)	33.33	5.59	25	45
Hawassa (Birr)	19.14	4.49	12	25
Yirgalem (Birr)	22.33	2.16	20	25

Source: Survey, 2011

### **4.3.2. Traders Supply Chain**

As the table below indicates most (40%) of the traders sell their wheat to wholesaler, Factory (for value addition) and retailers at different regional market or local markets. This implies, in the supply chain of wheat traders transfer their ownership right to other wholesalers or Factory which may extend the chain till the output reach to final users.

**Table 4.29. Distribution of Traders Based on to Whom they Sell their Wheat**

Description	Frequency	%
Local market, Factory and wholesaler	1	10
Factory, wholesalers, retailer and consumers	2	20
Factory and Wholesalers	3	30
Wholesalers, Factory and Retailers	4	40

Source: Survey, 2011

As the table below depicts, most of the traders (30%) supplied their wheat to Addis Ababa, Hawassa and Yirgalem markets. This implies most traders supply their wheat in big cities of the country where the product moves from farmers through traders without any value added but an increase.

**Table 4.30. Distribution of Traders on their Supply Routes**

Lists	Frequency	%
Addis Ababa, Yirgalem and Hawassa	3	30
Hawassa, Yirgalem, Addis Ababa and Shashamane	2	20
Hawassa and Addis Ababa	2	20
Hawassa, Addis Ababa and Adama	2	20
Addis Ababa, Adama, Hawassa, Yirgalem and Assela	1	10

Source: survey, 2011

### 4.3.3. Level of Trading

As the table below indicates in the study area most (60%) of traders were selling the wheat they purchase both at a retailer and wholesaler level. This means traders in the study area were acting as suppliers as well as retailers. This can result in monopolistic market behaviors in the supply chain of wheat in which the traders act as both suppliers and retailers enabling them to be price makers. In the other end the farmers and the end users become the price takers. This can result in non existence of competitive market and as a result decision will fall under certain individual traders that can have impact on the whole supply chain of wheat in the market. This can hinder the existence of competitive market in the agricultural supply chain that does benefit end users or producers.

**Table 4.31. Distribution of Traders based on Level of Trading**

Level	Frequency	%
Wholesale	4	40
Retailer	0	0
Both	6	60

Source: Survey, 2011

The study result shows that 90% of the respondents do not have their own transportation means and 60% of the traders did not have their own warehouse. This implies that the traders mostly use rented warehouse which may not have standard quality to keep agricultural outputs. This resulted in quality problem of the wheat due to moisture, insects and poor ventilations and cost the trader to incur more for renting warehouse and loss. Lack of warehouse and transportation means can have impacts on the price margin of wheat pushing their expenses (to cover their costs and obtain certain surplus from it). Traders indeed need to add some values which increase the prices when it reaches the final users. However, this can be properly handled when the cooperatives function effectively in the supply chain by creating integrations with consumer cooperatives found in the urban areas and other enterprises through formal agreements.

**Table 4.32. Distribution of Traders Ownership of Warehouse and Car**

Responses	Warehouse	Car
Yes	4 (40%)	1 (10%)
No	6 (60%)	9 (90%)

Source: Survey, 2011

As the table below shows, the monthly purchase of wheat by traders during peak production season and dry season shows significant differences. The average monthly purchase of wheat during peak production season by traders was 500 quintals whereas during the dry season the average purchase of wheat decline and an average of 286 quintal of wheat were purchased by traders in one month. This implies that the supplies of wheat during the peak production season to traders were more than the dry season. This again indicates that most farmers in the study area sell their wheat to traders at a

time when the price of wheat in the market is low. That is during peak production season. The prices of a quintal of wheat during this time averages to 483 Birr while during plowing season (May to June) the prices will reach an average of 739 Birr per quintal. However, if the cooperative assumes the opportunities by purchasing during peak season it were possible to safeguard farmers from less prices and it can generate better patronage to its farmer members and improve its financial performance.

**Table 4.33. Traders Distribution on Seasonal Purchasing and Selling Prices of Wheat**

Season	Mean	Std. dev.	Min	Max
<b>Harvesting</b>				
Purchasing price	396	54.406	300	450
Selling price	483	49.001	400	560
<b>Plowing</b>				
Purchasing price	649	84.001	500	750
Selling prices	739	63.50	650	800
<b>Monthly purchase of wheat/qt</b>				
Harvesting season	500	133.33	300	800
Dry season	289	219.25	100	800

Source: Survey, 2011

### 4.3. Results of the Econometric Analysis

To identify factors that push the farmer members to supply their wheat towards the cooperatives and to test its significance level, a multiple liner regression models was used using STATA Software version 10. To this end, 13 explanatory variables of which 5 dummy were hypothesized to influence supply of wheat to cooperatives. Ahead of running the model for 7 continuous variables multicollinearity problems were checked using variance inflation factors (VIF) and for the remaining six dummy variables contingency coefficients are employed to detect existence of association among them (Appendix 1 and 2 respectively). Consequently, of all the hypothesized variables years of membership and land holding are found to have high degree of collinearity problems and were dropped from the model. Moreover, regularity of marketing (Dummy) variable was dropped for it has constant zero. Based on statistical analysis, 5 variables were found to significantly influence the

supply of wheat towards cooperatives. The influence of these explanatory variables on the dependent variable is discussed below.

**Access to credit (ACS-CRDT):** is significant at 1% (at probability of  $p= 0.003$ ) level implying that those farmers who have access to credit from the cooperatives supplied their wheat more to their cooperatives than those farmer members who do not have access to credit. As it was hypothesized access to credit of farmers has positive impacts on members' supply of their wheat towards cooperative. The result of the model implies that those farmer members who have access to credits will have their supply of wheat increased by 3.94 quintals than those who did not have access to credit. This implies, as cooperative extend credit service to its members, farmer members' tendency to participate in the cooperative in supplying their output will get higher. The result is in conformity with Jamel (2008).

**Amount of yield of wheat (YLD):** Amount of yield was expected to influence supply of wheat towards cooperative positively. As it was hypothesized, yield of wheat the farmer obtained in the study period influenced the members to supply towards the cooperatives at 1% significant level (at probability of  $p=0.000$ ). This portrays that an increase in one additional quintal of yield of wheat by farmer members will increase the supply of wheat to cooperatives with 0.072 quintals. This implies as the amount of surplus yield farmers obtain increases their supply towards the cooperative will increase. The result was similar with Rehima (2007) and Woldy (1994).

**Cooperative price for wheat (CPWHT):** The price offered is found to be significant at 1% (at  $p=0.008$ ). However, it was not an expected sign that cooperative price is found to influence negatively farmers supply of wheat to the cooperatives. The result of the model shows that as cooperative price was competitive supply decrease by 2.75 quintals in this particular study. The negative sign implies that, the farmers did not consider the transportsations price incurred to transport to local market and at the same time though the prices of cooperatives was competitive their supply towards cooperative was lesser amount. This could be mainly due to cooperative purchasing problem, due to lack of financial capacity, dependency on the union trends of purchase; lack of market stability in wheat price, lack of members' loyalty and poor marketing role of the cooperative. As the descriptive statistics shows (49.38%) argue the price charged was not fair or

competitive compared to other marketing agents. While 39.38% indicted that the price charged by cooperatives was better. The statistical analysis of the model resulted that supply of wheat was influenced negatively by price charged by cooperative at 1% significant level ( $P = 0.008$ ). The result is in contrary with Daniel (2006).

**Educational level of members (EDULM):** it is significant 5% ( $p= 0.020$ ) level. This implies as the years of formal education farmer members attended increases, it influences their participations in supplying their wheat to the cooperative positively. Educated farmers can have more access, knowhow and understand the benefits of making transactions with the cooperatives. Thus the result indicates as the farmer level of educations increase by one year, supply of wheat increase by 3.27 quintal. This implies more educated farmers were tending to supply more as result of awareness they have in making transaction with cooperatives. The result is inconformity with Astewel (2010).

**Proximity to the district market (PXMDM):** distance is found to significantly influence the supply of wheat towards cooperatives at 5% ( $p = 0.045$ ) significant level exerting negative influence on their supply of wheat to cooperatives. As the number of hours the farmers travel from homestead to districts market increases by one hour the probability of supplying their wheat to cooperatives decrease by 0.5656 quintals. This implies that, those farmers who are near to the districts markets supply their wheat to the local market and middle men. Moreover, the negative sign indicate that even though the distance that farmers need to travel to reach cooperatives from their homestead was short compared to district markets, the farmers' trend in supplying their wheat to the cooperative was minimal. These is due to cooperatives' inability to purchase their wheat, making cash payments on delivery, lack of regularity in marketing service and ill function of cooperatives in this respect could be the reason resulted in the model to have negative sign. At the same time, members who are located at distance from the cooperatives and found near to the district markets they will probably supply their wheat to the local market rather than to the cooperatives since they have better market access than those found at distance from local market. Generally, among the hypothesized 13 explanatory variables 3 were dropped from the model (that is landholding and years of membership) as a result of Multicollinearity problems and regularity of marketing services due to the fact 100 percent of the cooperatives did not regularly offer the marketing services as the sample respondents indicted in the descriptive statistics. Moreover, family size, sex, total livestock

ownership, extension contact and age of the farmer members are found to be insignificant for this particular study in influencing the supply of wheat to the cooperatives. However, access to credit, yield of wheat, and educational level of members were found to influence supply of wheat to the cooperative positively and at significant level. Besides, cooperative price and proximity to district market were found to influence supply of wheat towards cooperative negatively and significant level.

**Table 4.34. Effects of Explanatory Variables on Dependent Variable & its Significance**

<b>Qty wheat SS</b>	<b>Coef.</b>	<b>Std. Err.</b>	<b>t</b>	<b>P &gt; /t/</b>	<b>[95% Conf. Interval]</b>
ACSCRDT	3.948924***	1. 32554	2.98	0.003	1.32964      6.568208
YLD	.0727095***	.0160159	4.54	0.000	.041062      .1043571
CPWHT	-2.754571***	1.019486	-2.70	0.008	-4.769088      -.7400539
EXTSVS	.0118062	.0292963	0.40	0.688	-0.0460837      .069696
EDULM	3.270504**	1.385913	2.36	0.020	.5319216      6.009087
FAMS	.0546575	.0811968	0.67	0.502	-1.1057885      .2151035
PXMDM	-.5656242**	.2800203	-2.02	0.045	-1.118948      -.0123004
SM	.1465155	1.335988	0.11	0.913	-2.493414      2.786445
AGM	-.0215444	.03929449	-0.55	0.584	-0.0991916      .0561028
TLUSH	.0089756	.052897	0.17	0.865	-0.0955495      .1135007
_cons	1.030812	2.374156	0.43	0.665	-3.660551      5.722176

Source: Own computations, 2011

Number of Observation = 160

F (10, 149) = 9.57

R-square = 0.3911

Adj. R-square = 0.3503

**N.B:-** \*\*\* and \*\* represents level of significant at 1% and 5% respectively.

## **CHAPTER V: CONCLUSION & RECOMMENDATIONS**

### **5.1. Conclusion**

Cooperative is expected to play crucial role in the rural part of the country to speed up agricultural growth and improve the agricultural marketing system of the country. Of the different types of cooperatives operating in the rural part of the country, MPFCs have a significant role. A multipurpose farmer cooperative society is organized to render multifaceted service in the rural area to its members and nearby rural community in cost effective manner than investor owned firms. Moreover, MPFCs improve farmers' access to market and negotiation power, insure timely supply of farm inputs, marketing of farmers' output, spread risk, create competitive marketing system and attain economies of scale which is impossible at individual farmer level.

This study attempted to identify the role of MPFCs in the supply chain of wheat, factors influencing members to supply their wheat to cooperatives, their financial performance, members' level of participation and perceptions towards cooperative service, factors impeding MPFCs involvement in the supply chain of wheat and its role in acting as an alternative market for inputs/outputs of farmers. Accordingly, the financial ratio analysis done using two years audit report portrays that, the MPFCs under investigation using current ratio all except Abdi Boru were below satisfactory level on the basis of the 2009/10 audit report. While in the year 2010/11 the cooperatives current ratio was showing slight improvement. This implies that the cooperatives' current ratio was below satisfactory level indicating their current liabilities are higher than their current asset positions. However, there is slight improvement in the year 2010/11 audit period in their financial position though it is not strong. Moreover, surplus ratio analysis of the MPFCs shows insignificant levels based on the two years audit report. It is found that the average surplus ratio of the two years were 10%. Further, the leverage ratio analysis shows that in the last two years more than 65% of the cooperatives' assets were financed by outsiders rather than cooperatives worth. This implies that cooperatives in the study area were financing most of their assets through outside sources. The same result was revealed by Daniel (2006). MPFCs in the study area were found to be insignificant in acting as alternative market for farmers' output. This is due to the fact that 47.5% of farmers did not use cooperatives as their route for the supply of their produce to the market. This implies that the role of cooperative

marketing was not worth compared to other marketing agents acting in the chain. Even though, years of membership to the cooperative range from 2 to 8 years, the average numbers of share held by the members were very low. This impedes the financial capacity of the cooperatives. Moreover, most (60%) of the farmers became members of the cooperatives to obtain multi-faceted service from the cooperatives. However, the survey discloses that cooperatives in the study area lag behind the demand of the farmers for services and lack proper planning and execution on ground to meet farmers' needs apart from the distribution of farm inputs. Further, 38.13% sample members obtain marketing information from local markets through personal observation from informal sources. Mostly, informal sources of information lack accuracy and consistence to make marketing decision. In this regard, the sample MPFCs were found to be ill functioning in delivering information towards members.

Furthermore, 31.25% of sample farmers rented out their land with average of 1.13 ha due to lack of money to plow their land using tractors, to purchase improved wheat, weak economic power and lack of courage to plow all the land they have. In addition, 66.87% and more than 93% of sample members used tractor and combiner in their agricultural activities respectively. However, the survey discloses that neither of the cooperatives under investigation was offering the services. Though they are organized under the umbrella of Gedeb Farmers' union yet the services are not there exposing the farmers to high costs of services from private owners. However, this could have been a good opportunity for the cooperatives to enhance their financial capacity and result in patronage. With regards to members perception towards cooperative services; 59.4%, 83.38% and 44.90% of sample farmers rated cooperatives marketing, credit and information delivery services as poor or did not satisfy their interest. The study found that the role of MPFCs in farm inputs was relatively performing better as compared to marketing of output. As the survey shows, cooperatives served as a source of farm inputs for 98.13% farmer members in the study area. The MPFCs found at PA levels were acting as distributors of farm inputs supplied by the Union. Currently, they are pushing the farmers to purchase fertilizer and other farm inputs only on cash basis but all farmers could not afford at a position to do so. As the members indicated 63.75% did not have the ability to purchase fertilizer on cash basis. In this respect, cooperatives were not decision makers in protecting their members' interest and identifying members purchasing capacity and designing mechanism to solve their problem.

Moreover, the cooperatives under investigation were found to be inefficient in delivering farm inputs at appropriate time. The majority (73%) of sample members were not satisfied with cooperative farm inputs delivery time. Besides, 72% of members were not notifying their cooperatives about the type and amount of farm inputs they require in writing before delivery. Yet, cooperatives also did not make any demand assessment in this regard. In relation to farmers' exposure to education and training on various matters of cooperative, 67% of the sample respondents replied that they did not have any exposure to training and education. This implies that, cooperatives are lagging behind in creating awareness and mobilizing the rural community towards cooperatives. This further implies that the role of cooperative promotion office in providing training and mobilizing the farmers was low.

Besides, lack of capital, unskilled working force, lack of commitment from committee members, fear of marketing risk, poor members' participation, frequent committee membership change and dependency on the union were the basic factors that impede cooperative marketing role in the supply chain. The sample farmer members travel on average 2.46 walking hours to reach the district market area with standard deviation of 1.12 hours among sample unit. This resulted indeed the members to be exposed to average additional costs of transportation of 9.58 Birr per quintal of wheat with standard deviation of 4.02 Birr per quintal for those who use carts as means of transportation. Poor performance of cooperatives in the marketing aspects in the area made the farmer members to travel long hours to reach the market.

Furthermore, to find out the factors that influence farmers in the supply of their wheat to cooperatives, a multiple linear regression model was employed. The result shows that access to credit, yield of wheat, educational level of members, cooperative price and distance travelled are found to influence farmer members' supply of wheat to cooperatives at the conventional levels of significance. However, cooperative prices and distance travelled influence the supply of wheat to cooperatives negatively at a 1% & 5% significant level respectively whereas, the remaining three have positive influence at 1% significant level. General, it can be concluded that MPFCs in the study area was playing insignificant role in marketing farmers output and protecting farmers from low price payment, in providing multifaceted service, in enhancing the farmers negotiation power, in

extending credit, tractor services, in availing farm inputs at the right time, saving the effort and time incurred to reach the district market and in acting as alternative market outlet in the supply chain.

## **5.2. Recommendations**

On the basis of the findings and conclusion reached in this study as well as based on significant variables identified, to enhance the role of MPFCs in marketing the farmers' output in particular and in improving cooperatives' overall service in general; the following recommendations are forwarded to cooperatives themselves, members, concerned government stakeholders, non-governmental organizations and other stakeholders who strive to improve the role of cooperative in the rural part of the country. Among the variables used in the model in this study access to credit, yield of wheat, educational level of household, prices offered by cooperatives and proximity to district market were the most determinant factors influencing members to supply wheat to cooperatives in this particular study. In line with this, the following suggestions had been forwarded.

- ❖ Cooperatives should improve their financial position by selling additional shares to existing members, by attracting new members and engaging in profitable business activities. This improves current asset position (liquidity) of the cooperatives instead of basing their operating capital on external sources. To attain these educating and motivating members and non-members about the benefits of cooperatives share capital and participation, supply of farm output and effective involvement in output market are major tools need to be considered. Mostly, cooperatives are advised to finance their current assets with own worth available from share capital, undistributed surplus and reserve fund instead of external sources in the short term. Moreover, cooperatives should finance their assets through their own worth instead of financing most of their assets with external sources which might bring risk of liquidation in case if the cooperatives are not able to fulfill their creditors obligation to creditors.
- ❖ Cooperative and other concerned stakeholders advised to work effectively to enhance farmers' level of productivity by supplying better yield improved wheat varieties, extending credit, in providing training and education to enhance members awareness and motivate others to join the cooperatives, availing mostly desired services to members and nearby community, conducting need

assessment on the services desire of members and charging competitive price for farmers output to enhance farmers' level of supply of wheat to the cooperatives are the major area need to be taken in to consideration. Further, cooperatives must undertake purchase of wheat from the farmers during harvesting season and extend credit facilities to overcome members' immediate cash requirement during harvesting time.

- ❖ MPFCs in the study area are advised to expand and diversify their services by prioritizing the demand of the members to be competitive and play their expected role in the rural part of the country. Moreover, Cooperatives should consider at least tractor services in conjunctions with their Union in the area to be viable by involving in business activities such as purchase and sell of wheat, supply of commodities, farming and animal fatting. For this attainment concerned government body and other stakeholder need to work in harmonious manner in providing technical, material and financial and advisory support services.
- ❖ MPFCs in the study area need to involve effectively in marketing of farmers output by offering competitive prices to farmers output. Moreover, the Gedeb Farmers' Union needs to undertake purchase of wheat and search market for its affiliated member MPFCs to improve their role in marketing the farmers output at better price in the supply chain. Besides, multipurpose farmer cooperative societies need to strengthen their financial positions by pooling additional members by motivating and educating as well as creating awareness to existing members to purchase additional share to improve the cooperative involvement in marketing farmer output competitively. Besides, MPFCs advised to make horizontal or vertical integration and cooperation through proper legal agreement with consumers' cooperatives that found in the urban area to deliver the farmers output to central market. Furthermore, making contractual agreement with flour factory/Industry/can create conducive condition to market farmers output in a competitive price.
- ❖ The main aim of promoting and organizing MPFCs in the rural part of the country is to enhance farmers' access to market, information, farm inputs, credit services and to improve negotiation power of farmers, attain economies of scale and market farmers output. The study result portrays that in the study area even though MPFCs were relatively better in the supply of farm

inputs, they lag behind in meeting the demand of farmers in delivering farm inputs at the right time and quantity, extending cash credits, in developing saving habits of farmers, purchase of farmer output, in providing training and education to members and in pooling resources to scale up their performance. Therefore, cooperatives, district Union, district cooperative and agricultural office, Oromia Cooperative Agency and other stakeholders need to give due attention to the cooperative promotion and to improve the services of the cooperatives in this regard through technical and material support. Besides, Ardaita ATVET College as a higher institution in the area is expected to play its role in organizing model cooperative and in providing community based training to promote cooperative in the study area. Moreover, cooperatives should strive to improve their services.

- ❖ The study also disclosed that most traders were acting both as wholesalers and retailers in the supply chain that might affect competitive nature of the market in the study area. Hence, concerned government bodies need to take corrective actions on the traders' involvement in the marketing chain both as retailers and wholesalers which might distort the competitive nature of the agricultural marketing system. It is advisable to license traders in one field of specialization either as wholesaler or retailers in the market chain.
- ❖ MPFCs advised to improve their service like marketing outputs of farmers, cash credit services, tractor services, saving and delivery of farm inputs to improve members' participation and loyalty by strengthen their financial capacity. Besides, cooperatives in the study area need to provide regular marketing services (purchase of wheat) basically during harvesting season to increase the level of supply and obtain reasonable profit to enhance financial capacity of the cooperatives and their members through dividend. Moreover, cooperatives should create conducive condition to attract farmers and save the effort, time and cost incurred to reach district market by traveling long distance. To attain this, funding organizations, government credit organizations and other should support and strengthen the cooperatives apart from using them only to distribute farm inputs by extending the necessary support.

❖ Cooperatives promotion office of the district needs to train the leaders of the cooperatives to enhance their business and leadership skill, to improve cooperative marketing role in the area so as to save the time, cost and effort of farmers which they incur in through travelling to reach the district market and improve the surplus of the cooperatives in better manner. Besides, the district union should search market for its affiliated member cooperatives and in integrating with other business enterprises to play their expected role in the area in this regard. Furthermore, cooperatives must strengthen their farm input delivery to enhance the farmers' levels of production and productivity. As well as, extending various services, offering fertilizer credit services and developing awareness about cooperative benefits to mobilize the rural people through continuous education are among the priority intervention areas that need to be considered by the cooperatives and district cooperative promotion office and in collaboration with other stakeholders for betterment of cooperatives role in the market. This can be attained by providing short or long-term training to the members of the cooperatives.

### **5.3. Implication for Future Research Work**

This study attempted to investigate the role of MPFCs in the supply chain of wheat in the study district. However, this study is limited to one woreda only which makes difficult to generalize and make inference to the whole region or country. Thus, there is a need to make an in-depth study in this regard by considering other woredas of the region or the country so as to clearly identify the role of MPFCs in the supply chain, and to design appropriate strategy to enhance their role in marketing farmers output and improve the ill functioning of the agricultural marketing system to the benefits of farmers and final users.

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# Appendix

Table 1. VIF of Continuous Explanatory Variables (Xi)

Variables	VIF
AGM	1.21
EDULM	2.63
PXMDM	1.57
FAMS	1.35
YLD	1.15
TLUSH	1.06

Table 2. Contingency Coefficient of Dummy (Discrete Variables)

Variables	1	2	3	4
1	1	0.084	0.109	0.115
2		1	0.541	0.478
3			1	0.240
4				1

Source: Computed from survey, 2011

N.B. 1, 2, 3 and 4 represent farmer members' access to credit, cooperative wheat price, and educational level of members and sex of members respectively.

**Table 3. Tropical Livestock Unit (TLU) Equivalent Conversion Factors**

Animal Category	Conversion Factor	Animal Category	Conversion Factor
Calf	0.25	Donkey (young)	0.35
Weaned Calf	0.34	Donkey (adult)	0.70
Heifer	0.75	Horse	1.10
Ox and Cow	1.00	Camel	1.25
Sheep and Goat (young)	0.06	Chicken	0.013
Sheep and Goat (adult)	0.13		

Source: Strock et al. (1991)

## **Appendix 4. Interview Schedule to Farmer Members**

**Mekelle University**

**College of Business and Economics**

**Department of Cooperative Studies**

Dear respondents this research will be realized with your kindly cooperation in providing genuine information to data enumerator. And the researcher want to assure you that, all the information collected using this questionnaire is used only for academic purpose to accomplish the Researcher entitled as “The Role of Multipurpose farmers Cooperative in the supply chain of wheat in Gedeb - Hasasa district, Ethiopia”. Thank you in advance for your cooperation.

**Direction:** Encircle or tick the choice and write responses on space in accordance of farmers Reply.

1. Name of the enumerator .....
2. Date .....
3. Name of cooperative..... Name of peasant association .....
4. Code .....
5. Signature of enumerator .....
6. Name of respondent.....

### **I. Background Information**

1. Age of the member .....(years)
2. Sex
  - a. Male(1)      b. Female(0)
3. Marital status
  4. Married (1)      b. Single (2)      c. Divorced (3)      d. Widowed (4)
5. Family size of the member (in number) .....
6. Level of education
  - a. Illiterate (0)
  - b. Read and write/basic education(1)
  - c. Grade 1-4 (2)      d. Grade 5-8 (3)      e. Grade 9-12(4)

7. Religion

- a. Muslim (1)   b. Orthodox (2)   c. Protestant (3)   d. others/please specify (4) .....

## **II. Output Marketing of cooperative with its members**

8. Do you sell your wheat product to a cooperative?

- a. Yes (1)              B. No (0)              C. some times (2)

9. If yes, how much was the quantity you sold?

No.	Crop type	Total quantity sold (Qt)		Total
		2009	2010	
1	Wheat			
2	Barely			
3	other			

10. If your answer is No, what is the reason please specify.....

11. Do you sell your wheat to other marketing agents?   a. Yes (1)      b. No (0)

12. If your answer to number 11 is **Yes**, to which marketing agent do you most often sell?

- a. Wholesalers(1)  
b. Local retailers (2)  
c. Nearby town market (3)  
d. Consumer (4)  
e. Other/please specify (5).....

13. Why did you prefer to sell your wheat to other agents than a cooperative?

- a. The cooperative price is not competitive/fair  
b. Measurement problem in cooperatives  
c. Due to mismatch (between the time you want to sell and cooperative purchase)  
d. Cooperatives do not purchase at all in our locality  
e. Lack of trust to cooperatives  
f. Others /please specify.....

14. Do you sell your wheat at the time of harvesting on farm?   a. Yes (1)    b. No (0)

15. If your answer to number 12 is **yes**, please specify your reason .....

16. Why did you become a member of cooperative?
- To obtain credit
  - Because my neighbor became a member
  - To obtain fertilizer
  - To improve my living standard
  - Based on my interest and motive
  - As result of awareness created by promoter about the benefit of cooperative

17. From where do you get information about the market price of wheat?

- Local market (0)
- Cooperative promoter (1)
- Extension workers/development agent (2)
- Retailers (3)
- Wholesalers (4)

18. What are the major crop types that you produced in the year 2009/2010 in your farm? Please fill the table below accordingly

No.	Types of	Area coverage (ha)	Yield(quintal)
1	Wheat		
2	Teff		
3	Barley		
4	Maize		
5	Bean		
6	Peas		
7	Other specify		

### III. Members' land characteristics and agricultural activities

19. Do you have any land?      a. Yes (1)      b. No (0)

20. If your answer is **Yes** to question number 19, how many hectares .....?

21. What are other sources of your income other than agriculture, if any?
- .....

22. How many hectors of your land is covered by wheat in 2009/2010 .....?

23. Do you plow all the land you own?      a. Yes (1)      b. No (0)

24. If your answer is **No** to the above question, please specify the following?

- a. Land rented out..... (hectares)
- b. Land shared out with other..... (hectares)
- c. Land allocated for grazing..... (hectares)
- d. Land rented in ..... (hectares)
25. What is your farming experience as head of family? ..... (in years)
26. As to your perception and experience in farming, what is the level of fertility of the land you hold?
- a. very good (1)      b. Good (2)      C. Poor (3)
27. Are you plowing your land using tractor?      A. No (0)      b. Often (1)      c. sometimes (2)
28. How much do you pay per hecotor.....? (in Birr)
29. What is your source of funds to plow your land through tractor?
- A. By selling wheat (1)      C. Borrowing (0)
- B. By selling livestock (2)      D. Renting out land (3)      E. Others please specify (4)...
30. Do you think that your land holding is adequate to satisfy home consummation and produce surplus to market?
- a. Yes (1)      b. No (0)
31. If your answer is **No** for question number 30, which kinds of additional activities would, you like to do to raise your income?
- a. As daily laborer
- b. Trading
- c. Selling of livestock
- d. Vegetable production
- e. Other please specify .....
32. Do you own livestock?      a. Yes (1)      b. No (0)      please fill the following table

No	Types of livestock	Amount	Estimated value in birr	Purpose of owning*
1	Donkey			
2	Ox			
3	Cow			
4	Mule			
5	Sheep			
6	Goat			
7	Calves			
8	Horse			
9	Hen			
10	Other, specify			

\*A. Draft Power B. sale C. consummation D. milk production E. Transportation F. other.....

33. Which types of services do you obtain from the cooperatives?

- a. Supply of farm inputs
  - b. Saving and Credit services
  - c. Supply of consumable goods
  - d. Supply of harvesting machinery
  - e. Others/ please specify.....

#### **IV. Members credit using pattern and cooperative credit services**

34. Did you borrow money from the cooperative in the year 2009/2010? a. Yes (1) b. No (0)

35. If your answer to question number 34 is **No**, what is your reason?

- A. High interest rate (0)
  - B. Credit is not offered by the cooperative (1)
  - C. The credit is not adequate to operate my activities (2)
  - D. Lack of collateral (3)      E. Other/please specify (4).....

36. If your answer is yes to question number 34, for what purpose did you borrow money?

- a. To buy home commodity
  - b. To purchase livestock
  - c. To subsidize agricultural activity
  - d. To pay for students' education
  - e. To purchase clothes to family members      f. Other please specify.....

37. Is the amount of loan you get from the cooperative adequate to support your agricultural activities?



## V. Members' Perception and Awareness about Cooperatives

38. Who, do you think, is the actual owner of the cooperative?

- a. Government      b. the members      c. others, specify .....

39. Do you think that cooperatives have positive contribution to rural people? a. No (0) b. Yes (1)

40. Do you think selling wheat to cooperative and purchasing farm inputs from cooperative can bring patronage refund to you?      a. No (0)      b. Yes (1)

42. What is your perception about the role of cooperative in the following activities?

No.	Description	Very good (3)	Good (2)	Poor (1)
1	Acting as alternative market for farmer produce			
2	Serving as source of farm inputs			
3	Serving as sources of funds (credit)			
4	Protecting the interest of their members			
5	In protecting farmers from middlemen			
6	In improving economic status of members			
7	Serving as source of market information			
8	In increasing production and productivity of			

43. Are you aware about your cooperatives in relation to the following matters?

No.	Description	Yes (1)	No (0)
1	About your cooperative's objective		
2	Amount of capital of the cooperative		
3	Total members in the cooperative		
4	Formality required in taking credit		
5	Types of services provided by the cooperative		
6	About members' duties and responsibilities		
7	Cooperative current financial situations		

## VI. Role of Cooperatives in Input Marketing

44. Do you obtain all types of agricultural inputs from the cooperatives? a. Yes (1) b. No (0)

please fill the table below.

No.	Description	Available (1)	Not available (2)
1	Fertilizer		
2	Pesticide		
3	Improved seeds		
4	Weed chemical		

45. From where do you obtain those farm inputs that are not available in the cooperative?

- a. From district market
- b. Wholesaler
- c. Retailers
- d. By traveling to nearby town market

46. Is the cooperative able to supply farm inputs at the right time? a. Yes (1) b. No (0)

please fill the table below

S.N	Items	At the right time (1)	Not at the right time
1	Fertilizer		
2	Pesticide		
3	Improved seeds		
4	Tractors		
5	Combiner		
6	Weed chemical		

47. Do you obtain the required quantity of farm inputs from the cooperative?    a. Yes (1)    b. No (0)

48. If your answer is **No** for the above question, please fill the following table

S.N	Items	Always required qty (3)	Sometimes required qty (2)	Not required (1)
1	Fertilizer			
2	Pesticide			
3	Improved seeds			
4	Weed chemical			

49. Do you purchase fertilizer from the cooperative?                  a. No (0)                  b. Yes (1)

50. If your answer to the above question is **yes**, on what basis?    A. On credit (1)                  b. On cash (2)

51. If you are purchasing on credit, what are the preconditions to obtain this service?

- a. Membership of the cooperative (0)
- b. Land ownership (1)
- c. Property as a collateral (2)
- d. Personal guarantee (3)
- e. Being the resident of the peasant association (4)
- f. Others/please specify (5).....

52. Do you have the ability to purchase fertilizer on cash basis if it is not offered on credit?

- a. Yes (1)
- b. No (0)

53. If your answer to number 51 is **No**, what will be your alternative?

- a. To use compost
- b. Not to use fertilizer at all
- c. Decreasing the quantity of fertilizer to be used
- d. Other please specify.....

54. Do you have other alternative sources of credit for fertilizer than the cooperative?

a. No (0)

b. Yes (1)

55. If Yes, please specify .....

56. Did you used fertilizer to your wheat farm in the year 2009/2010? a. Yes (1) b. No (0)

57. If your answer is yes to above question, which type of fertilizer do you use? Please fill the table below

S.N	Items	Quantity/suck	Total
1	DAP		
2	Urea		
3	Organic fertilizer/compost		

58. How do you find the price charged by cooperatives for farm inputs and wheat compared to other marketing agents in your area? Please fill the table below

S.N	Items	High (1)	Competitive/fair (2)	Low (3)
1	Wheat			
2	Fertilizer			
3	Weed chemical			
4	Improved seed			
5	Animal feed			
6	Pesticides and chemical			

59. How do you rate the role of cooperatives in purchasing your wheat produce in the area?

a. Poor (1)

b. Good (2)

C. Very good (3)

## VII. Surplus Appropriation

1. Did you obtain Surplus in the last two years from your cooperative? a. Yes (1) b. No (0)
2. If your answer is Yes, how much was the money ..... (in Birr)
3. If your answer is No, what do you think are the possible reasons? Please specify

---

## VIII. The distance to be travelled to reach cooperatives and district market

1. What is the estimated distance (in hrs) you travel to reach the respective market in single trip?
  - a. Cooperative ..... (hrs)
  - b. District market ..... ( hrs)
  - c. Local (village) market ..... (hrs)

2. What is the means of transportation you used to transport wheat to the market/cooperative?
- Using labor force (0)
  - Using donkey (1)
  - Using mule/horse (2)
  - Using carts (3)
  - Using car (4)
  - other please specify (5) .....
3. If you are using carts, how much Birr do you pay on average to transport one quintal of wheat to the respective market?
- To district market .....(in Birr)
  - To cooperative .....(in Birr)
  - To village market .....(in Birr)
4. What challenges/constraints do you face in selling your wheat to the cooperative?  
.....

#### **X. Members' participation in cooperative**

60. How long have you been a member of this cooperative? ..... (in years)
61. How many share do you have .....
62. Are you active participant in cooperative affairs? a. Yes (1) b. No (0) please fill the following table

S.N	Description	Often	Sometimes	Not at all
1	Buying farm inputs from cooperative			
2	Selling your wheat to cooperative			
3	Using services of cooperative			
4	Taking loan/credit			
5	Purchasing commodities on credit			
6	Attending meeting			
7	Approving dividend allocation			
8	Electing different committee and board members			
9	Approving the annual plan and budget of			
10	Making Saving in cooperative			
11	Approving audit report			
12	In approving the by-law amendment			
13	Participating/Sharing responsibility			
14	Other please specify			

63. How much money did you spent in buying agricultural inputs from cooperative in 2009/2010?

Please fill the following table

Item types	Quintal	Unit price/Birr
Fertilizer		
Urea		
DAP		
Improved seed		
Weed chemical		
Pesticide		
Other please specify		

64. How many quintal of wheat did you harvest per hectare? Please fill the following table

Item types	2008/2009	2009/2010	Hectare
Wheat			
Sorghum			
Barely			
Maize			
Other/Please specify			

65. What are the major challenges/constraints at the time of harvesting?

- a. Lack of money
  - b. Lack of credit facilities from cooperative
  - c. High harvesting cost for combiner
  - d. All
  - e. Other please specify.....

66. What method of harvesting did you use to collect your wheat?

- a. Combiner (2) b. labor force (1)

67. If you used a combiner how much birr did you pay per quintal.....? in Birr.

68. Is there any written agreement between you and the cooperative in relation to the supply of wheat produce?      a. Yes (1)      b. No (0)

70. If your answer is No to above question, please specify the reason.....

71. Do you use weed chemical and pesticide for your wheat? A. yes (1)      b. No (0)

72. If yes, which type of weed chemical and pesticide do you use? Please fill the table below

Descriptions	Type	Quantity/liter	Unit price/Birr	Total
Weed chemical				
Pesticides				
Other				

73. Did the cooperative purchase your wheat regularly?      a. Yes (1)      b. No (0)
74. Do you have any contact with extension workers (development agents)?    a. Yes (1)    b. No (2)
75. If your answer is **yes** to the above question, Please specify what support you obtained
- .....

76. If your answer is **yes**, what is the frequency of contact?
- A. Once in month (1)    b. once in three month (2)    c. once in six month (3)    d. once in year (4)
77. Did you obtain any kind of training/education from the cooperative/ by other organization in 2009/2010?
- a. Yes (1)      b. No (0)

78. If your answer **yes** to above question, in what area is the training given, please specify
- .....

79. How do you rate the service of the cooperative in the following matters?

S.N	Description	Rate		
		Very good (3)	Satisfactory (2)	Poor (1)
1	Input supply (fertilizer, seed etc)			
2	Credit provision			
3	In purchasing farm output(wheat)			
4	Supply consumable commodities			
5	Supply of farm machinery			
6	Others/specify			

80. What is your overall perception on the role of cooperatives in your area?
- .....