Analyze the Performance of Multipurpose Cooperatives in Input and Out Agricultural Marketing in Adwa Woreda, Tigray Region, Ethiopia

Dr. M. Muthyalu
Assistant Professor, Department of Cooperative Studies, College of Business and Economics
Mekelle University, Mekelle, Ethiopia

Abstract
Ethiopia is among the poorest countries in the world where agriculture is the major source of living for more than 83 per cent of its people. Besides, the sector is the dominant one in the national economy. But agricultural performance in production and productivity is poor to bring sustainable changes in the living standards of the rural community. Among others, underdeveloped agricultural marketing system is a major factor for the poor performance of the sector. The overall objective of the study was to analyze the performance of MPCs in agricultural input and output marketing in Tigray Region of Adwa Woreda. It was emphasized on evaluating their overall performances and level of members' participation as well as perceived problems. A three-stage random sampling procedure was followed to select 4 MPCs and a total of 163 sample respondents. Both primary and secondary data were taken in to consideration to examine the performance of the input and output marketing by MPCs. Descriptive statistics were used to compare the explanatory variables of the active and passive participation of sample respondents in the agricultural input and output marketing. Testing differences between two samples were done using T-test and Chi-square test. The result revealed that there was a significant difference between the two groups of sample farmers regarding their age, education, and livestock ownership in TLU, number of oxen in TLU, shareholding, distance of the cooperative office from the farmer member's residence, membership of the household in other cooperatives, perception on change standard of life due to joining of the MPCs, access to mass media and perception of Hh on price of agricultural fertilizer.

Keywords: *Cooperatives, Agriculture, Marketing, Inputs and Outputs*

Introduction

Ethiopia is one of the countries situated in the horn of Africa bordered with Eritrea in the north, Somalia and Djibouti in the east, Sudan in the west and Kenya in the south with area about 1.12 million square kilometers. Total land area exists within Ethiopia is almost 76.6 million hectares of arable agricultural land within the country. Out of the total land suitable for agriculture is only 22 % (less than 16.5 million hectares) of arable land are utilized for agricultural purpose (MOARD, 2007). Ethiopia has one of the largest livestock inventories in Africa. According to (CSA, 2008) it includes more than 49 million cattle, 47 million small ruminants, 7.6 million equines,760, 000 camels and 42 million chickens, with livestock ownership currently contributing to the livelihoods of an estimated 80 percent of the rural population.

Tigray is one of the nine regions in Ethiopia, located in northern part of the country. The region covers an area of 53,638 square kilo meters .Out of which, 1.5 million ha of land in

the region is cultivable, 1 million ha is being cultivated, 420,877 ha of land is terraced, and 83,000 ha of land is irrigated land. (BoARD, 2008).

Co-operation as a way of life has been and continues to be a tradition in finding the solution to the socio-economic problems of the people in Ethiopia. Examples of such cooperation can be found everywhere in the working of mutual aid institutions such as Equb, Eddir, Wonfel or Jigii, Senbete and many others. The traditional cooperation among the rural community was a ground to the flourishing of modern cooperation in early 1960s, realizing that these traditional institutions failed to meet the requirements of credit services and equipment needed for productive purposes in full (Zerihun, 1998).

Agriculture, as elsewhere in the country, is the major occupation of people living in this study area. Almost all the rural households obtain their income from agriculture; the livelihood of the urban dwellers is also depending on agriculture either directly or indirectly. The diversified nature of the climate of the study area is favorable for crop as well as livestock production. Subsistence type of crop-livestock mixed farming is a common practice and there is no as such specialization in production.

This research has focused on the analyzing the performance of Multipurpose Cooperatives in agricultural input and output marketing through evaluating their performances, analyzing members' participation. Besides, it has attempted to find out issues which will require further research and investigations so that other researchers can easily come up with possible recommendations to enhance cooperatives' contribution in the economic development of the country.

Statement of the Problem

In Sub-Saharan countries, like Ethiopia, where the small-scale farming dominates the overall national economy, agricultural production and productivity is very poor. The entire agriculture of the country is characterized by limited use of improved input and primitive cultural practices, and depends on rain. The factors attributing for poor productivity are recurrent droughts, environmental degradation, poor infrastructure in quality and quantity, and backward cultural practices. Considerable loss also occurs to the produce due to poor practices of post-harvest handling and limited use of appropriate post-harvest technologies (MoFED, 2005).

According to Dawit (2005), the weak performance of the agricultural markets (both input and output markets) in Ethiopia has been described in various studies as a major barrier to growth in the agricultural sector and the overall economy. With an inefficient marketing system, the surplus resulting from increased production benefits neither the farmers nor the country (Eleni, 2004). The agricultural markets in Ethiopia are highly influenced by the production system itself. Most of the agricultural production is undertaken by small scale producers scattered all over the country, engaged in different agricultural enterprises without specialization, and with limited marketable surplus.

Gebremeskel*et al*., (1998) estimated that only 28 percent of total farm output in 1996 was marketed. Therefore, the scattered produce in small quantity needs to be collected and assembled, graded, and transported from one market to another. Thus, the marketing system is characterized with a long chain with many intermediaries. An intervention is required to shorten the marketing channel in order to reduce the marketing costs incurred at each level of marketing channel so that the benefits will go to the farmers. Multipurpose cooperatives have great role to solve such kind of problems and to accelerate rural development.

Cooperatives are considered as an appropriate tool for rural development even though they are facing critical problems, which retain them from their positive role. These multifaceted problems make very difficult for the overall activities of the multipurpose cooperatives in general and the agricultural input and output agricultural marketing in particular. Hence, the farmers were usually price takers due to the fact that they have poor marketing skill and limited bargaining

power. Still now no studies have been made on the role of multipurpose cooperatives in input and output marketing in the study Woreda. Therefore, this research study was initiated to full fill the gap in the role of multipurpose cooperatives in input and output agricultural marketing.

General Objective

The general objective of the study was to assess the performance of the multipurpose Cooperatives in agricultural input and output marketing in the study area.

Specific Objectives of the Study

1. To study the level of participation of Multi-Purpose Cooperative members in agricultural input and output marketing activities in the study area.
2. To examine the socio-economic characteristics of the sample households that affects the level of participation of members in the input and output agricultural marketing by the cooperatives
3. To identify the constraints in the agricultural input and output marketing services delivered by Multi-Purpose Cooperative in the study area
4. To give possible recommendations for improving the performance of input and output agricultural marketing through cooperatives.

Significance of the Study

The study on the performance of multipurpose cooperatives in input and output agricultural marketing can play a significant role in providing useful information regarding to input and output agricultural marketing, and this study result will help for further research and policy interventions to improve input and output agricultural market of smallholder farmers. Moreover, it will address the needs and problems of the cooperative members to benefit from their cooperative organizations and it also helps to the extension workers to come up with some important idea of input and output of agricultural marketing. And it will draw attention of policy-makers towards enhancing cooperatives role in effective input and output agricultural marketing.

Scope and limitation of the study

This study was conducted in one district, four multipurpose cooperatives, and four rural kebeles. Though the study was based on both primary and secondary resources of data, the study had some limitations. Due to time, manpower and finance the study was limited to one district and limited sample respondents. The secondary data compiled from different records, and reports maintained by the cooperative promotion agency, agriculture and rural development office. Hence, the reliability depends on the accuracy to which officially have maintained. As the study based on a limited sample size so that the study result may not be generalized for the whole district as well as the whole region.

Methodology

Description of the Study area

Location

According to (BoFED, 2006),Tigray Regional administration is neighbored by Eritrea in the north, Afar Region in the East, Amhara Region in the south and Sudan in the West. The region has seven administrative zones. The region is further divided into 34 rural Woredas and 12 urban Woredas. The regions' total area is estimated to be 53,623 square kilometers out of which 18.87 percent is cultivable.

As per 2006 censes the population of Tigray was estimated to be 4.345 million with the average growth of 2.67 percent annually. Out of the total population 82.2 percent of the populations are living in rural area and only 17.8 percent in urban areas. The sex composition is little higher in favor of females (50.8 percent) compared to that of male (49.2 percent). The number of total households estimated to be 860, 000.

Adwa Woreda is one of the 34 rural Woreda of Tigray regions and it is located in Central zone of Tigray Regional State, Northern Ethiopia. The study area, Adwa, is located 225 kilometers of the Northwest side of Mekelle, the capital city of Tigray region and at a distance of 1006 Kms far away from Addis Ababa, the capital city of Ethiopia. The main

road from Addis Ababa to the historical city of Axum passes through the Woreda. This study Woreda includes eighteen tabias which are the smallest units of political administration consisting of about 66 Kushets through which different agro ecological practices.

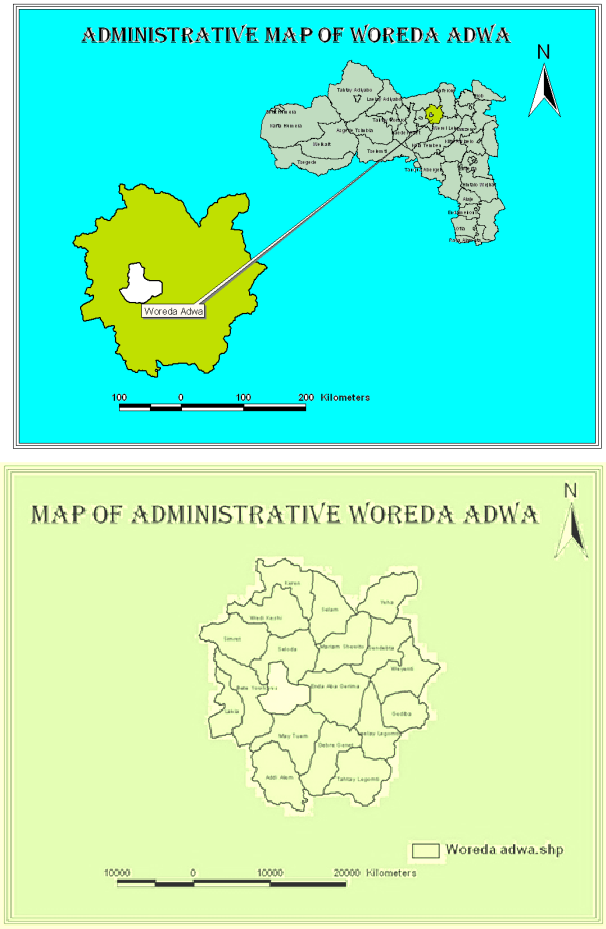

Figure 1; Map of Adwa Woreda and administrative kabeles

Sampling Procedures

For this study a three stage random sampling procedure was adopted to selection of the study area, multipurpose cooperatives and sample households.

In the first stage Adwa Woreda was purposively selected for the present study for the following reasons. According to the Tigray cooperative promotion and development office report the district is having good performance of the multi-purpose cooperatives in input and output agricultural marketing. The district is having more multi-purpose cooperatives and dependency of the people on cooperatives is very high most of the farmers are getting their agricultural inputs from the cooperatives. Hence Adwa Woreda was chosen for this study.

In the second stage, out of 17 multipurpose cooperatives in the study Woreda, four multipurpose cooperatives were selected randomly from different directions of the Woreda to ensure adequate representation for all four directions of the district.

In the third stage, in order to collect the primary data for the present study a list of multipurpose cooperative members from each multipurpose cooperative was collected. A total of 163 cooperative members were selected randomly by using probability proportionate to size (PPS) Care was taken by researcher to represent all categories of the cooperative members in the total sample. By taking the likely representative percentage is 12% of the total members of each multipurpose cooperative

The sample size for this study determined in the following way:

Maximum Margin of Error =Z√ (P/1-P/)/n

Or SE (p) = √ (p)(q) /n

(5%) =Z√ (P/1-P/)/n Or SE (p) = √ (p)(q) /n

5% e=1.96x√0.12 (0.88)/n

5% e =1.96x√0.1056/√n

5%=0.636/√n

n=162.8~163

Where n= minimum sample size

P% = the proportion belongs to the target population

Z = the value of the level of corresponding to the level of confidence required

e = the margin of error required (95%).

The proportion of sample size is 6.00 per cent of the total members of the sample cooperatives. The target population in the four MPCs is 12 per cent of the total number of members in the Woreda level of confidence 95 per cent, which corresponds to Z score of 1.96. Hence, the sample size fixed as 163 members, which is

enough to meet the minimum requirement for the sampling.

Table 1: sampling frame

S/n	Name of the district	Name of MPCOs	Name of sampling the kebeles	Total members of the MPCOS			Sampling size 6%
				Male	Female	Total	
1	Adwa Woreda	Sloda	Awot	392	104	496	30
2	Adwa Wreda	Wedikesh	Mydaairo	368	107	425	25
3	Adwa Woreda	EndaBagerima	HadnetWtsat	591	158	749	45
4	Adwa Woreda	Gendebta	Gendebta	735	305	1040	63
Total	----		--	2086	674	2760	163

Source: Adwa Woreda Cooperative promotion and development office 2010/2011

Sources of Data

Primary Data

For the purpose of the study both qualitative and quantitative data was collected through primary and secondary data. The primary data was collected on the relevant variables from the 163 Sample respondents those who are selected for the study. The data collection was collected during the period of December 2011 and January 2012.

Secondary Data

Secondary data were collected from different sources such as baseline information of the schemes, development plans (five-year strategic plans, annual plans), and annual reports of the Adwa Woreda and Tigray regional cooperative and promotional offices, journals, CSA publications, published and unpublished documents.

Methods of Data Collection

A structured interview schedule was developed for the collection of necessary primary information. An interview schedule was prepared in English and translated into local language Tigrigna to make the communication easier during the primary data collection from the members. The interview schedule was pre-tested before going to actual field work and made necessary corrections. To make the study more effective focusing group discussions (FGD) was conducted in every sample multipurpose cooperative villages to gather qualitative information from members as well as cooperative promoters.

Data Processing and Analysis

The members' house hold survey data was analyzed, presented and interpreted by using appropriate statistical techniques both descriptive and inferential statistics were used. This study was used two broad categories of data analysis, namely descriptive statistics such as mean, standard deviation frequency and percentage, and econometric like logit regression models. During the analysis SPSS version 16 software package was used. In this study, descriptive statistics such as mean, standard deviation, percentages and frequency of occurrence were used along the econometric model, to analyze the collected secondary and primary data.

Results and Discussions

In the region there are various types of inputs distributed to the farming community, such as fertilizers, seeds, agro-chemicals, beehives, local and exotic cows, motor pumps, and treadle pumps. The inputs are distributed through cooperatives currently the cooperative societies mainly deal with fertilizer and seed distribution to members. The distributions of fertilizers through cooperatives have been started since 1998 with 1.6% share from the total distributed fertilizer to the farmers. From year 2004 consistently increased, its share of distribution reached from year 2008 to 2010, 100% of the fertilizer was distributed by the cooperatives

Figure 1 Total distribution of fertilizers in quintal and share of COOPs

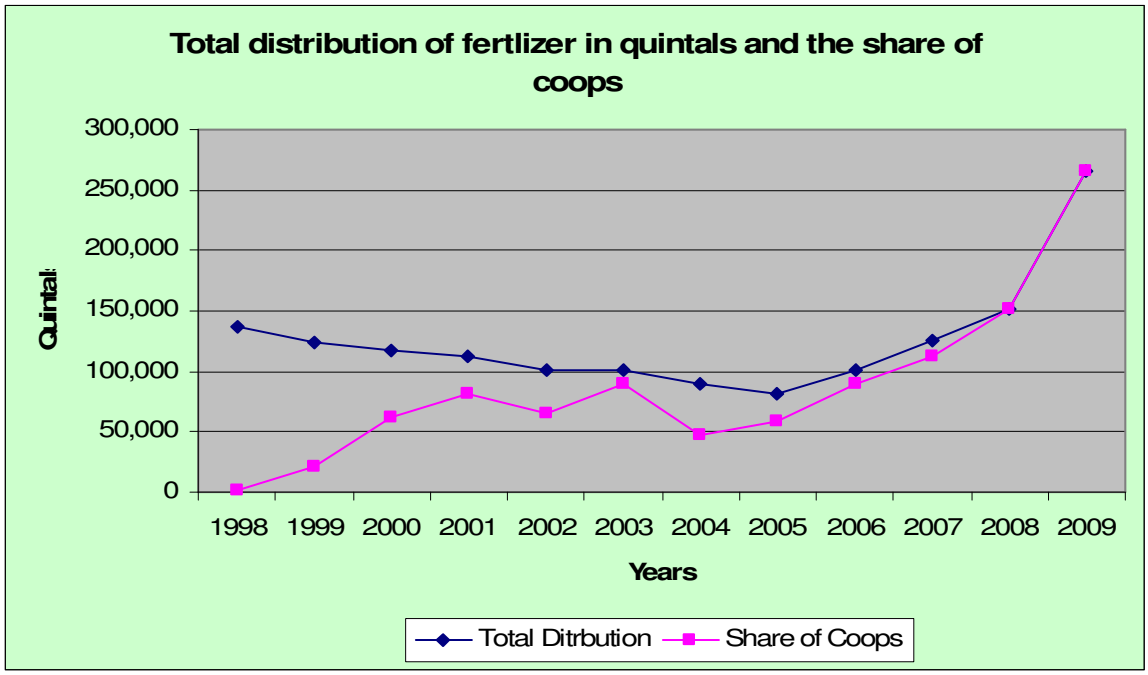

Table 2: Total distribution of improved seed in quintals and share of Coops in Tigray region

Year	Total improved Seed distributed	Improved Seed marketed by Coops	Share of Coops
2002	1,892	960	50.7
2003	5,190	1,117	21.5
2004	11,485	3,920	34.1
2005	16,418	2,442	14.9
2006	15,670	8,750	55.8
2007	26,920	15,370	57.1
2008	28,422	9,115	32.1
2009	34,786	10,758	30.9
Total	**140,783**	**52,432**	**37.2**

Source: Tigray region Cooperative

Promotion Office 2011

Fertilizer Marketing by Cooperatives in Study Woreda

Woreda agriculture and rural development office report showed that the cooperative promotional

offices have distributed 100 percent of the fertilizers' to the farmer during the period of 2006 to 2010.

Table 3: Fertilizer distributed by Coops in Adwa Woreda

Year	Distributed by Coops in Quintals			Total consumption in Quintals			Average Price of Fertilizer in Birr		% age Share of Coops
	DAP	UREA	Total	DAP	UREA	TOTAL	DAP	UREA	
2006	2689.5	2597.5	5287	2689.5	2597.5	5287	366.2	320.3	100
2007	4420	3636.5	4783.5	4420	3636.5	4783.5	631.8	563.1	100
2008	3826.5	3376	7202.5	3161	3016	6222	760	632.5	100
2009	6950.5	6187	13137.5	4975	4724	9699	785.5	650.5	100
2010	6716	6582	13298	5415.5	4839	10254.5	1160	933	100

Source: Adwa Woreda agriculture and rural development office 2011

Descriptive Analysis

In order to understand the socioeconomic conditions of the active participant, and passive participant sample respondents, descriptive analysis is summarized and discussed as follows

Demographic Characteristics of the Sampled Respondents

Table 4: Marital status and sex composition of the sample respondents

Marital status	Frequency	Percent	Sex	Frequency	Percent
Single	1	0.6	Male	139	85.3
Married	154	94.5	Female	24	14.7
Divorce	8	4.9	Total	163	100
Total	163	100			

The total sample household members were 163 out of these sample households distribution by sex constitutes 85.3% males headed and the rest (14.7%) respondents are female headed. Out of the total interviewed sampled respondents majority (94. 5%) of them were married, the rest (4.9 %) and less than one percent respondents were divorced and single, respectively.

Table 5: Mean, SD, T-value of continuous variables

Explanatory Variables	Passive Participant (N=59)		Active Participant (N= 104)		Total (N= 163)		P-Value	T-value
	Mean	SD	Mean	SD	Mean	SD		
Household age	60.1	8.81	46.1	6.02	51	9.78	0.00***	11.928
Family size of the household	5.38	2.33	5.9	1.90	5.71	2.127	0.139	10.488
Education status of sampled respondents	1.152	2.04	2.35	1.70	2.76	1.923	0.000***	4.04
Farm experience in year	26.45	13.14	28.16	10.27	27.6	11.39	0.333	0.97
shares holding of members	1.01	0.130	1.67	0.743	0.597	0.676	0.00***	6.75

Land owned of the Hh in hectares in production year 2010/2011	0.449	0.271	0.681	0.305	0.579	0.313	0.000***	4.848
Total Livestock owned in TLU	2.18	1.38	3.34	1.238	2.92	0.485	0.000***	5.477
Number of oxen in TLU	0.843	0.563	1.329	0.324	1.15	0.486	0.000***	7.015
The distance on the MPC office from your place	5.33	3.66	3.58	1.88	4.21	4.216	0.00***	4.019
Expenditure of members on agricultural input in Birr (2011)	1804.9	2706	1599	675	1637	1709	0.463	0.736

* Significant at 10% level of significance
** Significant at 5% level of significance
*** Significant at 1% level of significance

Table 6: Gross scores, Chi-square value and significance of discrete variables

Explanatory variable	Passive participant N(59)		Active Participant (104)		P-value	$\chi 2$
	0	1	0	1		
Perception on the change of standard of living due to joining coop	12(20.3)	47(79.7)	67(64.4)	37(35.6)	0.000***	29.29
Membership with other Cooperatives	51(86.4)	8(13.6)	43(41.3)	61(58.7)	0.00***	31.36
Perception of Hh on fertilizer price	56(94.9)	3(5.01)	103(99.01)	(0)	0.02**	5.387
Perception of Hh on improved seed price	25(42.37)	34(57.6)	37(35.4)	67(64.4)	0.39	0.738
Access to credit	1(16)	58(98.4)	4(3.8)	100(96.2)	0.44	0.588
Access to mass media	9(15.)	50(84.7)	5(4.8)	99(95.2)	0.065*	5.47

* Significant at less than 10% level of significance
** Significant at less than 5% level of significant
*** Significant at less than 1% level of significant
• Figures in parentheses are percentage

Family size of the sampled respondent: It refers to the total members in the family household has in number. It was assumed that household with larger family size consume more of what is produced in the house and little will remain to be marketed. The average family size of the sampled respondent household was 5.38 and 5.9 for the passive participant and active participant farmer member's respectively. It was expected to have negative influence on the level of participation on the household in the agricultural input and output marketing through the cooperative. The independent sample t-test was conducted to compare the difference in mean family size between active participant and passive participant sample respondents are statistically non-significant (t =10.488).

The age structure of the sample respondents were found to be with age composition of minimum of 25 year maximum 78 year and the total average age was 51.22 years with standard deviation of 9.78. The independent sample t-test was conducted to compare the difference in mean age between active participant and passive participant sample respondents are statistically significant at less than 1% probability level of significance (t =11.928) (Table 5).

Education level: Low level of education and high illiteracy rate is typical in developing countries like Ethiopia. In fact, education level of farmers was assumed to increase the ability to obtain process and use of agriculture related information and the level of participation in agricultural input and output marketing in a better way. From own survey data out of the sample households it was found that the average educational level of the sample households was 2.76 class of schooling with the standard deviation of 1.923. While the respective active and passive participant of sample farmers average schooling is 2.35 and 1.152 years. According to the independent sample t-test, the difference mean t-test was compared between the active participant and passive participant members with respect to educational level of the household head is found to be statistically significant at 1% probability level (t=-4.04) (Table 5).

Scio-economic Characteristics' of the Sample respondents

Land holding of the Hh: Land is one of the most important factors of agricultural production in our country. It plays a central role in producing crops and raring livestock. Moreover, access to land offers a privilege to get access to agricultural extension services and new agricultural inputs. The study result showed that, the livelihood of the study population is almost entirely based on land. Since the quality and the size of land available for farm households largely determine the amount of produce per annum. The survey results revealed that the average size land holdings 0.579 ha and the standard deviation is 0 .313. Moreover, the corresponding average land holding size for the active participant and passive participant of the sample respondents' was 0.681 and 0.449 hectare respectively. According to the independent sample t- test conducted in this study, the difference in mean land ownership between the active participant and passive participant household heads is found to be significant at less than 1 percent probability level (t= 4.84), (Table 5).

Livestock holding of the respondents in TLU: Like in the other parts of the country, livestock is an important component of the farming system in the study area. The majority of the sample households have different kinds of animals. The dominant domestic animals reared in the study area include cattle, donkey, mule, horse, sheep, and goat The Sample respondent farmer's rear animals for various purposes, including milk, meat, and draft power, transportation and as natural fertilizer. Small ruminants are sold and serve as a source of cash income at a time of cash shortage. The average livestock holding for the sample households as a whole in TLU is 2.92.The average livestock holding of the sampled respondent for active participants was relatively higher (3.34) than that of passive participants (2.18). An independent sample t- test was conducted to compare the mean difference in TLU owned between the active participants and passive participants on the agricultural input and output marketing by multipurpose cooperatives. This result showed that there is statistical significant difference at less than 1 percent probability level (t=-5.47) (Table 5).

Number of Oxen in TLU: Oxen are the prominent source of traction power in the study area. Farmers with large farm size would have more number of oxen for cultivation. This may result in more use of agricultural inputs and production of more outputs. Therefore, having more number of oxen means able to cultivate larger farm which in turn leads to more agricultural input purchase from the multipurpose cooperative. The study result shows, that the average oxen holding of the passive active participant in TLU was 0.84, and 1.33 respectively and the result of independent

sample t- test revealed the mean difference in TLU owned between active and passive participants in the agricultural input and output marketing by multipurpose cooperatives is statistically significant difference between the active and passive participant households at 1 percent probability level (t=7.015) (Table 5).

Farming experience of sampled respondent households: Experience of the household was indicated by the age of the household head, is likely to have a range of influences on member's participation. The household's previous farm experience may have positive, negative or neutral influence on level of members participation depending on the benefit gained. Moreover, farmers with long experience in farming may have better and wide knowledge to perceive risks and constraints to effective transfer of new technologies (Legesse, 1992; Lapar and Pandey, 1999.The respondents' average experience in farming was 27.6 years with standard deviation of 11.39. Furthermore, the average farming experience for the passive participant was 26.45 years with standard deviation of 13.14, while for the active participant was 28.16 with standard deviation of 10.27. According to the independent sample t-test conducted in this study, the difference in mean farming experience between the active and passive participant household heads is found to be non-significant at (t= 0.97) (Table 5).

Members' Expenditure in agricultural input: As the expenditure of the household head in agricultural inputs increase due to high price of agricultural inputs, farmers expenditure input use was expected to be increased. Therefore the expenditure of agricultural inputs may influence the participation of members in the input and output marketing negatively. The distribution of sample households by total annual agricultural expenditure per household on average spent Birr. 1,673.90 with standard deviation of 1,709 Birr and the average agricultural expenditure for agricultural inputs of the passive and active participant were 1,804.9 Birr and 1,599 Birr respectively. According to the independent sample t- test conducted in this study, the difference in mean of agricultural expenditure of member farmers between the active and passive participant sampled household heads was found spastically non-significant at (t=0.463) (Table 5).

Farmer's Institutional Environment

In rural area one can find a number of traditional rural institutions with varying objectives and degree of comprehensiveness. In the study area, Debo, Equb, and Idir are the most common rural institutions. Now days, the number of modern rural institutions are increasing over a time. These modern rural institutions play an important role in the day-to-day activities of the rural community. Among the modern rural institutions credit and extension play a leading role in the development of community.

Access to Credit: is an important institutional service to finance poor farmers for input purchase and ultimately to adopt and use agricultural inputs. However, some farmers have access to credit while others may not have due to problems related to repayment and down payment in order to get input from formal sources. The average sampled respondents of the Hh that have access to credit were 84.2 and 96.2 percent for the passive and active participants respectively. And the chi-square test computed to analysis the difference between the mean access to credit and the participation of members on input and output agricultural marketing has no statistical significant at (χ 2= 0.588)(Table 6).

Distance from the household respondents residence to Cooperative office : Own observation survey reveal that in the study area, the distance between farmers residential house' and cooperative office on the average 4.21 km with the standard deviation of 2.163, and the average distance for the passive and active participant of the farmer members was 5.33Km,and 3.58Km respectively. According to the independent sample t- test conducted in this study, the difference in mean distance between the active and passive participant household heads is found to be significant at 1percent probability level (t= 4.019) (Table 5)

Access to mass media: This variable was expected to have positive influence on the farmer members being active participant and passive participant on the input and output agricultural marketing by the multipurpose cooperatives. And it serve as a source of getting information related to the rural development through radio, Television and printed media like magazines and newspaper that has positive influences on changing the awareness or attitudes of the farmer members. In the study area about 15.3% passive participant's and 95.2% active participants have access to mass media agricultural program. The chi-square analysis result revealed that there was statistical significant difference in percentage between active participant and passive participant categories on the agricultural input and output marketing with access to public media by multipurpose cooperatives at less than 5% probability level (χ^2= 5.47) (table 6)

Member's Characteristics of the Sample Household

Shareholding of the Sample respondent members: It has an influence on the level of participation of farmer members in the agricultural input and output marketing by cooperatives positively. The larger the shareholding the greater will be the sense of ownership by the MPCs members which leads for more participation. The average shareholding of the sample respondents was 1.01and 1.67 for passive and active participant respectively. An independent sample t test was analyzed to compare the mean difference between the active and passive participant households in the agricultural input and output marketing by MPCs and the result was statistically significance at less than 1% probability level (t = 6.71) (Table 5).

Membership in other cooperatives: : It is the membership in another cooperative society and, this may be a sign of awareness of the importance of participation in the cooperative business by the household and it may have positive influence in the level of participation on member patrons in the agricultural input and output marketing by cooperatives. It was expected that members who have a membership in other cooperatives may have better understanding in the level of participation in the cooperative affairs including in patronizing the cooperative business. The study result showed that the average experienced respondents on other cooperatives for the passive and active participant was 13.6 percent and 58.7 percent respectively had experience in other cooperatives before joining to this multipurpose cooperatives. The chi-square analysis disclosed the existence of statistical significant difference in percentage between being have experience and not have experience sample respondents in the level of participation in agricultural input and output marketing result shows statistically significance at less than1% probability level (χ^2=31.36) (Table 6).

Sampled respondents Perception on Fertilizer and Improved Seed Price: It was obviously known that the willingness of farmers to purchase agricultural input was influenced by the expected agricultural products price. That is, if members observe and perceive that the pricing policy is unfair, they cease to use improved agricultural inputs based on recommended rate and selling their produce to the cooperatives. This will have its own negative consequence in letting them involving in the affairs of cooperatives. This implies as the price of fertilizer increases the participation of the household head in purchasing fertilizer and improved seed from the multipurpose cooperative decreases. With regard to the respondents 'average perception on agricultural fertilizer price which have perceived high price was 94.9 and 100 for the passive and active participant respectively. 42.3 and 64.3 percent for the active and passive participant respondents was perceived high price of the improved seed respectively. The chi-square analysis on the perception of the household head on the fertilizer price with level of participation on farmer members on agricultural input and output marketing by multipurpose cooperatives was statistically significant at less than 5 percent (χ 2= 5.387) whereas the perception of the household head on the

improved seed price with level of participation on farmer members in agricultural input and output marketing by multipurpose cooperatives was statistically non-significant at ($\chi^2 = 0.738$) (Table 6).

Perception of the Hh on the change in standard of living due to joining MPCs: The perception of the sample respondents on the change in standard of living due to joining a multipurpose was expected to have a positive contribution to the level of participation on members in input and output agricultural marketing by multipurpose cooperatives. Based on the perception of sample respondents, the average changed living standard due to joining of the multipurpose cooperatives was 79.9 and 35.6 percent for the passive and active participants respectively. The chi-square test showed that, there was statistical significant difference in the mean change on standard of living due to joining a cooperative between the active and passive participant to the agricultural input and output marketing at less than 1 percent probability level ($\chi^2 = 29.29$) (Table 6).

Constraints of the Multipurpose Cooperatives Multipurpose cooperative members were requested to give their view on the major constraints of agricultural input and output marketing activities. The members of cooperatives have stated that the 13 major constraints that affect the agricultural input and output marketing as table below.

Table 2: Major constraints of MPCs in agricultural input and output marketing

Constraints	Less important (1)		Important (2)		Very important (3)		Weighted index %	Rank
	Frequency	%	Frequency	%	Frequency	%		
Limited Capacity of BoDs& Management	9	5.5	80	49.1	74	45.4	79.9	3
Inadequate initial capital	25	15.3	80	49.1	58	35.6	73.3	6
Poor participation of members in decision making	34	20.9	87	53.4	42	25.8	68.3	11
High- influence of vested interest	34	20.91	82	50.3	47	28.8	69.3	10
High price of agricultural inputs	11	6.7	81	47.7	71	43.6	77.6	4
lack of trimly auditing and unable to pay the dividends	10	6.1	66	40.5	87	53.4	82.4	2
availability of trained man power or professionals	27	16.6	76	46.6	60	36.8	73.4	5
Information on market facility oriented production	30	18.4	70	42.2	63	38.7	72.9	8
Poor storage and transportation facility	41	25.2	69	42.3	53	32.5	69.5	9

Lack of market for agricultural product	30	18.4	71	43.6	62	38	73	7
Poor Linkage with Financial institution	53	32.5	69	42.3	41	25.5	51	13
Lack of Transparency and accountability	44	27	65	36.9	54	33.1	66.7	12
Poor communication between managements and members	43	26.4	84	51.5	36	21	85.4	1

Sources: Primary data Computed (2011-2012)

-Maximum Possible Scoring weighted percentage of each constraint: 100*3*=300

Activity of the cooperative societies as poor communication between members and managements, poor auditing service, limited capacity of BoD, high price of agricultural inputs lack of trained or professional manpower, inadequate initial capital, lack of access to agricultural produce with best price, lack of information on market to produce market oriented product , poor storage and transportation facility , high influence of vested interest, Poor participation of members in decision making, Lack of Transparency and accountability, and Poor Linkage with Financial institution are the most important constraints of the MPCs in sequential order.

Based on the sample respondent's opinion and categorized on the interview schedule as less important, important and very important with a value of 1, 2, and 3 respectively .The Constraints weighted index was calculated by simple adding each constraints scorings and dividing to the possible maximum total scoring that one constraint had to score. Based on (Table 7) the researcher had clarification to some of the major constraints of the MPCs performance as follows:

The highest weighted percentage of the constraint was poor communication between the management and members (85.4%) which was caused by, poor of awareness on their duties and responsibilities of members and management, poor participation in decision-making and limitation in exercising their democratic right, lack of equal opportunities to all members were consider as the most important problems to determine the performances of MPCSs.

Poor auditing system was consider as the main constraints of the MPCs that hinder the performance and ranked at the second (82%) weighted percentage and it is true that the cooperative societies were not getting regular auditing service as per the Ethiopian proclamation 147/1998 due to less number of auditors both in quantity and quality due to this "unable to pay patronage dividend to members" and mismanagement of the finance. This highly affects the business growth and sense of ownership of the cooperative members and. In fact the problem is critical issue not only to the cooperative societies but it is also a problem of the Government as cooperatives are promoters for rural development.

In these four sampled MPCs the BoDs are elected committee members who normally fit to social purpose than to the economic institutions and have limited capacity of MC or BoDs, and they are not capable to control the business strategically. As a result of those cooperatives lead to financial mismanagement and corruption hence, the cooperative society will have poor transparency and accountability on the board of Directors and management, using this gap some people who have vested interest have used this problem as an opportunity.

Higher price of agricultural input or fertilizers was one important problem focused by the

sampled respondent farmer member's perception; due to this members are forced to use fertilizers below the recommended standard that leads poor productivity.

The sample respondents also sighted that limited trained man power or professionals were important problem to determine MPCs performance in input and output marketing. The day to day activities of cooperatives were managed by the employees whose academic background didn't exceed the elementary school. As a result, the employees were not as such well oriented to assist the board of directors in passing decisions or formulating policies and strategies.

Poor storage and transport facilities, electricity and irrigation facility were among the important problems of infrastructure to affect the performances of MPCs in input and output agricultural marketing. The storages or warehouses owned by cooperatives are below the required standard and this problem results cooperatives not to purchase agricultural produce from their members especially these perishable agricultural produce.

Members participation was highly influenced by awareness of the members, transparency and accountability of the MC and BoD, and benefits getting from the cooperatives , these thing were not good in the district Woreda and members fail to participate in sharing of duties and responsibilities, to involve in general meeting, in decision-making and limitation in exercising their democratic right.

Lack of inadequate initial capital was a problem to hinder the performance of multipurpose cooperatives for diversifying the cooperative activities and new business, as the MC and BoD were not capable in setting communication strategy and project proposal. Furthermore they have also poor linkage with the financial institutions.

Recommendations

Based on this study result the following recommendations are suggested for consideration in improving the performance of the MPCs and the level of participation.

- Increasing the qualified manpower in the field, upgrading the capacity of the cooperatives' management body (board of directors and other employed workers) through continuous education and trainings, and need to hire professionals in various relevant disciplines specially qualified managers, marketing experts' accountants are very important this should be done with the integration the cooperative society with other concerned bodies like the Government and non government.
- The higher price of agricultural input/fertilizer was an important problem focused by the sample respondent farmer members; basically it seems true since it is imported from outside the country and the price depends on international market, beside the transportation price and other managerial cost also maximize the selling price, Therefore even if it is imported goods, the concerned bodies should asses all opportunities before purchase and be efficient in transportation and managerial costs. The concerned bodies should give continuous training and support to produce good quality and quantity product and in understanding the cause for increase in price of agricultural inputs and enable them to make cost benefit analysis of farm input utilization and the returns, so that, members will know their agricultural expense and the return they got.
- The MPCs, in the study district were mainly involved in distribution of agricultural inputs but not in other activities. Therefore to have efficient and effective marketing system and fairly benefited the members, in the rural areas the MPCs and other concerned bodies should give emphasis on creating market linkage, and disseminating of market information

besides the cooperatives and also involve in purchasing of the agricultural produce/output at reasonable price and sell at best price and give special emphasis on agro-processing or value addition to diversified their business activities.

- In the study district, due to lack of professional auditors the multipurpose cooperative societies were not getting regular auditing service; it is the main problem for the majority of the cooperatives. Therefore, the government and NGOs those who are working in the field of cooperatives should be focused on providing reliable audit service with affordable cost. As a result cooperatives can be improving their service delivery to its members.
- Based on the field observations and FGD it was found that the documentation and recording system were very poor, so to make easy and reliable the auditing system and introduce the transparency and accountably of the management the documentation and recording should be improved.
- Very important constraints identified by the respondents are "unable to pay patronage dividend to members" by the cooperative society. Therefore, cooperatives should be able to pay patronage dividend to their member patrons, when they get profit after auditing their business operations if they don't have profit should have to inform the status of the dividend payment issue after the auditing.
- According to the study result the change in standard of living due to joining a cooperative (became a cooperative membership) was influenced negatively to the participation of members in input out and output agricultural marketing , this may be due to the inactive development of the multipurpose cooperatives and poor service rendering and the MPCs involving only in the distribution of agricultural inputs, while the members who changed their living standard demands better service and need to expand their business activities to better business thinking or entrepreneur, so to good participation and contribute their services to the achievement of the MPCs goal, the cooperatives should improve their service rendering and diversified their business activities in addition to the distribution of the agricultural inputs.
- The result of econometric Logit model showed that the demographic explanatory variable age, has negatively significance effect on the participation of members in the agricultural input and output marketing by multipurpose cooperatives in the study Woreda. The possible reason for this could be young members might have more awareness on the benefit of cooperatives and they may have more opportunity to get current information as compared to the older farmers becoming more reluctant to modernization, so the extension workers should give special emphasis on introducing training and awareness creation programs.
- Government and NGOs should give support to cooperatives for improvement of their role in input and output marketing and in meeting their objectives, for instance, storage facility, transportation facility Communication facilities, Electricity , improving market infrastructure and in capacity building.

References

BoARD Tigray Region, (2008). Regional annual report. Mekelle, Tigray. Unpublished

CSA), (2008). Summery and statics report of the 2007 population and Housing census, Addis Ababa.

BOFED, (2006). Annual report of agricultural sector of Tigray region. Unpublished.

Working document, bureau of finance and economic development, Mekelle, Tigray.

DawitAlemu, (2005). The status and challenges of agricultural marketing in MelkassaEthiopia.

Eleni , (2004). Ethiopian Development Research Institute and International Food Policy Research Institute Washington.

Gebremeskel Dessalegn, T.S. Jayne, and J.D. Shaffer, (1998). Market structure, conduct and performance: constraints on performance of Ethiopian grain markets, working paper 8 grain market research project ministry of economic development cooperation, Addis Ababa, Ethiopia.

MoARD, (2007).Report on irrigation potential and existing irrigation schemes by region. Addis Ababa, unpublished document

Ministry of Finance and Economic Development (MoFED), (2006). Ethiopia: Building on Progress Plan for Accelerated and sustained Development to End Poverty 2005/6- 2009/10.september 2006

ZerihunAlemayehu, (1998). Cooperatives Movement in Ethiopia, Unpublished paper presented in the National Workshop in Addis Ababa, Ethiopia.