

**Analysis of performances of smallholder dairy goat farmers cooperatives.**

**A case study of three dairy goat farmers cooperatives in Mpwapwa district,  
Tanzania**



**Research Project submitted to Van Hall Larenstein University of Applied Sciences**

In partial fulfilment of the requirements for the awards of master degree in Agricultural  
Production Chain management Specializing in livestock production chains.

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**September 2011**

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September, 2011

Wageningen, the Netherlands

## **DEDICATION**

This work is dedicated to my late mother; Georgina Kokwijuka Bakengesa who passed away in February 2009 but her love, care, and efforts put on me is what makes me today. Almighty God rests her soul in eternal peace, Amen.

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## ABBREVIATIONS

DADPs	District Agricultural Development Plans
DCO	District Cooperative Officer
GDP	Gross Domestic Product
G o T	Government of Tanzania
MDC	Mpwapwa District Council
MLD	Ministry of Livestock Development
NSGRP	National Strategy for Growth and Reduction of Poverty
POs	Producer Organisations
SACCOs	Savings and Credit Cooperatives
TFC	Tanzania Federation Cooperatives
VC	Value Chain
URT	United Republic of Tanzania
Tshs	Tanzanian Shillings
MDGs	Millennium Development Goals
SACCOs	Savings and credit cooperatives
OVC	Orphans Vulnerable Children

## ABSTRACT

The theme of the research is “*Analysis of performances of smallholder dairy goat farmers’ cooperatives, A case study of three dairy goat farmers cooperatives in Mpwapwa district, Tanzania*”. The study was carried out in three ward of Mpwapwa district, Tanzania. The objective was to give recommendations towards improving of the dairy goat cooperatives performances and dairy goat value chain in Mpwapwa district.

The research examined the current status of the dairy goat cooperatives and the interventions for improving their performances when looking to the production, marketing and internal organisations.

Survey questionnaires were administered to thirty smallholder dairy goat farmers in three dairy goat cooperatives (10 farmers per cooperative). Two representatives from each cooperative, three dairy goat farmers, two milk traders and the district statistician officer were interviewed to get additional information for the research. Focus group discussion in each cooperative was able also to be used to increase reliability of results.

The results revealed that all three dairy goat cooperatives played a great role in providing services to members like ease access to inputs, pesticides, fertilizer, which otherwise would be difficult for dairy goat farmers to obtain individually due to their scarcity. Thus, dairy goat cooperatives contributed positively to the member’s economic enterprise development.

On other hand it was also revealed that dairy goat cooperatives are faced with many challenges that reduce efficiency of their performances such as insufficient entrepreneurship skills, inadequate trainings to both management staff and members, and others

There should be deliberately effort for dairy goat cooperatives management and members to be equipped with training on cooperatives operations and product value addition. This can be done by government agents and institutions. This will enable them to be conversant with the daily operations of the cooperatives and how to improve the performances including entrepreneurship skills.

In order for the improvement of dairy goat value chain there should be sufficient collaboration among stakeholders in the sub sector which will help in harmonizing activities, eliminate duplication and harness the ensuing synergies.

**Keywords:** smallholder dairy goat farmers, dairy goat value chain, smallholder dairy goat cooperatives.

## CHAPTER ONE: INTRODUCTION

### 1.1 Background information

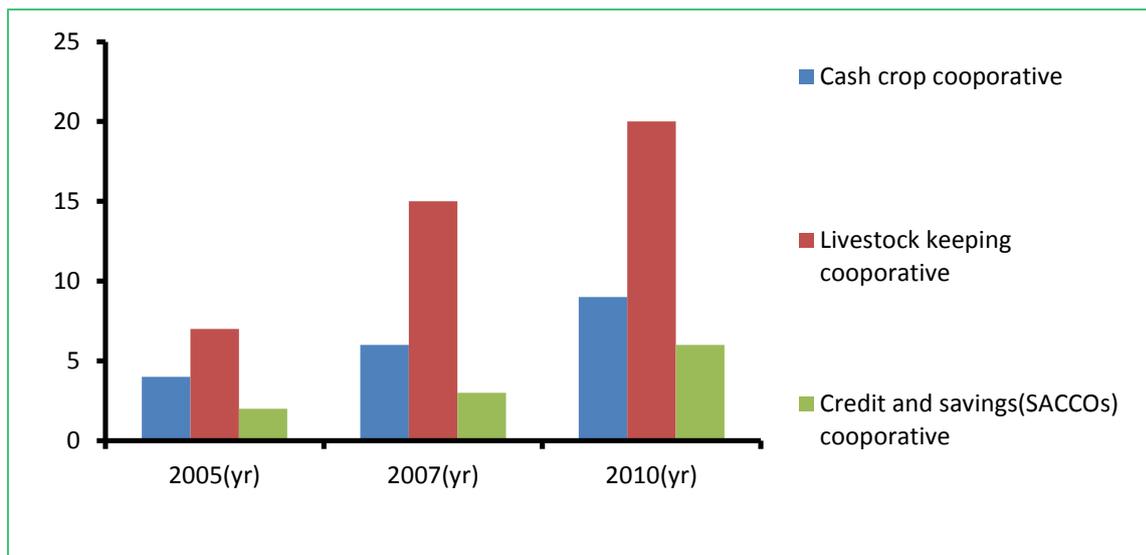
There are many factors associated with the individual choice to cooperate. In Tanzania the pioneer co-operators were peasants who owned land and grew cash crops. These still make a large proportion of co-operators, although they have no title performance to the land they farm on traditional lines. It has been observed that the holding of land in secure tenures does not affect the decision either to cooperate or not (White and Runge, 1994:25). Traditionally the type of cooperative that has been dominant in Tanzania mainland is the one that has focused on marketing of peasant's agricultural crops. This kind of cooperative has been dominant in terms of members and volume of trade since the birth of cooperatives in the 1920s.

Cooperatives, as economic enterprises and as self-help organizations, play a meaningful role in uplifting the socio-economic conditions of their members and their local communities. Over the years in Tanzania, cooperative enterprises have successfully operated locally owned people-centred businesses while also serving as catalysts for social organization and cohesion. With their concern for their members and communities, they represent a model of economic enterprise that places high regard for democratic and human values and respect for the environment. As the world today faces unstable financial systems, increased insecurity of food supply, growing inequality worldwide, rapid climate change and increased environmental degradation, it is increasingly compelling to consider the model of economic enterprise that cooperatives offer. The cooperative sector, especially in developing countries like Tanzania, also presents itself as an important element that can contribute to the realization of the Millennium Development Goals (MDGs) by 2015.

Chirwa, E.W. et al (2005) pointed out cooperatives produce goods and services that would foster development. They also create jobs that would facilitate employment. Cooperatives also help people to protect themselves against exploitation and unfair business practices. It gives people a voice and power that would otherwise not have had.

Furthermore, Penrose-Buckley (2007) suggested that cooperatives are easy to form, flexible and can be used to address many issues that are facing many people. Through cooperatives, the people can generate ideas, share concerns, offer support to each other, build on existing skills as well as learn new ones and empower themselves. By pooling their produce or production efforts through their cooperatives members can access better prices, improve the quality of their produce, e.tc.

Mpwapwa district in Dodoma region, Tanzania have thirty five (35) cooperatives which exist since 2005, the number of cooperatives increased by two folds in 2010 compared to eleven (11) in 2005. These cooperatives differ from each other based on objective of cooperatives, group size, and interest of the members. There are three types of cooperatives that are found in the district. These are *cash crop cooperatives* (9), *livestock cooperatives* (20) and *savings and credit cooperatives* (6).



**Figure 1.1 Cooperative population trends in Mpwapwa district**

**Source:** Department of Cooperative Development; MDC, 2010.

About 85% of the cooperatives formed in Mpwapwa district was initiated by G o T under District Agricultural Development Plans (DADPs) with coordination and monitoring carried out by the sectoral ministries. The DADPs is consistent with National Strategy for Growth, Reduction of Poverty (NSGRP) and the Agriculture Sector Development Strategy. All together seek to improve productivity, raise agricultural growth, profitability, reduce poverty, decentralise public sector responsibilities to local government authorities, increase the involvement and participation of local communities in decision-making, and encourage a shift towards private sector leadership in production, marketing, processing and service delivery.

### 1.2 Research problem

Increased number of dairy goat farmers' cooperatives has been formed in recent years in Mpwapwa district however little success has been reported in terms of production and marketing (MDC, 2010).

### 1.3 Problem justification

The government of Tanzania through the District Agricultural Development Plans (DADPs) has organized smallholder livestock farmers into farming cooperatives and has helped them jointly market their produce and have a better bargaining position than before. This also enables them have easy access to extension services, market information, agricultural inputs and financial credit (DADPs report, 2006). The formation of dairy goat farmers' cooperatives was initiated in various divisions of Mpwapwa district. The reason is to attain the goal of promoting commercial and sustainable production of sheep and goats to meet domestic demand and export market; enhance food security and incomes (MLD policy, 2006). According to KIT et al (2008), for an individual farmer, it's difficult to make a difference but teaming up with others to form farmers' cooperative, they can support one another to strengthen skills and technologies, upgrade products and services, learn about consumer demands, gain access to finance, improve negotiation with clients (improve their bargaining power). However the contribution of dairy goat cooperatives to their members in terms of production and marketing is insufficient ( MDC annual report, 2010) in Mpwapwa district and hence the need of research.

#### **1.4 Objective of the Research**

The objective of this research is to give recommendations towards improving of the dairy goat cooperatives performances and dairy goat value chain in Mpwapwa district.

#### **1.5 Main research questions**

##### **1. What is the governance of smallholder dairy goat cooperatives located at Mpwapwa District?**

###### **Sub questions:**

- 1.1-What is the performances of three dairy goat cooperatives in Mpwapwa district when looking to the production, marketing and internal organisation?
- 1.2- To what level are the members of the dairy goat cooperatives satisfied with their cooperatives performance?
- 1.3- What are challenges faced by three dairy goat cooperatives in Mpwapwa district?

##### **2. What is the governance of the dairy goat value Chain in Mpwapwa District?**

###### **Sub questions:**

- 2.1- What is the structure of dairy goat value chain in Mpwapwa district?
- 2.2- What are the roles of the actors of the dairy goat value chain?
- 2.3-What is the role and importance of chain supporters and influencers in dairy goat value chains?
- 2.4- What are value shares and net profit dairy goat farmer and profitability analysis of milk trader in the dairy goat value chains?
- 2.5-What are market relations between cooperatives and other actors in the dairy goat chains?

## 1.6 Definition of concepts

**Cooperative-**A co-operative is a group of people who work together voluntarily to meet their common economic, social, and cultural needs through a jointly owned and democratically controlled enterprise. Co-operatives are based on the values of self-help, self-responsibility, democracy, equality and solidarity. Co-operative members believe in honesty, openness, social responsibility and caring for others.

**Primary society-**This is a uniquely Tanzania term that was coined during the “Ujamaa” movement. Primary Societies are generally crop based and include all the producers of a given crop in a given village.

**Smallholder dairy goat farmer-** Is a farmer rearing 2-5 dairy goats in zero grazing or semi intensive system for income generation.

**Value chain development-** Value chain development is strategies used to improve smallholder goat farmers’ participation in chain activities and their involvement in management of the chain.

**Stakeholders-**people who are directly involved in goat value chain. These include actors, chain supporters and chain Influencers.

**Informal supply chain-** set of linkage between actors in a chain who do not seek to support each other and have no binding relationships either formal or informal apart from when transacting agreements involving exchange of products and money.

**Formal chain-** supply chain where actors support each other so that they can increase their efficiency and competitiveness. They strive to satisfy consumer needs so that they can increase profits.

## CHAPTER TWO

### 2.0 Research methodology

The research methodology covers study area, research framework and data collection strategy and the way the gathered data was analysed. The approach of this research was both quantitative and qualitative based on empirical data collected from survey and case study and secondary data obtained from study of literature, documents and from internet sites.

### 2.1 Study area

The study was carried out in Mpwapwa district which is a one of the six districts in Dodoma region. The District cover a total area of 7,379 square Kilometres (18.1% of total area of Dodoma Region) with a population of 304,096. The study was specifically in Matomondo, Kibakwe and Mbori whereby three dairy goats cooperative were located.

The main economic activities for the majority of people in the district are crop production and livestock keeping. About 90% of the people in the district are engaging in these economic activities as their major source of income.

The area which is suitable for food crops production is 70,382 ha and 46,607ha for cash crops. Livestock keepers who practice traditional animal husbandry (free range system/semi intensive) keep cattle 175, 323 goat 131,290, sheep 55,445, pigs 33,697 donkeys 21195 and Poultry 366,142 (MDC annual report, 2010)

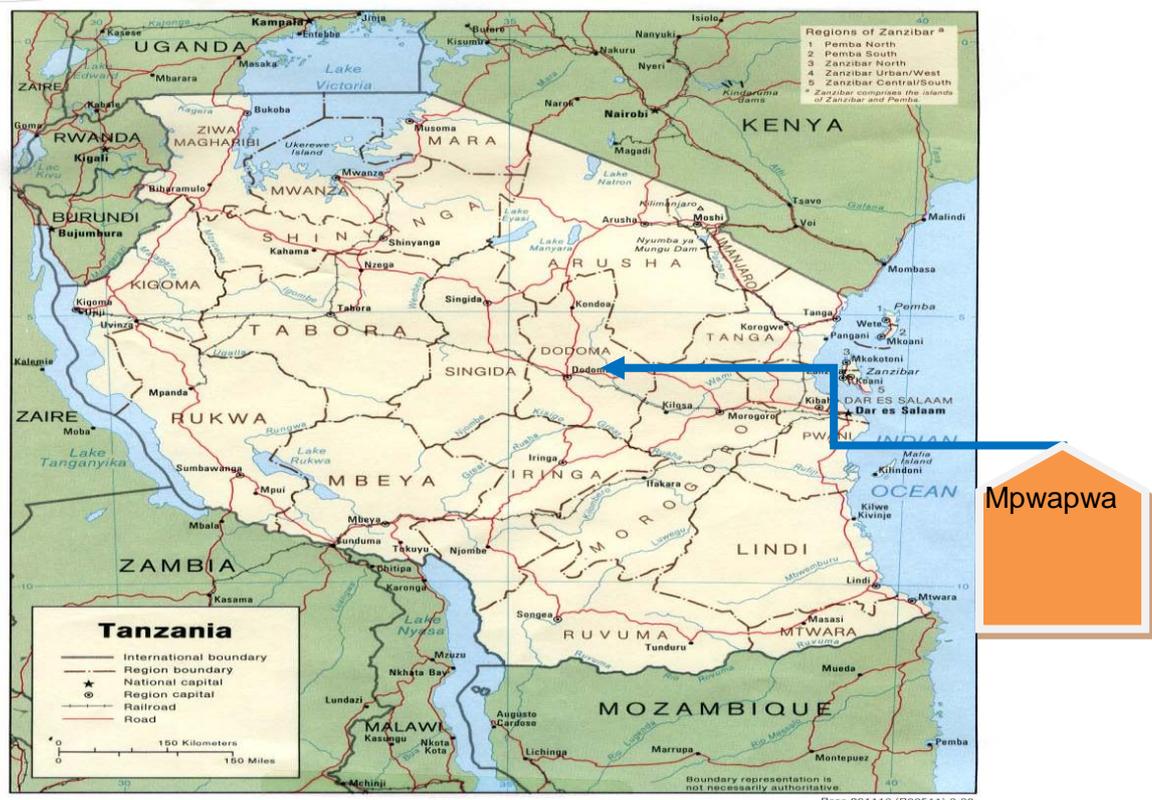
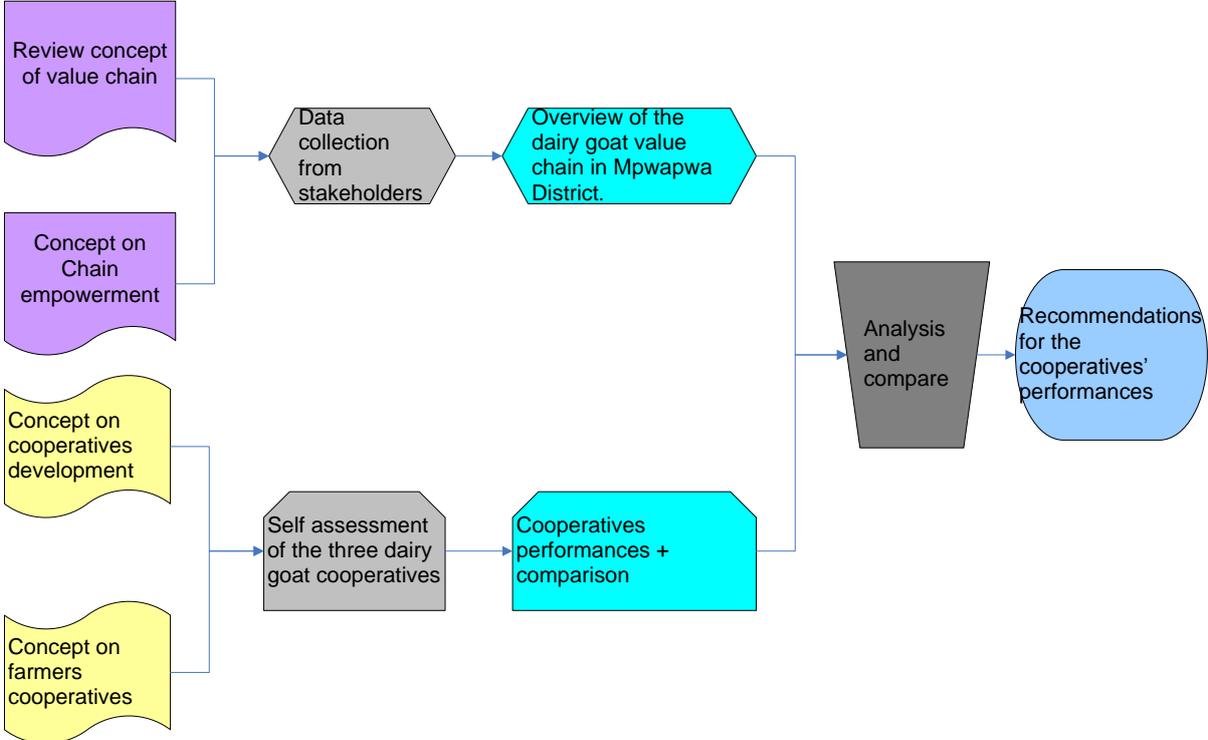


Figure 2.1 Geographical map of Tanzania showing Mpwapwa district  
Source: GIS Dodoma, 2011

**2.2 Research framework**

Based on the research objective and the research questions, the following research framework formed. This framework below was used as guidance throughout this thesis project.



**Figure 2.2 Research framework**

### 2.3 Data collection

Data collected regarding dairy goat cooperative in Mpwapwa district was done in two phases. The first phase was an interview with the representatives of cooperative in order to get information about their performances when looking to the marketing, production and internal organization. The second phase is by use of survey structured questionnaire. This method was also used by Modderman, (2010) in research to explore future prospects for three dairy cooperatives in Musanze district Rwanda.

#### Survey

The survey was carried out in Matomondo ward (Juhudi dairy goat cooperative) Kibakwe ward (Upendo dairy goat cooperative) and Mbori ward (Vijana dairy goat cooperative). It involved district statistician who also had experiences working with cooperative, district livestock officer and researcher of this thesis. The survey was done in mid of July 2011. A sample of ten members from each dairy goat cooperative was randomly selected ensuring members to have the same probability of being chosen and avoid biasness. The names of all members of Juhudi dairy goat cooperative were written on small pieces of paper and put in a small box. The box was shaken and ten members of cooperative was picked by district livestock officer representing cooperative's. The same procedure was repeated for the Upendo dairy goat cooperative and Vijana dairy goat cooperative.

The survey questionnaires was filled by selected members assessing their cooperative based on membership base; governance, leadership and internal democracy; management of financial resources; collaboration and networks; service provision to members; animal management and production; stakeholder collaboration; entrepreneurial skills, cost and marketing and other data such as personal data and production data was also collected(*Survey questionnaire appendix A*).

**Table 1 List of selected respondents of each dairy goat cooperatives**

Cooperative name	Selected members per cooperative	No of members
Juhudi	Kedimon Chogwe, Daudi Cheti, Issa Mabichi, Andrea Kasanga, Sisti Senyagwa, Patrick Kalinga, Nonya Risassi, Mashamba Chilonje, Romani Deje and Anastazia Urio.	10
Upendo	Msafiri Mpilimi, Noeli Chipenyela, Tonga Ndudumizi, Manyerezi Mataligane, Richard Milangazi, Paula Masalila, Ester Ndudumizi. Elia Nonghambi, Cesilia Ngwenzi and Peter Mataligane	10
Vijana.	Jackson Sumisumi, Elieza Mkalamila, Nondo Mchutu, Kassiani Milonje, Batazari Kasimiri, Nesira Malecela, Protasi Njelekela, Piusi Kitambawazi, Chitande mkande and Anna Cheliga	10
Total		30

### Survey questionnaire and scoring scale

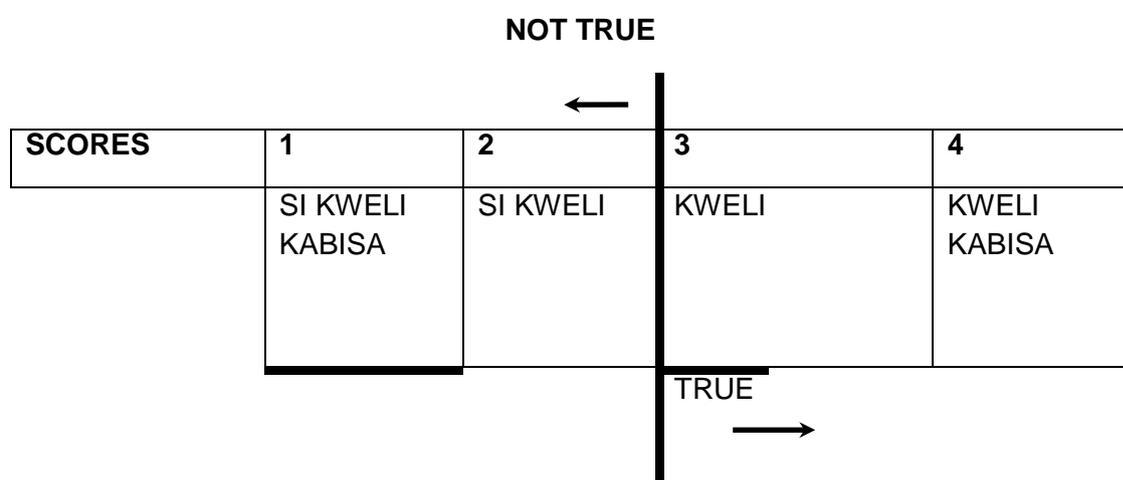
The survey questionnaire form used by respondents to assess their cooperative had the following outlook:-

NO	STATEMENT	SCORE			
1	SUBJECT				
1.1	.....STATEMENT.....	1	2	3	4

The respondents were asked to contribute their views based on the two questions:

“Is this statement true or not true?”

“To what extent is this true or not true?”



The Likert-style rating scale was also used by Schrader, (2009) in coastal province of Kenya to assess smallholder farmers’ organisational capacity and entrepreneurship skills. It is normally used to assess if the respondent agreed or disagreed with the statement and if they were satisfied with the performance. The selected 10 respondents per each dairy goat cooperative required to give a grade to the statement, ranging from one (1) to four (4) where one (1) represent: I totally disagree with this statement, and four (4): I totally agree with this statement. In order to simplify work even numbers of possibilities was considered against statement (Saunders et al. 2007). All statements designed in a certain way that they act as positive to cooperatives performance.

The survey questionnaire was translated into Kiswahili language to make ease understand of the respondents. District livestock officer and district statistician were also giving support to farmers who were not clear before answering the questionnaire.

A focus group discussion was conducted to all dairy goat cooperatives after the fulfilment of the questionnaire by researcher of this thesis. Focus group discussion involves all members of cooperative including management staff; it was based on general performance of the cooperative. This was done for increased reliability of the data collected and revealing different types of information.

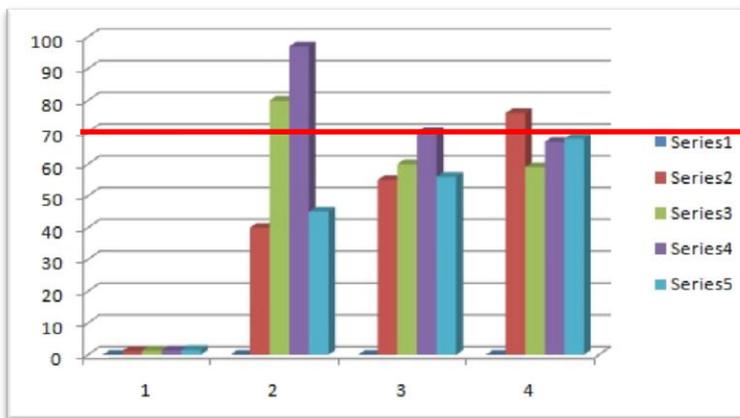
### Data processing and analysis

After the questionnaires was filled out by respondents. It was collected and feed in a computer, next day data was analysed using Microsoft Office Excel regarding respondents statements score from (1) (totally disagree) to (4) (fully agree), for each statement total and average scores was premeditated. Then these scores were changed into percentages enabling the analysis and the interpretation of results.

### Data interpretation

**Less than 50% or a score lower than 2:** a very low score, caused by the disagreement of the respondents with the statements. Meaning that the aspect of the cooperatives performance was unsatisfactory and there is an urge for improvement or change.

**Between 50% and 62.5% (between score 2 and 2.5):** a low average score, dissatisfaction of the respondents is present, therefore improvement is necessary to meet the needs and wishes of the respondents.



**Between 65% and 75% (between score 2.6 and 3):** a positive average score. The satisfaction of respondents is not optimal. Improvement of the cooperatives performance is not obligatory, but advisable in order to increase satisfaction among members.

**Fig 2.3 Example of performance between dairy cooperatives**

**Between 77.5% and 87.5% (between 3.1 and 3.5):** the respondents are satisfied with the cooperatives performance. Adjustments could be made to lift the level of satisfaction to the final stage. The red line in the graph is set at a margin of **77.5%**, which refers to adequate satisfaction of the respondents and no necessary change is needed.

**90% or more (3.6 or more):** A very high score, the average respondent fully agrees with the statement and indicates a high level of satisfaction. Change or improvement is not needed.

## Interview

### I. Two representatives from each cooperative

Representatives was interviewed to get information on their cooperatives performances in terms of production, marketing and internal organisation.

**Table 2 List of representatives interviewed from each dairy goat cooperative**

Cooperative name	Person interviewed	No of interviewed
Juhudi	Samwel Jumbe (Chairman) and Mohamedi Chundu (Secretary)	2
Upendo	Issa Kasongo (Chairman) and Shukura kaliakitu (Secretary),	2
Vijana	Hussein Mbegu (Board member) and John Jackson(Board member)	2
Total		6

### II. Three dairy goat farmers

Three dairy goat farmers was interviewed to get information that enable to calculate average net profit for a dairy goat per month.

### III. Two milk trader

The information obtained from two milk trader was used to calculate average profitability analysis of milk trader and also was used in mapping dairy goat chain in Mpwapwa.

### III. District statistician

District statistician provides information on livestock statistics in Mpwapwa district and other information related to the dairy goat cooperatives.

## Other sources of information

### - Literature review

The literature review provides more understanding of the theoretical and research issues related to the research topic. It provides information on general insight on concept of value chain, value chain development and empowerment, concept on farmers' cooperative principles. Bachelor degree thesis, scientific Journals and publications were also used.

### -Documents

Documents from National and Mpwapwa district livestock offices and internet help to collect information on the structure of Mpwapwa dairy goat value chain, identifying actors and their roles in dairy goat value chain, chain supporters and chain influencers' roles and their importance on dairy goat value chain in Mpwapwa district.

## 2.4 Analysis of Data

Analysis on the existing Mpwapwa dairy goat chain and assessing how milk marketing is done by farmers through cooperatives was done by use of chain map, value shares, profitability analysis and net profit was calculated all within the concept of value chain analysis (VCA).

**Table 3 Summary of information/data and their sources**

Sub question	Information/data	Source of information/Data
1.1	What is the performance of three dairy goat cooperatives in Mpwapwa district when looking to the production, marketing and internal organisation?	Interview with the representatives of the selected cooperatives
1.2	To what level are the members of the dairy goat cooperatives satisfied with their cooperatives' performance?	Survey questionnaire to the selected members
1.3	What are challenges faced by three dairy goat cooperatives in Mpwapwa district?	Interview with the representatives of the selected associations/Focus group discussion.
2.1	What is the structure of dairy goat value chain in Mpwapwa district?	Mpwapwa district veterinary report/office./ interview with stakeholders in dairy goat V.C.
2.2	What are the roles of the actors of the goat value chain?	Mpwapwa district veterinary report/office./ interview with stakeholders in dairy goat V.C.
2.3	What is the role and importance of chain supporters and influencers in goat value chains?	Mpwapwa district veterinary report/office./ interview with stakeholders in dairy goat V.C.
2.4	What are value shares and net profit dairy goat farmer and profitability analysis of milk trader in the dairy goat value chains?	Desk study, survey, interview with stakeholders in dairy goat V.C.
2.5	What are market relations between cooperatives and other actors in the goat chains?	Interview with the representatives of the selected associations/Focus group discussion

## CHAPTER THREE

This chapter present background information derived from literature study. The information will provide more understanding of Famers cooperatives and value chain concept. The first part contains information about Famers cooperatives, their principles and potential challenges faced by cooperatives.

### 3.1 Cooperatives

Farmers' cooperatives can be defined as a member-controlled organisation for producing goods and services in which the participating members, individual farmers or households, share the risks and profits of a jointly established and owned economic enterprise (Koopmans, 2006).

Farmers' cooperative is normally established to promote the interests of farmers. As each farmer has its own farm, the main goal of the farmers' cooperatives is to provide services that support farmers in their farming activities, including the marketing of the farm products. Farmers' cooperatives exist in many different forms and provide a variety of services. They range from formal institutions, such as cooperatives, to informal producer groups and village associations (Bijman, 2007).

A well-functioning Farmers' cooperatives (internal organizational, production and marketing) are essential for cooperative to succeed and to be sustainable. When the cooperative functions and performs well, internal problems or difficulties are able to be solved easier; motivation and trust amongst farmers grows; their own needs can be served properly, their market position and their function in the chain can develop; which ultimately leads to higher profits.

The role of farmers' cooperatives in market chains has received increasing attention from governments and donors aiming to help smallholder farmers operate in an organized manner .In developing countries, cooperatives for agricultural and rural development were introduced in pre-independence times. Some success but many failures due to misused of cooperatives concept for ideological or political purposes. Governments and parastatals tried to influence and control cooperatives development from above and often for their own purposes. This resulted in many poorly developed or unsustainable cooperatives and some of the developing countries they are still facing the same problem until now.

Farmers' cooperatives should be seen as a private business organisation that is jointly owned and controlled by its members, who also use its services. The objectives of cooperatives are primarily economic. It is not an easy task to organise and successfully develop cooperatives and generally a rather time-consuming and complicated process. Market conditions, government policies and the legal environment should be conducive for such a development. Moreover, strong leadership and management capabilities should be available, together with sufficient financial resources (Koopmans, 2006).

### 3.1.1 Cooperative seven principles

The government wants cooperatives in Tanzania to operate according to a set of ideals applied in many countries of the world. These are called the **International Cooperative Principles**:

1° **Cooperative membership is voluntary and open to all**: Co-operatives are open to all persons willing to accept the responsibilities of membership without any type of discrimination.

2° **Cooperatives are democratic**: All members have equal voting rights (one member, one vote.)

3° **Members benefit according to their business with the cooperative**: Members contribute equitably to, and democratically control, the capital of their co-operative. Members may allocate surpluses for any or all of the following purposes: investing in their co-operative or benefiting members in proportion to their transactions with the co-operative.

4° **Cooperatives are independent**: If cooperatives make agreements with other organisations, including governments, or raise money outside the cooperative, they do so only if all members have decided democratically that this is what they want. Also any agreements must make sure that the cooperative stays independent.

5° **Cooperatives provide education, training and information**: Cooperatives provide education and training for their members and employees so they can help the development of their co-operatives. They inform the general public about the benefits of co-operation.

6° **Cooperatives work together**: Cooperatives strengthen each other by working together through local, national, regional and international networks.

7° **Cooperatives work for their communities**: Cooperatives work for the economic, social and cultural development of their members and the wider community. They also have an interest in caring for the environment and future generations

### 3.1.2 Cooperatives as business

According to Penrose-Buckley (2007) Farmers' cooperatives are commercial organisations in order to survive in the long run, they have to provide tangible benefits to their members and cover their costs from their business income. Farmers' cooperatives are not primarily a means of channelling resources to a community or mobilising community activities, their businesses are aim to provide business-oriented services to their members. This does not mean that Farmers' cooperatives cannot receive financial support in the form of grants or interest-free loans; they can but in long run farmers' cooperatives need to be financially sustainable, just like any other business. Carr et al., (2008) asserted that this also does not mean that farmers' cooperatives cannot pursue social objectives but the point is that for farmers' cooperatives to succeed, the business cannot be led by social objectives even if social objectives provide the main motivation for the cooperatives. If social objectives are placed before business priorities, the business is likely to fail and no one will receive either economic or social benefits.

Koopmans,(2006) pointed out that, for the farmers' cooperatives to compete in the market and to be sustainable in the long run, they have to follow three business principles apply to cooperatives. These are cost price, proportionality and self-financing principle.

### ***Cost price principle***

This state that cooperatives should provide products at the lower price to its members, without experiences losses. This implies that small proportion of the products sold or surplus obtained should be paid by the members, in order for the expansion reserves to expand and to pay bonus or interest to its members, the net surplus of the cooperatives should cover unforeseen costs and risks (Koopmans, 2006). Only part of the net surplus should be considered as profit and is often kept as a reserve fund for future investments and necessary for the establishment of new cooperatives in developing countries as they experience insufficient capital of their own.

### ***Proportionality principle***

This states that cooperative should allocates the proceeds and costs of all transactions and members' rights and duties, including liabilities and voting rights according to the economic principle of proportionality. In many agricultural cooperatives, however, proportionality is based on each member's turnover or use made of the cooperatives. Both smallholder farmers and large farmers in a region need to participate in agricultural and rural development, it is essential for them to work on a fair and proportion basis. Large farmers contributing more shares and bear relatively more risk, but have no great say in 'one man-one vote principle' . It can be limiting for them to join, with full involvement of both large and small farmers representing different farm sizes and stages of agricultural development in a region, the smallholders easily benefit from the advantages of being a member of strong farmers' cooperatives.

### ***Self-financing principle***

Koopmans,(2006) pointed out that members should provide risk bearing capital. This is because cooperative cannot attract venture capital from outside the investors; it is done to avoid conflict of interest among members. The more the assets (Land, buildings and capital) cooperative have the easier for them to safely borrow funds from banks or other sources as mobilization of capital is normally difficult to the cooperatives.

### **3.1.3 Cooperatives financial resources and Transparency**

The need for finance in farmers' cooperative is not different from that in commercial companies, yet the role in determining the success or failure of the organisation is different. The reason is farmer's cooperative representing people-centred organisations as opposed to capital-centred commercial companies.

Members of farmers' cooperative pay a membership fee. In many developing countries the amount is symbolic. The operating costs of farmer's cooperative vary depending on the size of the cooperative (Carr et al., 2008). The farmer's cooperative can make profit because they sell the produce from the members collectively and always try to sell it at the best price, profit obtained offers benefits to their members in terms of dividends and services. Part of the profit is retained for reinvestments (Carr et al., 2008). This can sometimes cause difficulties because there is often a divergence between the short-term interests of members and the long-term vision of the farmer's cooperative.

In order for any business to be sustainable it is important that the financial reserves are stored at a bank account. Treasurer that keeps the records should be elected by the members of farmers cooperative. There should be internal auditing for at least once per year to explain how resources and incomes of farmers cooperative are used (Koopmans,2006). The capital needed for development and growth of farmer's cooperative can come from three sources: the members themselves, net surpluses generated by the farmer's cooperative and external finance such as bank loans in which the best source of financing for an cooperative is from members. The more financing members provide, the less the cooperative business will need to borrow from other sources.

### 3.1.4 Cooperatives and membership base

Bijman (2008) pointed out that farmers' cooperative are formal voluntary membership organisation set up for the economic benefit of agricultural producers (the members). They providing producers with services that support the farming activities, such as bargaining with customers, providing inputs, providing technical assistance, providing processing and marketing services. For a successful farmers' cooperative Penrose-Buckley (2007), suggested that it should be owned and controlled by their members, who are mostly small-scale producers. He continues saying members should know the objective and mission of their farmers' cooperative. Members should pay membership base and participate actively in the activities of the farmers' cooperative. The farmers' cooperative should know how many members are registered and the number of animals they keep. This means that small-scale producers should be the main owners of a farmers' cooperative and, conversely, that farmers' cooperative should not generally be controlled by external owners, who are not producers. In farmers' cooperative members are customers of the cooperative for services as marketing and advertising, but they are also suppliers of the commodities to be sold collectively by the cooperative (Carr et al., 2008). Consequently, membership should play a vital role in the decision-making process of the cooperative. In general members can express their opinions by using their voting right or by serving on the board, this way the cooperative can assure to generate profits for their members and focus on quality and service that they offer to their members. Membership satisfaction can be measured by the fact that they join the cooperative and remain a member and the degree of active participants within the organization (Corn forth, 2004). The most important expectation of farmers from the cooperative is to solve their problem or take advantage of an opportunity together, instead of trying to do this individually (Koopmans, 2006).

### 3.1.5 Cooperatives governance, leadership and internal democracy

In new or small farmers' cooperative all members are usually involved in managing the business and making day-to-day decisions. However, when farmers' cooperative grows and the number of members increases, it is not practical for every member to participate in decision-making. There is a need for some form of delegation, choosing representatives to manage the farmers' cooperative on behalf of the members. Penrose-Buckley (2007) pointed out that farmers' cooperative is based on two level of structure:-

1. The first level is made up of all the farmers' cooperative members. Their power lies in the decisions made at the general meeting which involves all members and occurs at least once a year, In general meeting members elect their leaders, decide what to do with the farmers' cooperative profits, and agree on major issues, such as new business plans or investment projects.

2. The second level is made up of the leaders elected at the general meeting, who normally elected for a limited term, such as two years, and together they form a management group which provide leadership and govern the farmers' cooperative affairs. In some cases, also invite external people to farmers' cooperative governance and management.

When cooperative grow normally elected leaders find difficult to govern and manage the business, and their own private production. World Development Report, (2008) pointed out that members of a farmers' cooperative often have insufficient business and management skills and experience to manage the business effectively. Managing a business in a dynamic market requires quick decisions. The reason is because it needs a rapid response in respect to conditions and new opportunities in the market. However, elected leaders tend to be slow and bureaucratic therefore professional managers with delegated independence can often manage the business more effectively. Sustainability of the cooperative depends on how well internal regulation is documented and known by all members. Other factors include democratic and transparent elected leader, At least a representative of youth and women. in management staff, frequency cooperative does meeting and each member should have the same decision right.

### **3.1.6 Cooperatives services provision and collective marketing function**

One of the main reasons for supporting farmers' cooperatives is to help small scale producers increase their competitiveness and power in markets, it makes sense to focus on cooperative that actually engage with the market. Most farmers' cooperatives carry out many other collective activities, such as collective production, processing, and influencing policy makers, but the core activity that all farmers' cooperatives have in common is that they collectively market their members' produce. In some ways, these defining features represent a goal rather than a fixed definition. For example, it may take many years before all the members of farmers' cooperatives actively participate in decision-making and therefore effectively control the cooperative. The point is that farmers' cooperatives should be moving towards these features even if it takes many years to get there. And farmers' cooperatives should have the habit of asking the members if they are happy with service they offered and whether if it fulfil the needs of the members. World Development Report, (2008) pointed out that the main functions of cooperatives is to strengthen smallholder's positions in markets, strengthen bargaining power, reduce transaction costs and raise the voice of smallholders in the policy process, The reports continues saying, majority of the world's poor are small scale rural producers who have limited influence in bargaining processes, joining cooperatives help them to have a better bargaining position with the private sector, governments and intermediaries between the rural producers and other stakeholders. Cooperatives integrate producers into the market (product marketing), represent and defend producer's interests to other economic and institutional stakeholders and governments.

### **3.1.7 Cooperatives entrepreneurship skills, collaboration and networking**

Entrepreneurship is defined as the personalized drive and capacity to commercialise the product, service, process or business idea. It can also be defined as creativity in developing adequate resources and competences. Rural entrepreneurship can simply be defined as managerial capacity to launch investment and run business either farming or other rural income generating activities. Greve,(2003) asserted that in order for the cooperative to develop based on entrepreneurship skills there must be active attitudes towards the innovation. Cooperatives are often find hard to market their produce, solving such a problem require entrepreneurship skill in terms of strategies, organisation conceptual focus, opportunity recognition, building relationship and networking drive (Senker and Faulkner, 2001).In order to reach collective entrepreneurship, communication and joint decision making within the cooperatives. Members and management staffs should come into agreement on decisions about their own on-farm activities and investments (Cook and Plunkett, 2006).In order for the cooperatives to be sustainable needs to have good management that will be strongly independent from government and donors, but maintain close cooperation with government and donors services and programmes at an operational level. Farmers' cooperatives need to collaborate with other stakeholders. These include NGOs, research centres, extension workers.

### **3.1.8 Potential challenges facing cooperatives**

Penrose –Buckley, (2007) suggested the development and sustainability of the cooperative is affected by the number of factors. These include poor governance, mistrust between members and leaders, ability of reducing internal transaction costs, risk of losing business to traders who may offer better prices to members than them, limited capacity building with regard to leadership and entrepreneurial skills and absence of clear policies and guidelines. Koopmans,(2006) pointed cooperative are facing number of challenges that can reduce its performances. These challenges include Lack of clearly identifying objectives and strategy, Inadequate planning, Failure to use experienced advisors, Lack of leadership, Lack of member commitment, Lack of competent management, Failure to identify and minimize risks, Poor assumptions, Lack of financing and capital, Inadequate communication and Lack of transparency.

## 3.2 Value Chains

This part of the chapter three presents information about value chains, stakeholders, net profit, value shares, value chain sustainability and chain empowering strategies. The purpose is to provide more understanding of the research.

### 3.2.1 Value chains

Value chain is an analytical and operational model in which product is rarely directly consumed but it is normally transformed after production until it reached the final consumer. In this process the products is owned by various actors, who are linked by trade and services and each actor adds value to the product. (Roduner, 2007)

Kaplinsky 1999, pg. 121; Kaplinsky and Morris 2001, pg. 4) defining value chain as the full range of activities that are required to bring a product (or a service) from conception, through the different phases of production, to delivery to final consumers and disposal after use The concept of value chain exists when all the stakeholders in the chain operate in the way to maximize the generation of value along the chain.

The value chain approach addresses factors that determine if a product meets market requirements with regard to quality, price, dependability, volume, design and speed of delivery. Value chains generally include three or more of the following actors: producers, processors, distributors, brokers, wholesalers, retailers and consumers (Richter, 2005).

Value chain (VC) analysis is a method for accounting and presenting the value that is created in a product as it is transformed from raw inputs to a final product consumed by end users. VC analysis is also synonymously referred to as production chain or market chain.

### 3.2.2 Stakeholders

Stakeholders in the value chain map include the value chain actors, value chain supporters and value chain influencers. Value chain actors these are stakeholders who are directly deal with products as it passes from production to the consumer. These include input supplier, producer, processor, trader wholesaler, retailer and consumer. Value chain supporters these are stakeholders who are not directly deal with the product but provide services that add value to the product. These include extensionist, donor agencies, local government authorities, transporters. Value chain influencer includes the regulatory framework, policies, infrastructure at local, national and international level.

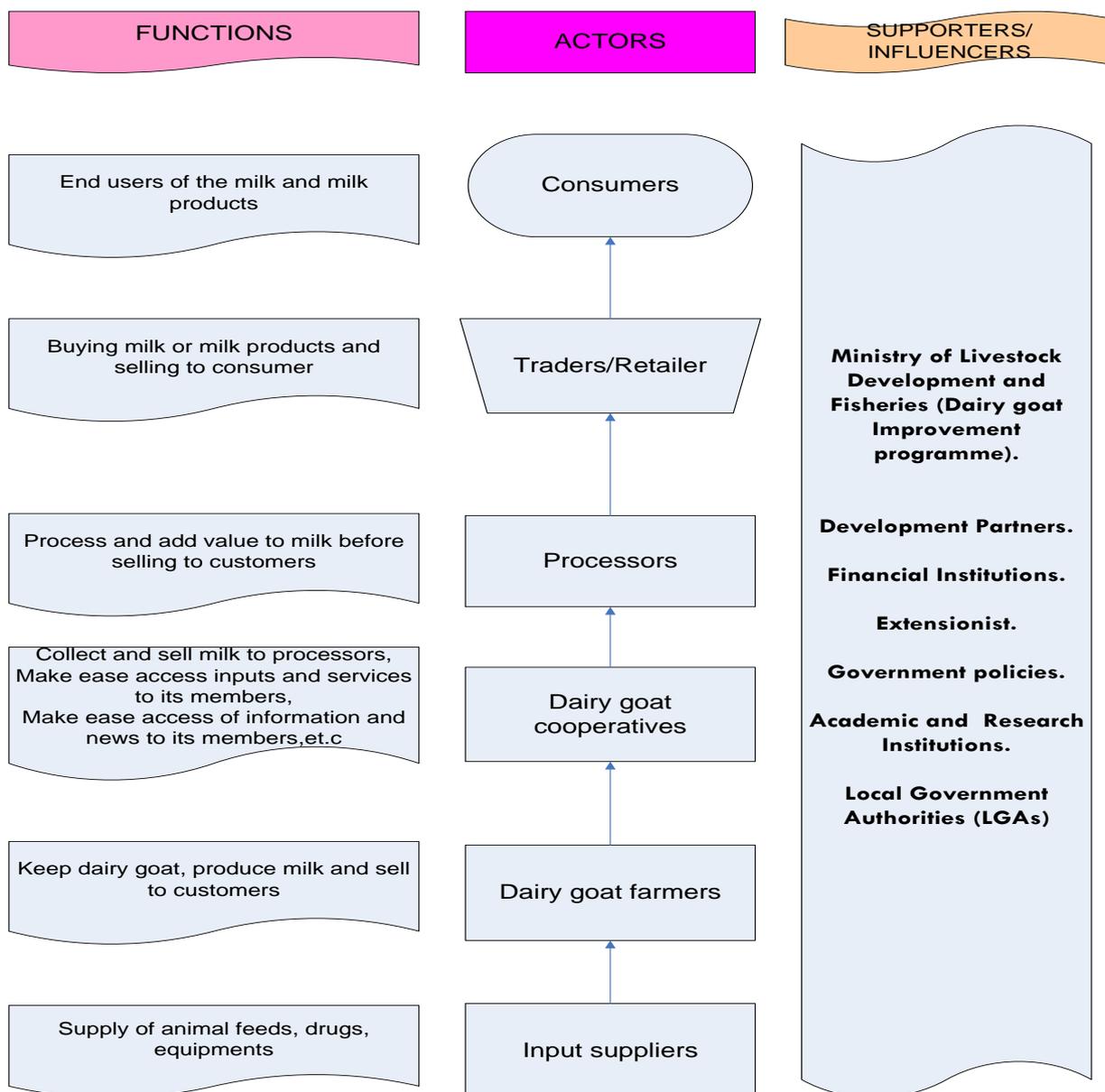


Figure 3.1 Dairy goat value chain stakeholders

### 3.2.3 Value shares

According to KIT and IIRR (2008), a value share is the percentage of the final, retail price that the actor earns. Mathematically it is given by the formula below;-

$$\text{Value share} = \frac{\text{Added value}}{\text{Final retail price}} * 100$$

In an ideal market condition, with perfect competition and transparent information, the size of value shares reflects the amount of labour, expenses and risks that an actor incur in producing a product. The higher the cost and risks the higher the value shares.

In many cases, the value shares are not meaningful by themselves they need to be interpreted in relation to the costs and risks of the chain actors. Only incongruity at that level may be reason for intervention in the chain.

### 3.2.4 Value chain sustainability

According to Kleindorfer *et al*, (2005) Chain sustainability is seen from the basis of people, planet and profit referred to as 3Ps. Nilson (1992) suggested a product's attributes may change over time, but the brand and the value it adds can lead to its sustainability. Similarly, Gale (1994) argued that service was perhaps the most sustainable differential advantage when product is passing from one actor to another actor along a value chain.

**Table 4 Criteria for value chain sustainability**

<b>People</b>	<ul style="list-style-type: none"> <li> Social Justice / Cultural Respected</li> <li> Gender Equity / No child labour</li> <li> Farmers' co-operation for bargaining power</li> <li> Long term relationship</li> </ul>
<b>Planet</b>	<ul style="list-style-type: none"> <li> Environmental safety</li> <li> Low (energy) input / No pollution</li> <li> Conservation Soil, Water, Nature &amp; Wildlife</li> </ul>
<b>Profit</b>	<ul style="list-style-type: none"> <li> Economical viable ( profitable)</li> <li> Fair Small Farmers' share / fair wages</li> <li> Fair Trade / no trade</li> </ul>

**Source:** Adapted from Kleindorfer et al, (2005).

### 3.2.5 Net profit and profitability analysis

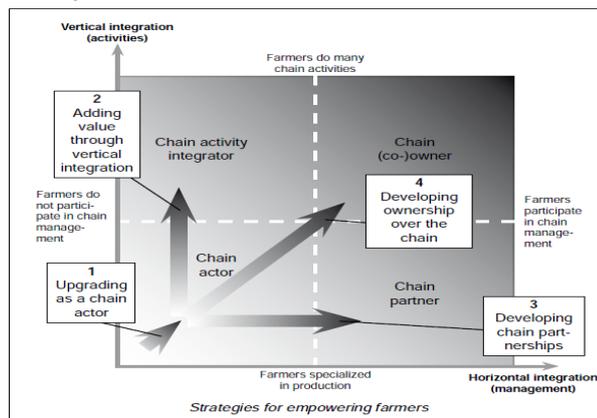
Net profit and profitability are the most important factors in determining the value of a stock. It is important therefore to determine the current levels of earnings as well as future prospects. When looking at the income statement one has to look forward in how the various variables can be adjusted and what factors will make them adjust.

Foo, (2009) asserted that net profit also counts as net earnings because it refers to the actual income or the total amount of earning following the deduction of factors such as overhead, cost of goods sold and the interest payable. Overhead refers to the ongoing administrative cost when it comes to operating the business. Cost of goods sold refers to the direct expenses or costs needed to produce the product or goods. Interest payable, on the other hand, refers to the amount or percentage of money the company owes to different parties specified for settlement at a certain period He continues saying, the higher the net profit of the business, the better condition of the company. Depending on the net profit, the business owner and investors can decide whether or not they should continue with the venture. Net profit also determines the potential of the business and can serve as a good basis for projecting its future.

### 3.2.6 Value chain Empowerment

KIT, (2006) pointed that there are four main strategies that can be used to empower the performance of the farmers' cooperatives. Pg 150

- ✚ Upgrading chain actors: This strategy improves cooperatives management and organisation skills, production, planning, record keeping, financial management and better understanding of the market chains, consumer demands through identifying and develops markets and products in terms of the quality, quantity and security.
- ✚ Adding value through vertical integration: this strategy enables the cooperatives to design and implement management system (operational procedures), the cooperatives will able to add value of a product through joint marketing and development of logistics.
- ✚ Developing chain partnerships: This strategy enables the cooperatives to become innovative and attracting business partner both technically in terms of quality and produce and managerially in terms of entrepreneurial, mentality and understanding of the chain, it can also improve the relationship of cooperatives with processors, traders or retailers, empower the farmers' association including information system for improved bargaining power, joint action plans based on shared interests
- ✚ Developing co-ownership over the chain: This strategy enables cooperatives to gain chain co-ownership with processors or retailers or through direct marketing to consumers. In order for the cooperatives to have total control of a product should be properly organized and coordinated; should have adequate entrepreneurial and marketing skills and need to be able to produce an attractive product.



**Figure 3.2 Chain empowerment strategies of farmers**  
Source: KIR and IIRR 2006.

**CHAPTER FOUR**

**4.1 Dairy goat sub sector in Mpwapwa district**

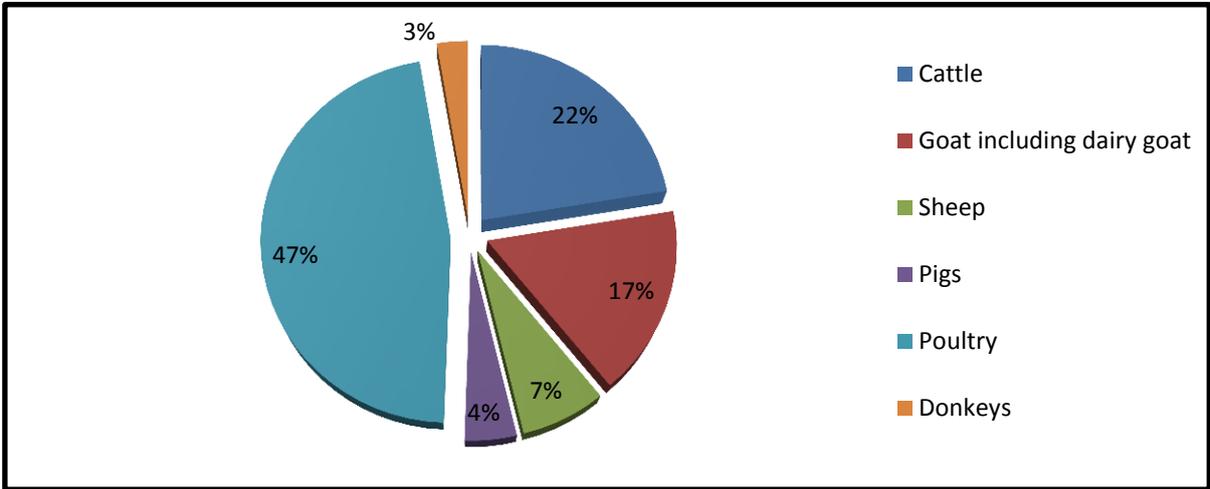
This chapter shows results obtained from the case study, it presents the information on livestock production and population in Mpwapwa district and also it presents dairy goat husbandry system and map of Mpwapwa dairy goat value chain. The information obtained from one key production expert interviewed (District statistician officer) + documents from Mpwapwa district council. District statistician officer was able to give information on statistics of livestock in Mpwapwa district and on other hand documents from Mpwapwa district council gives information on dairy goat husbandry systems and was able to be used to map dairy goat value chain.

**4.1.1 Livestock production in Mpwapwa district.**

Livestock keeping is an important economic activity for majority of Mpwapwa rural residence. MDC, (2010) pointed out 40% percent of people aged 18 years and above was engaged in this sub sector. Livestock keeping normally done traditionally and involves mostly indigenous cattle, goats, poultry, sheep, donkey and pigs. In Mpwapwa district livestock sub sector makes a big contribution to food security and poverty eradication at household level and also is an important source of food protein through meat, milk and poultry products.

**4.1.2 Livestock population in Mpwapwa**

Livestock population in Mpwapwa district in 2010 is estimated 783,092. Poultry being the first with 366,142 population make 47 percent of the district livestock population followed by cattle 175, 323 (22 percent) and goat 131,290(17percent) including dairy goat. Others were sheep 55,445 (7percent), pigs 33,697 (4 percent) and donkeys 21195 (3 percent),



**Figure 4.1 Population of the major livestock in Mpwapwa district**  
**Source: Mpwapwa district annual report, 2010**

#### 4.1.3 Dairy goat husbandry system

A review of the annual reports of the Mpwapwa district council (2010) pointed out that there are 310 dairy goat farmers in Mpwapwa district that produce an estimated 1050 litres of milk per day. In profundity interview with the district statistician officer pointed out that most of the dairy goat farmers' are fall in the category of semi grazing husbandry system (85% of the total dairy goat farmers).The number of dairy goat kept by all system is ranging from 2-5.

The production husbandry systems are summarized in the table 5 below:-

<b>Dairy goat husbandry system</b>	<b>Characteristics</b>	<b>Estimated volume of milk</b>
Semi-grazing	This is a system in between free and zero grazing. The animals are allowed to graze during the day. The system is laboured extensive. 85% of dairy goat farmers' in Mpwapwa district practise this type of farming.	No. of farmers (263)*Goats per farmer (3)*Litre per dairy goat (0.5 to 1) is equal to 768 litres
Zero-grazing	The animals are complete confined with high management. Feeds and water are brought to the animal. The system is labour intensive, but can increase milk production when feeding and animal management is sufficient. 15% of dairy goat farmers in Mpwapwa district practise this type of farming.	No. of farmers (47)*Goats per farmer (3)*Litre per dairy goat (2) is equal to 282 litres

Source: Mpwapwa district council, 2010

## 4.2 Dairy goat value chain in Mpwapwa district

This part of chapter four presents dairy goat value chain, value shares of actors, net profit, profitability analysis of milk trader and value chain sustainability of dairy goat subsector in Mpwapwa district. The documents from Mpwapwa district council were able to be used to map the value chain of goat dairy sector in the Mpwapwa district (Figure 4.2). The map shows the different actors and stakeholders involved. The value chain consists of three channels one is smallholder farmers sell milk through cooperative and other sell to either Hawkers (milk trader) or rural consumer.

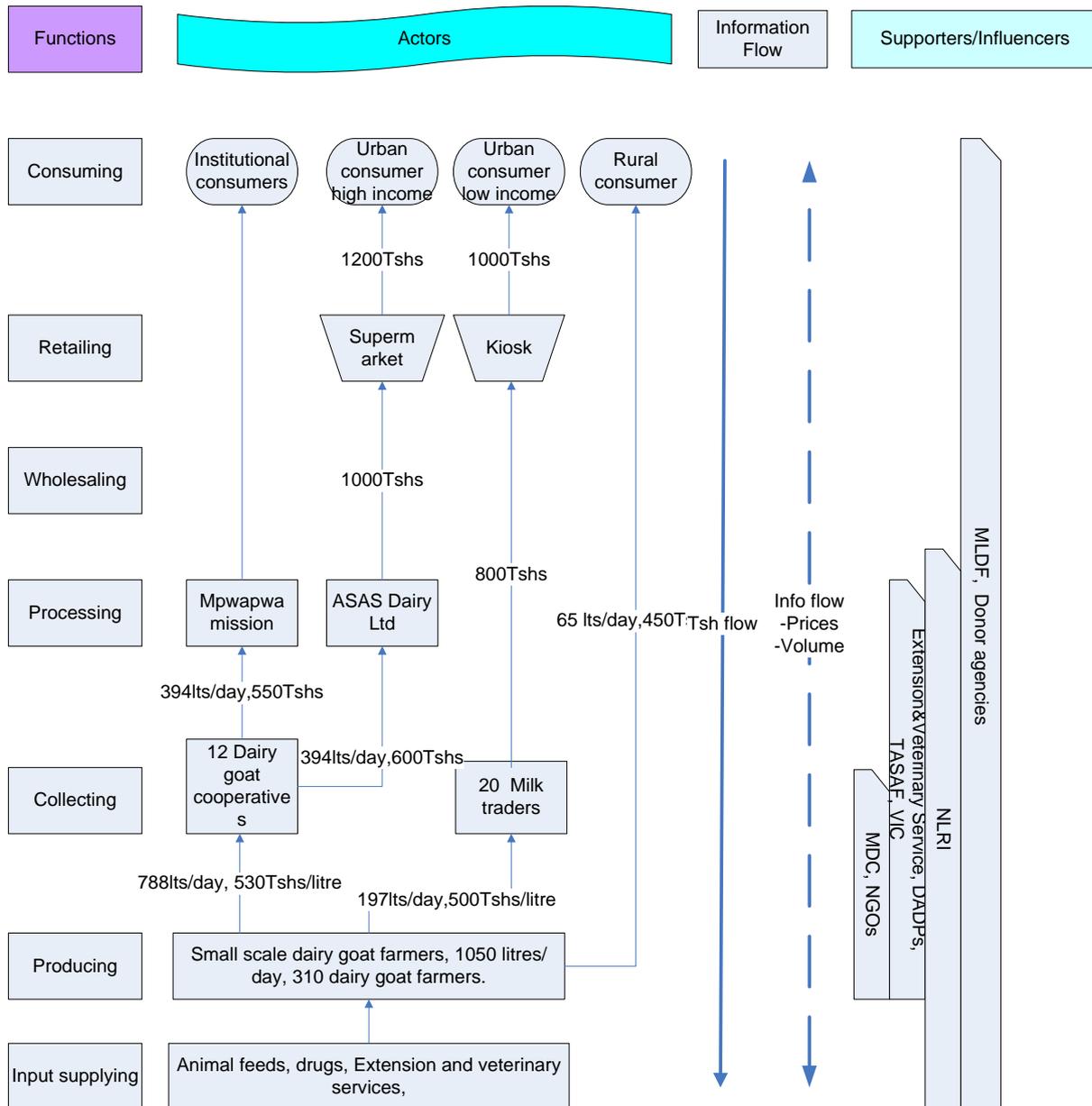


Figure 4.2 Chain map of the goat dairy sector in the Mpwapwa district  
Source: Mpwapwa district council, 2010

## **Dairy goat value chain stakeholders**

The stakeholders in Mpwapwa dairy goat value chain involve chain actors, chain influencers and chain supporters.

### **Chain actors in the Mpwapwa dairy goat value chain**

#### **Input suppliers**

Dairy goat feed availability is low in Mpwapwa district means that there are 4 feed millers in Mpwapwa town producing livestock feeds (MDC, 2010). Three millers out of the four were producing other livestock feeds apart from dairy goat feeds. Concentrates are hardly available and if available they are very expensive. Majority of the Farmers raised their own dairy goat through semi intensive system whereby the animals are allowed to graze during the day and fed with concentrates during the night. Veterinary drugs are available from the various agro vet shops throughout the district but vaccines especially CBPP vaccine is only available in Mpwapwa town (MDC, 2010).

#### **Producers (dairy goat farmers)**

Majority of the farmers have 2-5 dairy goats and average milk production per dairy goat farmers is 1-3 litres per day. A total of 310 dairy goats' farmers are currently available in Mpwapwa district (MDC, 2010). In rainy season the amount of milk is high due to availability of feed for animals. During dry season the amount of milk decrease and farmers normally kept their animals in stalls from which they are fed silage or concentrates and allowed to graze on pastures on day time. During milking dairy goat are given concentrates, In many cases farm activities which include fodder cultivation, silage making, feed mixing, feeding, milking, cleaning activities are normally done by the owner of the animal + family or other close relatives but also sometimes hiring of labour is possible. Mpwapwa district livestock officer pointed out that some management practices needed for improving production of dairy goat are not done effectively e.g. determination of diseases symptoms, heat detection.

#### **Dairy goat cooperatives**

There are twelve dairy goats cooperative in Mpwapwa district. The importance of cooperative organization in Mpwapwa district is to provide social development, poverty reduction, and participatory development. Dairy goat cooperative in Mpwapwa district are facing a number of challenges including inadequate extension services, mistrust between the members and leaders e.tc (field survey).The activities of majority of dairy cooperative are to make ease of their members to access services like inputs, extension services and collective bargaining on behalf of members. The amount of milk goes to dairy goat cooperatives per day is 788litres and it earn 417,640 MDC, (2010).

#### **Milk traders (Hawkers)**

There are approximately twenty milk traders, two milk traders were identified from the field survey. In most occasions milk traders buys milk directly from dairy goat farmers. From interviewed it was noted that the traders are facing with number of challenges that increase marketing cost. A mostly challenge pointed out by milk traders during interview is cost of transportation and risk associated with transportation as a result it reduce profit. Milk traders pointed out that they normally sell milk to kiosk/ small shops in Mpwapwa town or to the rural consumer. The relationship between the farmers and the milk trader in mpwapwa district is a chain relation, farmers is organised into cooperatives but traders also work with brokers, wholesalers or other actors in a chain. The amount of milk bought by milk traders per day is approximately 197litres/day (MDC, 2010). During the interview milk traders pointed out that they normally buy one litre of goat milk by 500Tsh and selling price is for 800Tshs.

### **ASAS Dairy Ltd**

There are two common ASAS that buy milk from the cooperative i.e. Iringa ASAS Dairy Ltd and Tanga Flesh Limited. The amount of milk goes to ASAS Dairy Ltd is approximately 394 litres per day and it earn 236,400 Tshs (MDC, 2010).

### **Supermarkets**

There are three supermarkets in Mpwapwa district located in Matomondo, Kibakwe and Wota ward (MDC, 2010). They buy milk product from ASAS Dairy Ltd and selling to customers.

### **Consumers**

The final actor of the chain can consume raw milk or milk product like ghee, yoghurt. There different types of consumer found in Mpwapwa. These are Institutional consumers for stance OVC, Urban consumer high income who are normally buy milk/milk product from supermarket, Urban consumer low income who are normally buy milk/milk product from kiosk/small shops and rural consumer who they normally buy raw milk directly from the dairy goat farmer. Majority they prefer raw milk due to availability and it is cheap compared to the milk product like ghee e.tc MDC, (2010).

### **Chain supporters/Influencers in the Mpwapwa dairy goat value chain**

#### **DADPs and TASAF**

In 2001 the Government of Tanzania prepared the Agriculture Sector Development Strategy (ASDS). Two years later the five lead agriculture sector ministries prepared the Agricultural Sector Development Programme (ASDP) as the implementing document for the strategy. The ASDP was to be implemented at the district levels under District Agricultural Development Plans (DADPs).The Tanzania Social Action Fund (TASAF) was established in June 1999 as a key poverty alleviation instrument designed to address community social needs. TASAF is a Social Fund designed to finance self-help community projects and transfer cash through Safety net activities. In November 2000, the Government of Tanzania obtained a credit worth USD 60 million, this credit will be used to implement projects to cover 40 districts in the Mainland including Mpwapwa district. The main objective of TASAF is to increase and enhance the capacity of communities and stakeholders to prioritize, implement and manage sustainable development initiatives and in the process improve social-economic services and opportunities. The expected outputs of the funds include identified and implemented community and safety net sub projects; better informed communities and stakeholders; and improved capacity to manage funds and facilities. Furthermore, this programme supports governments' poverty reduction efforts that target women, youth and other vulnerable groups during seasons or period of food insecurity.

MDC, (2010) pointed out 30 out of 35 cooperatives was initiated under DADPs with coordination and monitoring carried out by the sectoral ministries Including Ministry of livestock development and fisheries and Ministry of Agriculture

#### **VIC and NLRI**

National livestock Research Institute (NLRI) provide dairy goat farmers with information pertaining dairy goat improvement, use appropriate research findings and make collaboration and networking with dairy goat farmers while on the other hand Veterinary Investigation centre (VIC) Provide dairy goat farmers with animal health service through provision of vaccines, treating sick animals, Control spread of disease through quarantine practices and controlling movement of livestock. Coordinate and monitor private veterinary service provision.

### MLDF and MDC

MLDF are responsible for policy formulation and implementation, facilitate production, research and delivery of extension services and management of dairy goat cooperatives while MDC are responsible for providing advisory services to dairy goat farmers that include proper dairy goat practices, market information and make linkages between actors.

### Donor Agencies and NGOs

Donor agency support various projects along the chain and collaborates with the government and service providers while on the other hand NGOs train dairy goat cooperatives on feed conservation methods, searching better market for their milk and support the linkage between actors

#### 4.2.2 Value shares of dairy goat farmer in Mpwapwa dairy goat value chain

The information obtained from interviews with stakeholders in Mpwapwa dairy goat value chain (3 dairy goat farmers, 2 milk trader and cooperatives) was able to be used to calculate value shares among actors in Mpwapwa dairy goat value chain as shown below:-

**Table 6 Value share of farmer when marketing milk through cooperative (Formal chain)**

Chain Actor	Revenue	Added value	Value share
	Selling price(Tshs)	Revenue – previous actor's revenue	Added value x 100 /Retail price
Dairy goat farmers	530	530	44
Dairy goat cooperative	600	70	6
ASAS Dairy Ltd	1000	400	33
Supermarket	1200	200	17

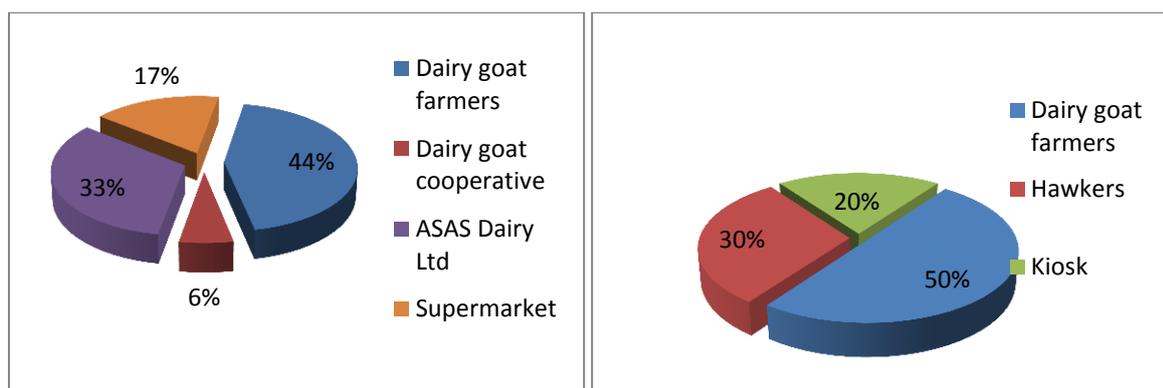
**Table 7 Value share of farmer when marketing milk through Hawkers (Informal chain)**

Chain Actor	Revenue	Added value	Value share
	Selling price(Tshs)	Revenue – previous actor's revenue	Added value x 100 /Retail price
Dairy goat farmers	500	500	50
Hawkers	800	300	30
Kiosk	1000	200	20

When the farmer sell milk through cooperative to ASAS dairy Ltd which in turn sells to the supermarkets, the farmers can earn 30Tsh/litre extra than when the farmer sell milk to hawkers which in turn sell to the kiosk.

### Value shares (formal chain)

### Value shares (informal chain)



The dairy goat farmer has the highest value shares in formal chain while the second largest is from processing company while the dairy goat cooperative has the least share. In the informal chain, half of the value shares are for the dairy goat farmers while other half is shared between Hawkers and kiosk

### Profitability for actors in different chains

Profitability- Return to investment given by profit /cost price expressed as a percentage.

Type of chain	Actors	Cost price
Formal chain	Dairy goat farmers	Profitability= (profit/l/cost price* %) $4850/90/ 476.1* \% = 11$
Informal chain	Hawker (Milk trader)	Profitability= (profit/l/cost price* %) $29500/270/690.7 * \% = 15$

The milk trader in informal chain has a higher profitability compared to dairy goat farmer in formal chain.

**Table 8 Cost price for actors in different chains**

Type of chain	Actors	Cost price
Formal chain	Dairy goat farmers	Cost price=Total Costs(-byproducts) / Volume $42850/3 * 30 = 476.1Tshs$
Informal chain	Hawker (Milk trader)	Cost price= Total Costs (-byproducts) / volume $186500/9 * 30 = 690.7$

The milk trader in informal chain has a higher cost price compared to dairy goat farmer in formal chain.

### 4.2.3 Net profit for a dairy goat per month in Mpwapwa district

The information obtained from interviews with 3 dairy goat farmers and 2 milk trader was able to be used to calculate net profit for a dairy goat per month and profitability analysis of milk trader. Three key dairy goat farmers were interviewed to give insights on their net profit per month while on other hand two milk traders was interviewed to give information that was used to find profitability of milk trader per month. The results indicates that the net profit of dairy goat farmer in Mpwapwa district is 4850 Tshs this does not include capital cost (costs of equipment, housing or buying of animals), or income from selling kids or does after reaching end of productive lives and net profit per month 29,500Tshs for milk trader.

**Table 9 Net profit of dairy goat farmer per month**

	<b>Farmer 1</b>	<b>Farmer 2</b>	<b>Farmer 3</b>	
<b>Inputs</b>	No. of goats 2	No. of goats 2	No. of goats 2	
Salts, licks	2salt block in 30 days is equal to 4900 ( price change depend on supplier source)	2salt block in 30 days is equal to 5100 (price change depend on supplier source)	2salt block in 30 days is equal to 5000 ( price change depend on supplier source)	
Spraying, dipping(once per 30 days)	200	200	200	
De worming (once per 30 days)	1000	1000	1000	
Feed	14500	15500	15000	
Veterinary services	2000	2000	2000	
<b>Subtotal</b>	<b>22,600</b>	<b>23,800</b>	<b>23,200</b>	
<b>Labour</b>				
Fodder+ Milking (6hrs per day @ 55.56Tshs per hr)	10,000	10,000	10,000	
Transport	1500	2500	2000	
<b>Subtotal</b>	<b>11,500</b>	<b>12,500</b>	<b>12,000</b>	
<b>Cooperative</b>				
Cooperative charge 3litres/day*85*30days	7,650	7,650	7,650	
<b>Subtotal</b>	<b>41750</b>	<b>43950</b>	<b>42850</b>	
<b>Revenue</b>				
Sales of milk 3litres/farmer/day*530Tsh*30d ays	47,700	47,700	47,700	<b>Average Net profit =4850 Tshs</b>
<b>Net profit</b>	<b>5,950</b>	<b>3,750</b>	<b>4,850</b>	

#### 4. 2.4 Profitability analysis of milk trader (Hawker) in Mpwapwa district

##### Costs

Milk purchases	(9 litres* 500Tshs/litre *30 days)	135,000
Transport		36,500
Others		15,000

##### Revenues

Monthly sales	(9 litres * 800Tshs/litre*30 days)	<b>216,000</b>
<b>Net profit per month</b>		<b>29,500</b>

#### 4.2.5 Value chain sustainability

The information obtained from desk study, survey and interviews was able to be used to give insights on sustainability of dairy goat sub sector in Mpwapwa district. The sustainability of the dairy goat value chain will largely depend on how the environmental, social and economic issues are addressed referred to as 3 Ps or 3 Es.

**Table 11 Sustainability of dairy goat subsector**

Equity (People)	Economic (Profit)	Environment (Planet)
<ul style="list-style-type: none"> <li>✚ Men mostly own and manage dairy goat (About 65% and above).(MDC,2010)</li> <li>✚ Youth also own &amp; manage dairy goat (Field study).</li> <li>✚ Both men &amp; women are involved in selling of milk but selling is dominated by men.(MDC,2010)</li> <li>✚ Bargaining power for farmers is high as they joined together to form cooperative. (Field study).</li> <li>✚ Relationship between actors is low. (Field study).</li> </ul>	<ul style="list-style-type: none"> <li>✚ Creates employment (about 121,638 people, 40% of total population in Mpwapwa are engaged in this business (MDC, 2010).</li> <li>✚ Prices fixed by traders (Hawkers) to the disadvantage of the farmer. (Field study).</li> <li>✚ Low input/low-output production but relative benefits greater to farmers as it was revealed when computing the net profit of a dairy goat farmer.</li> <li>✚ Source of income and food for the rural farmers</li> </ul>	<ul style="list-style-type: none"> <li>✚ Ecological sound management of natural resources.</li> <li>✚ Manure for soil conservation in crop fields</li> <li>✚ Natural disaster e.g. floods, draught &amp; diseases.</li> </ul>

**CHAPTER FIVE**

**5.0 Dairy goat cooperative performances**

This chapter is presented in two sections; the first section presents information on governance of three dairy goat cooperative obtained from interview with two representatives per cooperative. The second section presents self-assessment results of cooperatives obtaining from field survey. Ten randomly selected members from Juhudi cooperative was able to assess their cooperative by filling structured questionnaire based on membership base; governance, leadership and internal democracy; management of financial resources; collaboration and networks; service provision to members; animal management and production; stakeholder collaboration; entrepreneurial skills, cost and marketing (*Survey questionnaire appendix A*).The same procedure was also repeated in Upendo and Vijana dairy goat cooperatives.

**5.1 Dairy goat cooperative**

**5.1.1 Juhudi dairy goat cooperative**

Juhudi is a cooperative located in the Matomondo ward in Mpwapwa district. In 2006, a group of ten dairy goat farmers joined together in order to find how they going to sell their milk together (collective bargaining). From that time the cooperative grew to 22 dairy goat farmers in 2011. 59 %( 13) of members are male and 41 %( 9) are female. 68 %( 15) of members are literate. The cooperative conducting meeting once per month, they normally meet to discuss matter concerning development of the cooperative.

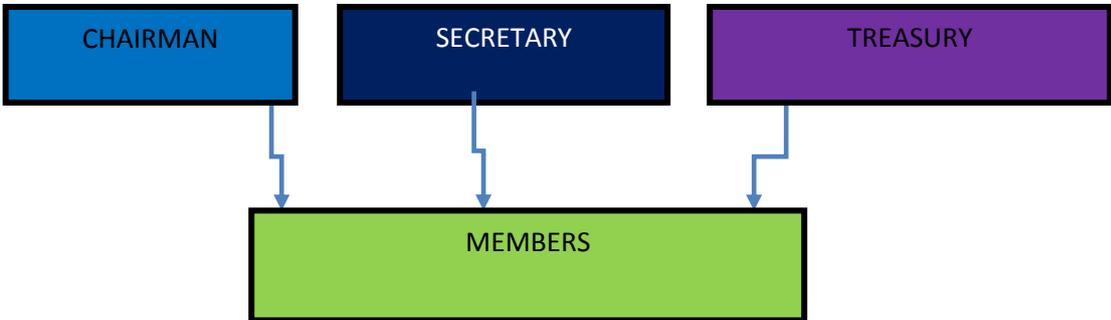
All members are small scale farmers with less than 5 dairy goats and they all practise semi intensive type of farming. Of the total animals 100% are crossed breeds (Toggernburg +Maasai).The amount of milk bought from members per day is around 50litres per day and the amount of milk sold to the Mpwapwa mission is around 35 litres and around 15litres to the Hawkers (Traders),

**Activities**

The main activities of Juhudi are:

- i. Make ease for members to access services including veterinary services, feeds, extension services, credits
- ii. Improving income and health status of members
- iii. Searching of different market of selling their milk.

**Organisation structure**



**Figure 5.1 Structure of the Juhudi Organization**

### **Voting of leaders**

The members select the names among themselves, and then they vote for chairman position, the name with high frequency of appearing after voting is selected to be a chairman. The same procedure is repeated for secretary and treasury. Every member has the same power in voting regardless of the number of animals he /she have.

### **Cooperative Fund**

The cooperative has one account at National Microfinance Bank located in Mpwapwa district. For the member to withdraw money from the bank a request must be written and approved by chairman and treasurer.

From each litre milk sold by the cooperative 85Tsh goes to the cooperative fund. A membership fee is the other source of cooperative fund. When new member want to join he /she has to pay 4000Tshs.

### **Entrepreneurship skills**

The cooperative has no diversified into other activities related to selling of milk and the milk is sold as raw commodity and no addition value. The searching for new possibilities of market are insufficient as they depend only on two sources i.e. Mpwapwa mission and milk trader. Communication with other actor is not frequently and not transparently hence making the relationship between dairy cooperative and other actor weak.

The number of literate members is 15 (68%) and 5 members have much experiences on dairy goat husbandry and hence make ease for knowledge sharing.

#### **5.1.2 Upendo dairy goat cooperative**

Upendo dairy goat cooperative is a cooperative which was founded by dairy goat farmers. It is started in 2006 as a cooperative with 10 dairy farmers. The cooperative grew both in members and formality and matured to a large cooperative which got authorized and certified by the Government of Tanzania and TFC in July 2009. In July 2011 the total number of members was 17. The cooperative meeting is once per month, they normally meet to discuss matter concerning development of the cooperative.

The cooperative is located in Kibakwe ward, of the total number of members, 10 are literate (59%), which is beneficial for the cooperative. Information provision and recording of data can be done easier and more appropriately when the illiteracy level is moderate. All members of Upendo cooperative are small scale farmers and has one or two crossed dairy goats (Toggerburg +Gogo) with an average land size of approximately 0.5 hectares (mentioned by the Upendo representatives).

Among the members of the cooperative, there are 5 female members (29%) and 12 male members (71%) and all members are small scale farmers with less than 5 dairy goats. All members apply the semi intensive type of husbandry system.

The amount of milk bought from members per day is around 15litres per day and all amount of milk are sold to ASAS- Dairies Ltd –Iringa.

### **Activities**

The main activities of Upendo are:

- i. Make ease for members to access services including veterinary services, feeds, extension services, credits
- ii. Improving income and health status of members
- iii. Searching of different market of selling their milk.
- iv. To build strong relationship with customers.
- v.

### **Organisation structure**

It is similar as Juhudi cooperative but they consider gender in leadership of cooperative 50% male and 50% female. The procedure for voting is similar as Juhudi cooperative.

## Cooperative Fund

The cooperative source of fund come membership fees, when new member want to join he/she has to pay 3000Tsh and from each litre of milk sold by the cooperative 50Tsh goes to the cooperative fund. The cooperative has also bank account opened at National Microfinance Bank.

## Entrepreneurship skills

The cooperative has no diversified into other activities related to selling of milk and the milk is sold as raw commodity and no addition value. The searching for new possibilities of market are insufficient as they depend only on one market possibility source i.e. Iringa -ASAS Dairy Ltd.

### 5.1.3 Vijana dairy cooperative

Vijana dairy cooperative was established in 2005, it is started with 20 members. The cooperative grew and reach 34 in July 2011. 22 members are male (65%) while 12 members are female (35%). All members are small scale farmers with less than 5 dairy goats and have one or two crossed goats (Toggernburg +Gogo).All members apply semi intensive type of husbandry system. Of all members 28 members are literate which (82%). The cooperative conducting meeting is twice per month, they normally meet to discuss matter concerning development of the cooperative

The cooperative is located in Mbori ward and the amount of milk bought from members per day is 85 litres and amount of milk around 50litres is sold to the ASAS-Dairies Ltd Iringa, around 25 litres to the Mpwapwa mission and around 10 litres to the traders (Hawkers).

## Activities

The main activities of Vijana are:

- i. Make ease for members to access services including veterinary services, feeds, extension services, credits
- ii. Improving income and health status of members
- iii. Searching of different market of selling their milk.
- iv. To build strong relationship with customers.
- v. To have a good relationship with other producer groups and dairy goat cooperative in Mpwapwa district and elsewhere
- vi. To achieve a good working relationship with the government

## Organisation structure

Vijana has a structure which is similar to juhudi and upendo cooperative but in contrast it has body members of seven people includes the chairman of village and counsellor ward and others five elected members, The voting procedure of leaders is similar as Juhudi cooperative and Upendo cooperative.

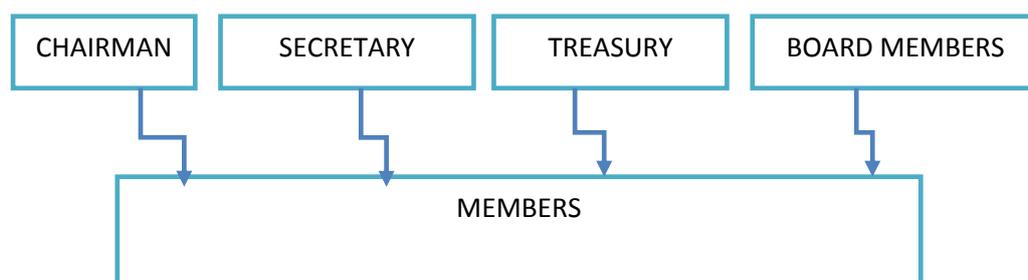


Figure 5.2 Structure of the Vijana organization

### **Cooperative Fund**

The cooperative has one account at National Microfinance Bank located in Mpwapwa region. For the member to withdraw money from the bank a request must be written and approved by chairman, treasurer and board members..

From each litre milk sold by the cooperative 100Tsh goes to the cooperative fund. A membership fee is the other source of cooperative fund. When new member want to join he /she has to pay 5000Tshs

### **Entrepreneurship skills**

The cooperative has no diversified into other activities related to selling of milk and the milk is sold as raw commodity and no addition value. The searching for new possibilities of market are sufficient as they depend only on three sources i.e. Mpwapwa mission, ASAS Dairy Ltd and milk trader. Communication with other actor is not frequently and not transparently hence making the relationship between dairy cooperative and other actor weak.

The number of literate members is 28 (82%) and 10 members have much experiences on dairy goat husbandry and hence make ease for knowledge transferring among themselves.

## 5.2 Overall results of self-assessment

This is part of chapter five presents' self-assessment results of cooperatives obtaining from field survey. Ten randomly selected members from juhudi cooperative was able to assess their cooperative by filling structured questionnaire based on membership base; governance, leadership and internal democracy; management of financial resources; collaboration and networks; service provision to members; animal management and production; stakeholder collaboration; entrepreneurial skills, cost and marketing (Survey questionnaire appendix A).The same procedure was also done in Upendo and Vijana dairy goat cooperatives.

### 5.2.1 Average total score

On a scale from 0 to 100, the overall average score of 30 respondents are as follows:

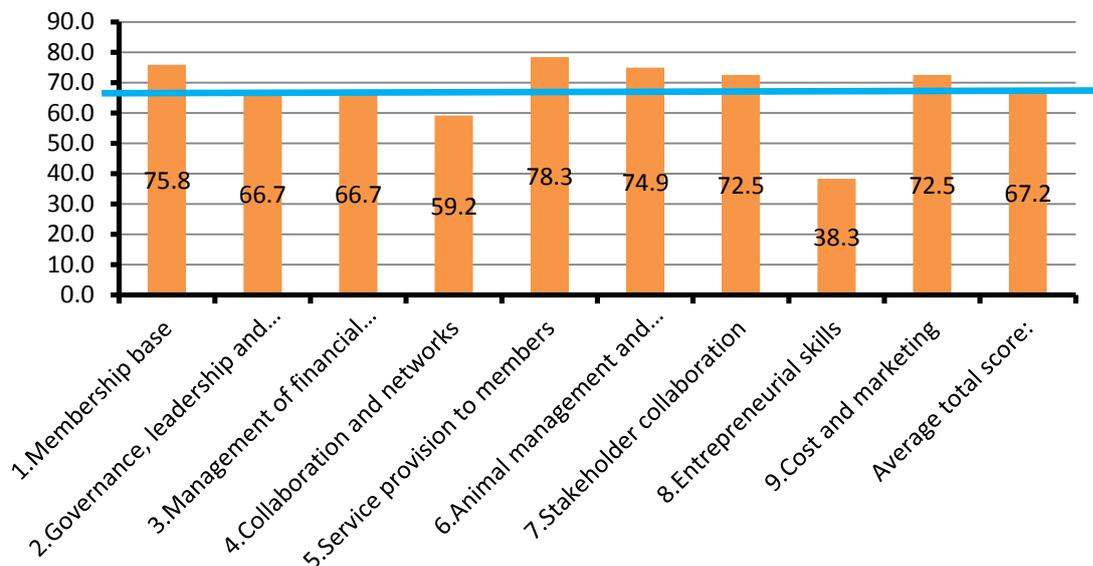


Figure 5.3 Average score per assessment area

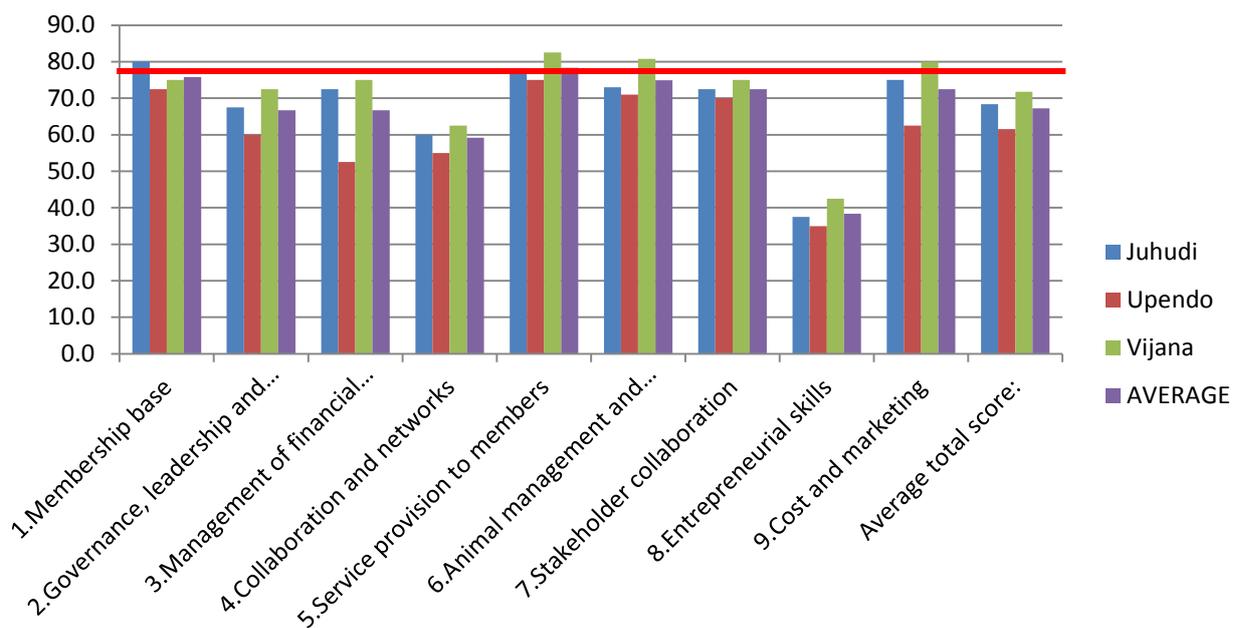
The results seem to be rather homogeneous with assessment area scores oscillating around the total average score of 67.2 with the exception of entrepreneurship skills assessment area (38.3). On average, the respondents gave 2.7 points on a scale from 0 to 4. The same results can be set out in a bar/line graph with a scale ranging from 65-75, whereby the bars show the assessment area scores and the line showing the overall average score of 67.2 This allows for easier comparison between assessment areas and in relation to the overall average score.

### 5.2.2 Dairy goat performances

The following table and graph shows remarkable differences between the different groups of respondents, with average total overall scores (67.2%), high overall scores for both Vijana (71.8%) and Juhudi (68.4%) and slightly below average for upendo (61.5%)

**Table 12 Performances between dairy goat cooperatives**

Assessment areas	Juhudi	Upendo	Vijana	<b>AVERAGE</b>
1.Membership base	80.0	72.5	75.0	<b>75.8</b>
2.Governance, leadership and internal democracy	67.5	60.0	72.5	<b>66.7</b>
3.Management of financial resources	72.5	52.5	75.0	<b>66.7</b>
4.Collaboration and networks	60.0	55.0	62.5	<b>59.2</b>
5.Service provision to members	77.5	75.0	82.5	<b>78.3</b>
6.Animal management and production	73.0	71.0	80.8	<b>74.9</b>
7.Stakeholder collaboration	72.5	70.0	75.0	<b>72.5</b>
8.Entrepreneurial skills	37.5	35.0	42.5	<b>38.3</b>
9.Cost and marketing	75.0	62.5	80.0	<b>72.5</b>
Average total score:	68.4	61.5	71.8	<b>67.2</b>



**Figure 5.4 Performances between dairy goat cooperatives**

The performances per cooperative are also highlighted in figures:-

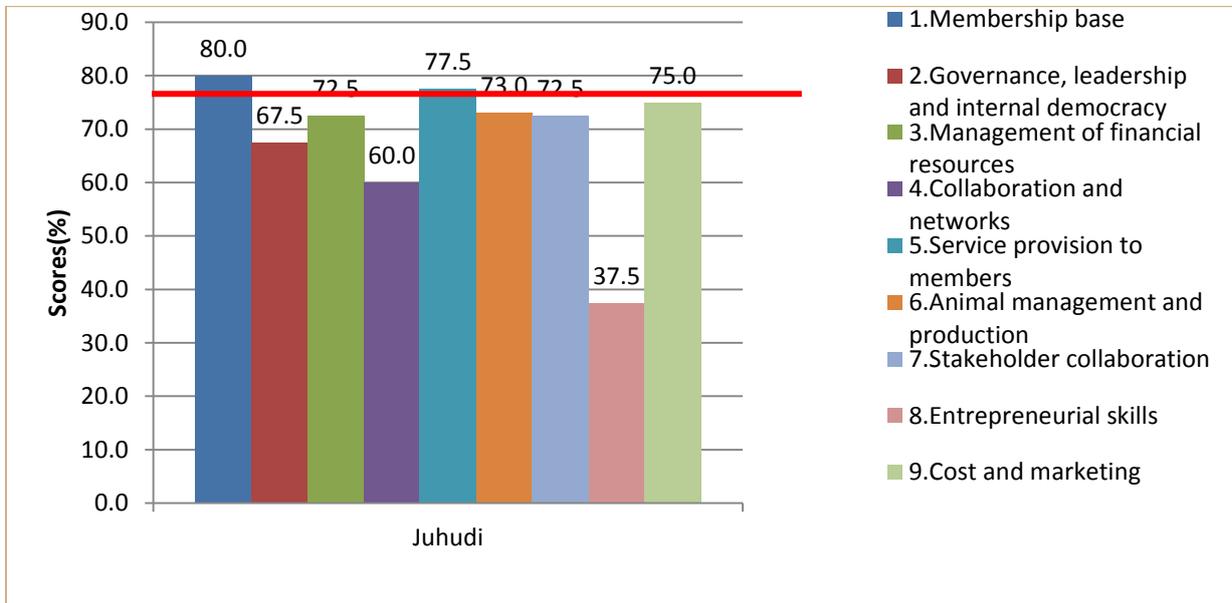


Figure 5.5 Juhudi dairy goat performances

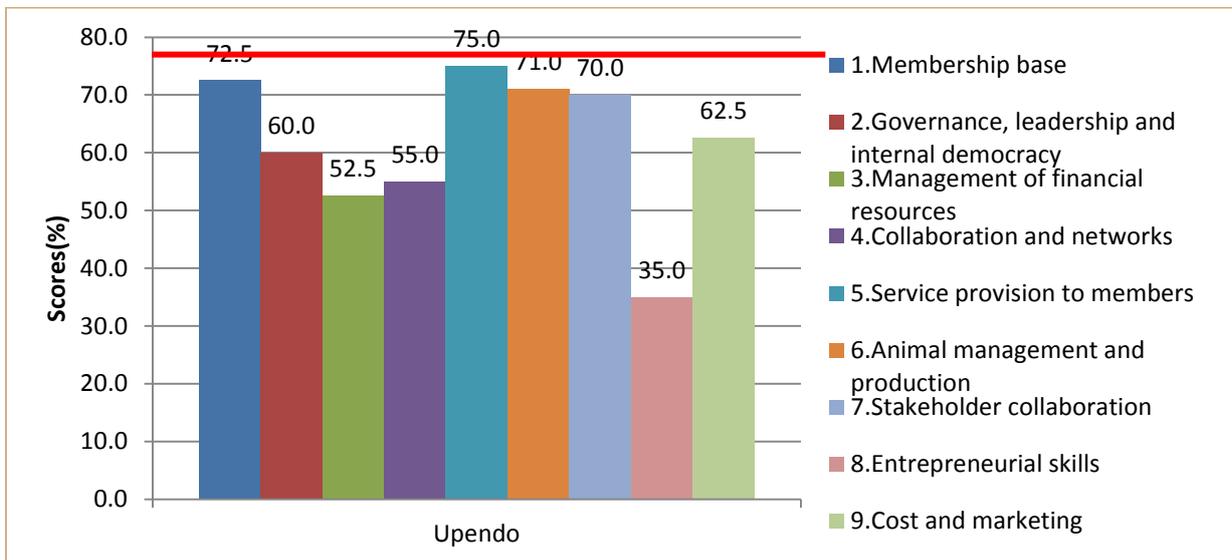
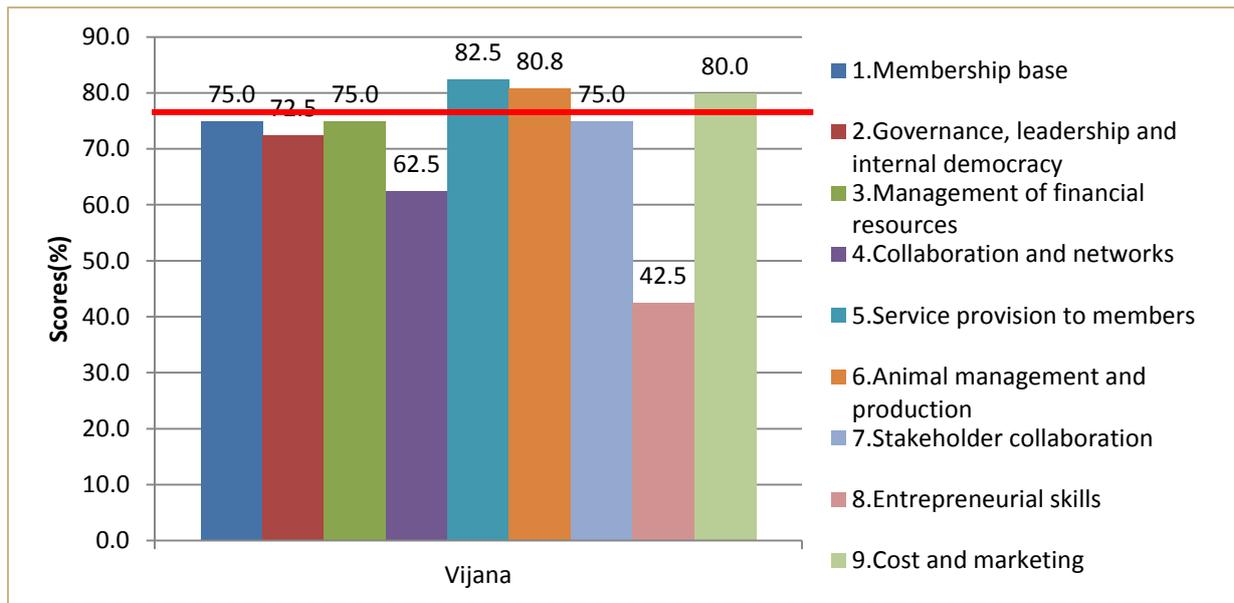


Figure 5.6 Upendo dairy goat performances



**Figure 5.7 Vijana dairy goat performances**

### Overall results

The overall score of Upendo is quite lower than those of Vijana and Juhudi. The differences especially concern: service provision to members (assessment area 5) and management of financial resources (assessment area 3).

The self-assessment results clearly suggest that the respondents are not satisfied with entrepreneurship skills of their cooperatives.

### 5.3 Cooperative function and performances

This section presents self-assessment results of cooperatives obtaining from field survey.

#### Membership base

In membership base there was nine statements where by the respondents per each cooperative asked to fill to express their views about their respective cooperative.

No	Statement
1.1	The conditions for adhering to our farmers' cooperative are clearly defined
1.2	Our farmers' cooperative has clearly formulated the objectives it wants to reach
1.3	These objectives are shared with all individual members
1.4	I am totally aware of the objectives and the planning of our farmers cooperative
1.5	All people who want to, can be member of our farmers cooperative
1.6	I know that we have a member register that is up-to-date
1.7	The farmers' cooperative knows how many animals every member has
1.8	All members regularly pay their membership fees
1.9	All members actively participate in the activities of our farmers cooperative

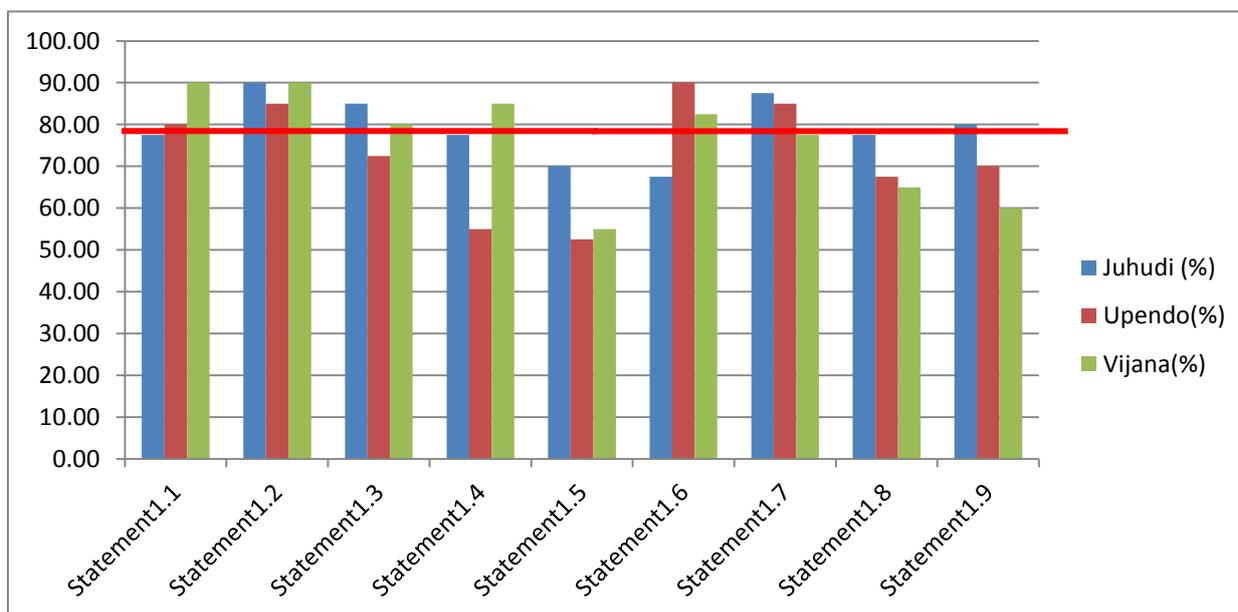


Figure 5.8 Membership base performances

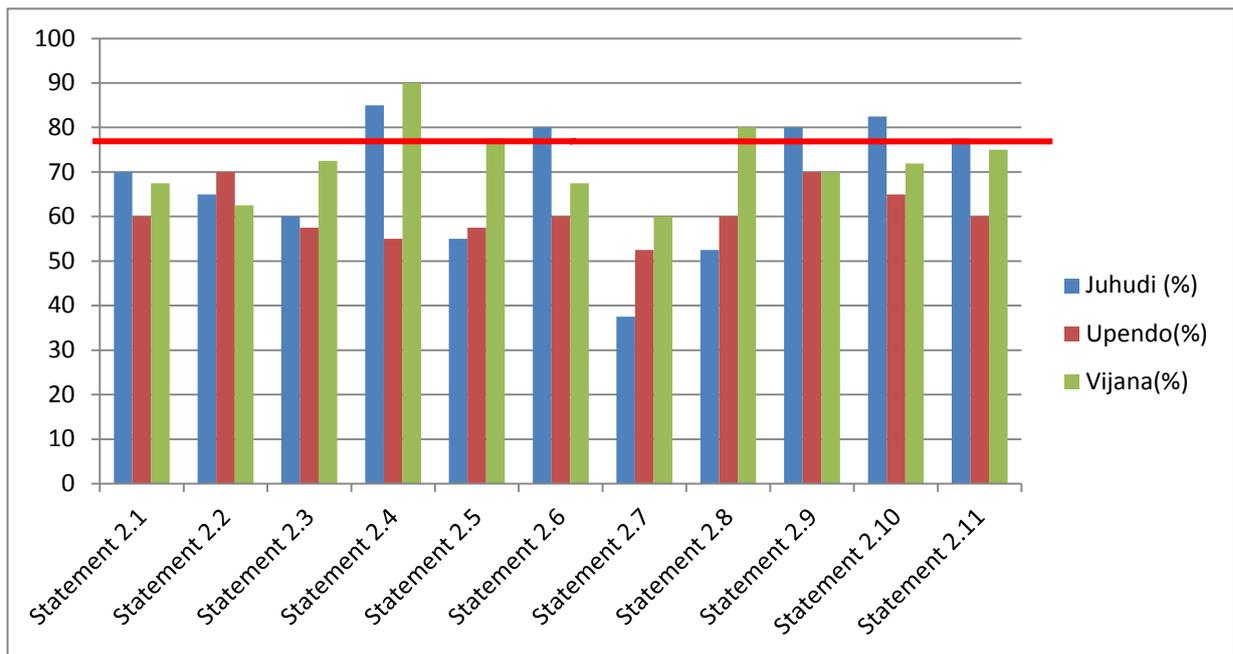
### 5.3.1 Overall results on membership base performances

- ✚ The self-assessment results clearly suggest respondents from juhudi cooperative are quite satisfied with the performance of their organization in this assessment area. Majority of the statements assessed by the members were above 77.5% with the exceptional of statement 1.5 (70%) and statement 1.6(67.5%) which imply the organisation need some improvement on giving information about new registered membership.
- ✚ The self-assessment results clearly suggest that the planning and objective of upendo dairy goat cooperative (statement 1.4 (55%) and statement 1.5(52.5%)) need most attention. These priorities raise questions regarding the members ownership of the organisation (statement 1.8 (65%) and statement 1.9 (60%) about payment of membership fees also need little attention for the improvement of cooperative.
- ✚ Respondents from vijana dairy goat cooperative are quite satisfied with the performance of their organization in this assessment area. Majority of the statements assessed by the members were above average (77.5%) with the exceptional of statement 1.5 (70%), statement 1.8(65%) and statement 1.9(60%) which imply the organisation need some improvement on membership payment fees and participation of members in their organisation.

### Governance, Leadership and Internal democracy

In Governance, Leadership and Internal democracy there was eleven statements where by the respondents per each cooperative asked to fill to express their views about their respective cooperative.

No	Statements
2.1	The internal regulations of our farmers' cooperative are well documented
2.2	All members know the internal regulations of our farmers' cooperatives
2.3	The statutory bodies of our farmers' cooperatives (general assembly, board meetings) function according to their mandates
2.4	The governing board of our farmers cooperatives has been democratically and transparently elected
2.5	Internal communication within our farmers cooperatives is well organized: members are well informed about whatever is happening
2.6	Each member is aware of his/her responsibilities
2.7	Women and youth are sufficiently represented in the elected bodies of our farmers cooperative
2.8	Collaboration between members is good
2.9	Every member in our farmers cooperatives has the same decision rights
2.10	Our farmers cooperatives is very good in problem solving
2.11	Overall, I am very happy with the objectives and the planning of our farmers' cooperatives



**Figure 5.9 Governance, Leadership and Internal democracy performances**

### 5.3.2 Overall results on Governance, leadership and internal democracy performances

- ✚ Respondents from Juhudi dairy goat cooperative are moderate satisfied with the performance of their organization in this assessment area. The self-assessment clearly suggest that the there is insufficient internal communication leading to the few members knows internal regulation of cooperative (statement 2.2 (65%)) and poor participation of women and youth in Leadership (statement 2.7 (37.5%)) and collaboration among members is quite unsatisfactory (statement 2.8(52.5%)) that needs more attention.
- ✚ Respondents from Upendo dairy goat cooperative are not satisfied with the performance of their organization in this assessment area. The self-assessment clearly suggest that the there is a big problem in governance and leadership but internal democracy is satisfactory and each member has the same decision right (statement 2.9 (70%)).
- ✚ Respondents from Vijana dairy goat cooperative are satisfied with the performance of their organization in this assessment area. The self-assessment clearly suggest that the there is a good governance leadership and internal democracy as it is seen from the statement 2.4(90%) and statement 2.11 (75%) but members are not satisfy with female and youth participation in governance and leadership (statement 2.7 (60%)) that needs more attention.

### Management of financial resources

In Management of financial resources there was nine statements where by the respondents per each cooperative asked to fill to express their views about their respective cooperative.

No	Statements
3.1	Our farmers cooperatives functions on the basis of the financial contributions of the members
3.2	Our farmers' cooperatives can function well without outside financial support
3.3	We have elected a treasurer who can keep the books correctly
3.4	We have a committee that controls how expenditures have been done and how the financial books are kept
3.5	When the farmers cooperatives needs to buy something, the procedures to do so are transparent
3.6	If I want to, I am also allowed to check the records
3.7	Every year, the board or the treasurer explains how resources and income of the farmers' cooperatives have been used
3.8	The assets of our farmers' cooperatives are well used and equally divided among the members
3.9	Overall, I am very happy how the financial resources are managed by the cooperative

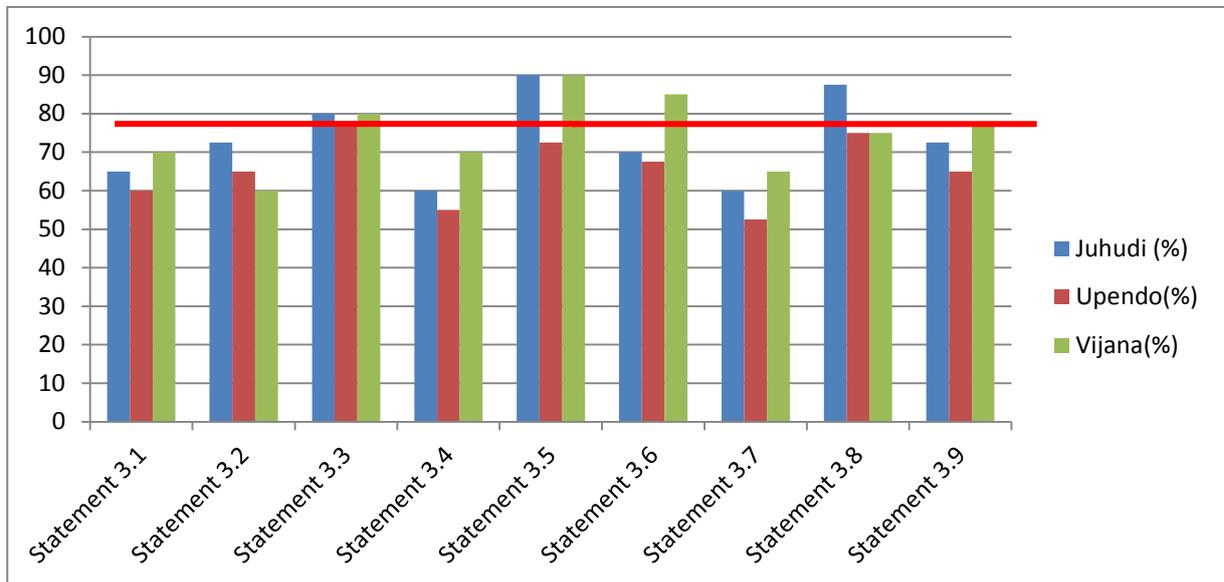


Figure 5.10 Management of financial resources performances

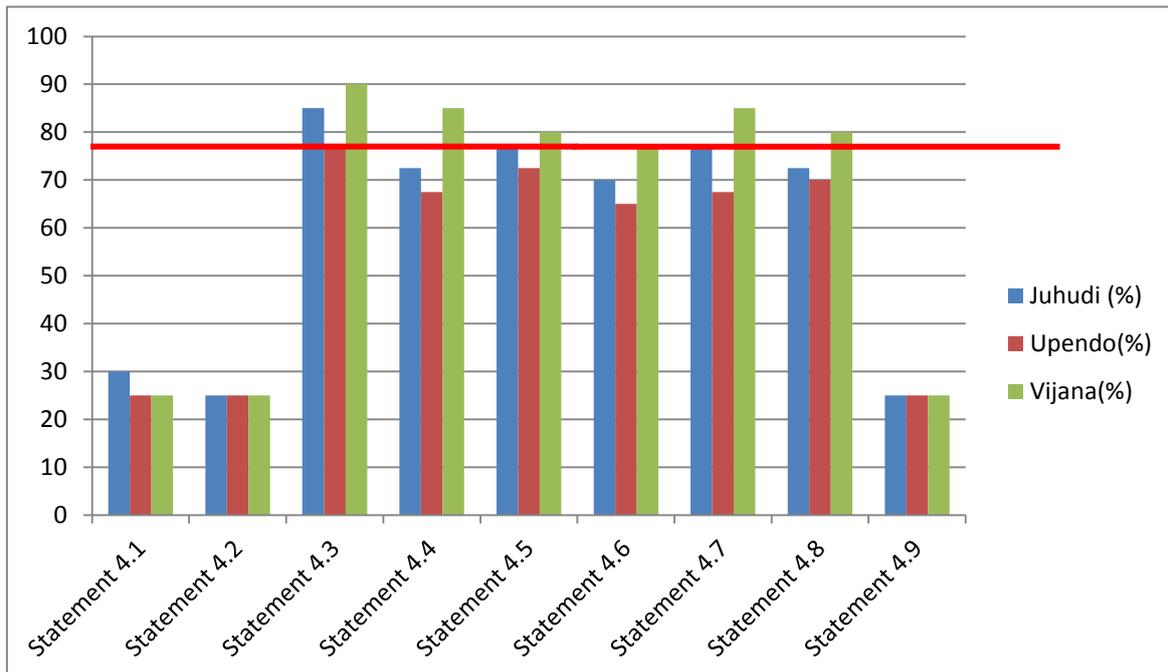
### 5.3.3 Overall results on Management of financial resources performances

- ✚ Respondents from juhudi dairy goat cooperative are satisfied with the performance of their treasury (statement 3.9 (72.5%) and statement 3.5 (90%)) but more attention should be consider on how the expenditures are controlled and release of feedback on time as it is seen from scores statement 3.4 (60%) and statement 3.7 (60%). The cooperative also need to find other alternative source of fund (statement 3.2 (60%).
- ✚ Respondents from upendo dairy goat cooperative are not satisfied with the performance of their organization in this assessment area (52.5%). The respondent are especially satisfied about how treasury was elected (statement 3.3 (77.5%) and when cooperative want to buy something the members are informed (statement 3.5(72.5%) but not satisfied on flow of money and how the records are kept (statement 3.4(55%) and release of feedback on time (statement 3.7 (52.5%).
- ✚ Respondents from vijana dairy goat cooperative are satisfied with the performance of their organization in this assessment area (75%). The self-assessment clearly suggest that the there is a good management of financial resources as it is seen from the statement 3.5(90%) indicates that there is good relationship between treasury and members and respondents are quite happy with the overall how financial resources are managed ((statement 3.9) (77.5%) but more attention on searching another alternative of fund (stat

### Management of Collaboration and networks

In Collaboration and networks there was nine statements where by the respondents per each cooperative asked to fill to express their views about their respective cooperative.

No	Statements
4.1	If we want something to be done we seek collaboration with other farmers cooperatives
4.2	In the past, we have had exchange visits with other dairy goat farmers' cooperatives, to observe how other farmers cooperatives are functioning and working.
4.3	In the past years, our farmers cooperatives has approached institutes, NGO's, research centre's and extension workers to find answers to the questions we had
4.4	Our farmers cooperatives had written project proposals with the aim to get support and funding for our activities
4.5	Our farmers cooperatives has formal agreements with banks facilitating members' access to credit
4.6	Our farmers cooperatives has established good agreements with input providers, to buy animal feed and medicine for reduced prices
4.7	Our farmers cooperatives has established good agreements with traders and or to buy and transport our milk
4.8	Our farmers cooperatives has established good agreements with veterinary services, such as the set-up of collective vaccination programs
4.9	Our farmers cooperatives actively participates in meetings of other farmers' cooperative



**Figure 5.11 Collaboration and networks performances**

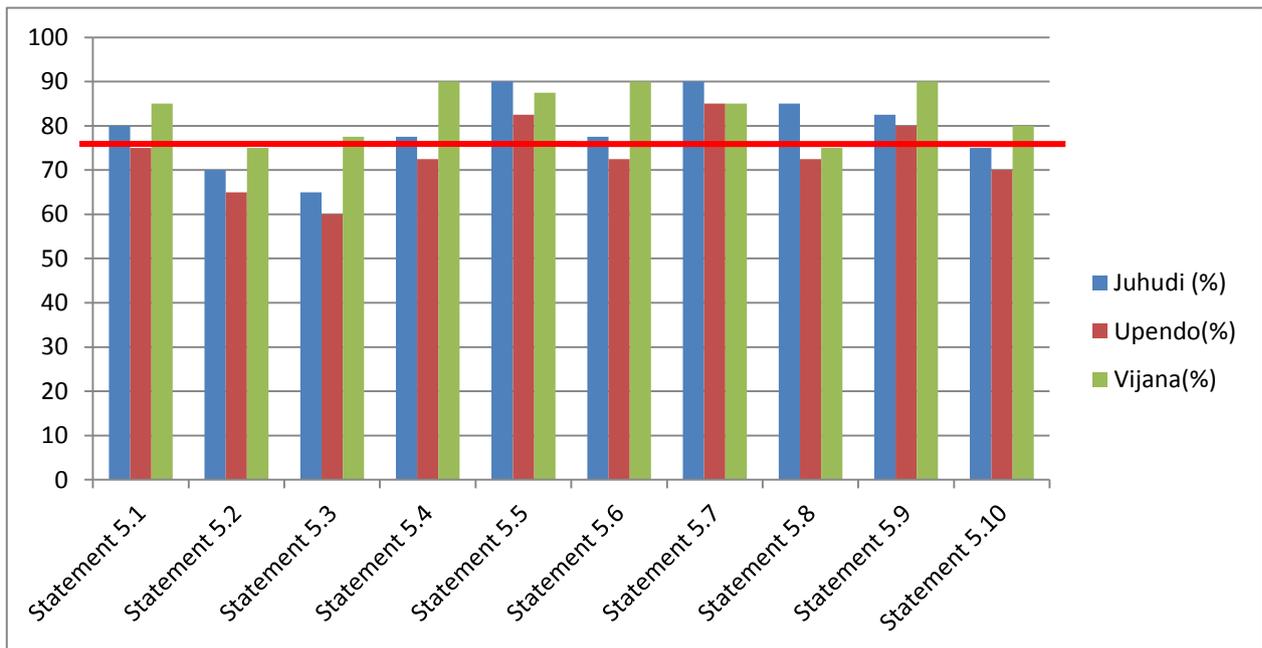
#### 5.3.4 Overall results on Collaboration and networks performances

- ✚ Respondents from juhudi dairy goat cooperatives are not satisfied with the performance of their organisation collaboration and networking (60%). Most concerns seems to be with number of visits the cooperative made to exchange experiences with other cooperatives (statement 4.2 (25%) and collaboration with other cooperative (statement 4.1 (30%)).
- ✚ Respondents from upendo dairy goat cooperative are not satisfied with the performance of their organisation collaboration and networking (55%). But much similar to juhudi dairy cooperative more attention should be considered on how to collaborate and share experiences with other cooperatives (statement 4.9 (25%)).
- ✚ Respondents from vijana dairy goat cooperative are moderate satisfied with the performance of their organisation collaboration and networking (62.5%). But similar attention should be taken as juhudi and upendo cooperative.

### Service provision to members

In Service provision to members there was ten statements where by the respondents per each cooperative asked to fill to express their views about their respective cooperative

No	Statement
5.1	The services of the farmers' cooperatives respond to my needs as a goat dairy farmer
5.2	I think our farmers' cooperatives is efficient in providing information and training to the members
5.3	New members are well adopted in our farmers' cooperatives and receive proper assistance
5.4	I am benefiting from trainings organized by the farmers' cooperatives that make me a more professional farmer
5.5	Thanks to the farmers' cooperatives I now use inputs (such as animal feed, medicine, seeds, fertilizer, pesticides), which I otherwise would not have had
5.6	Our farmers' cooperatives has the habit of asking the members if they are happy with the services that are provided
5.7	By being a member of this farmers' cooperatives I am earning more
5.8	The board members receive training to improve the competencies and skills that are needed to perform their tasks



**Figure 5.12 Service provision to members performances**

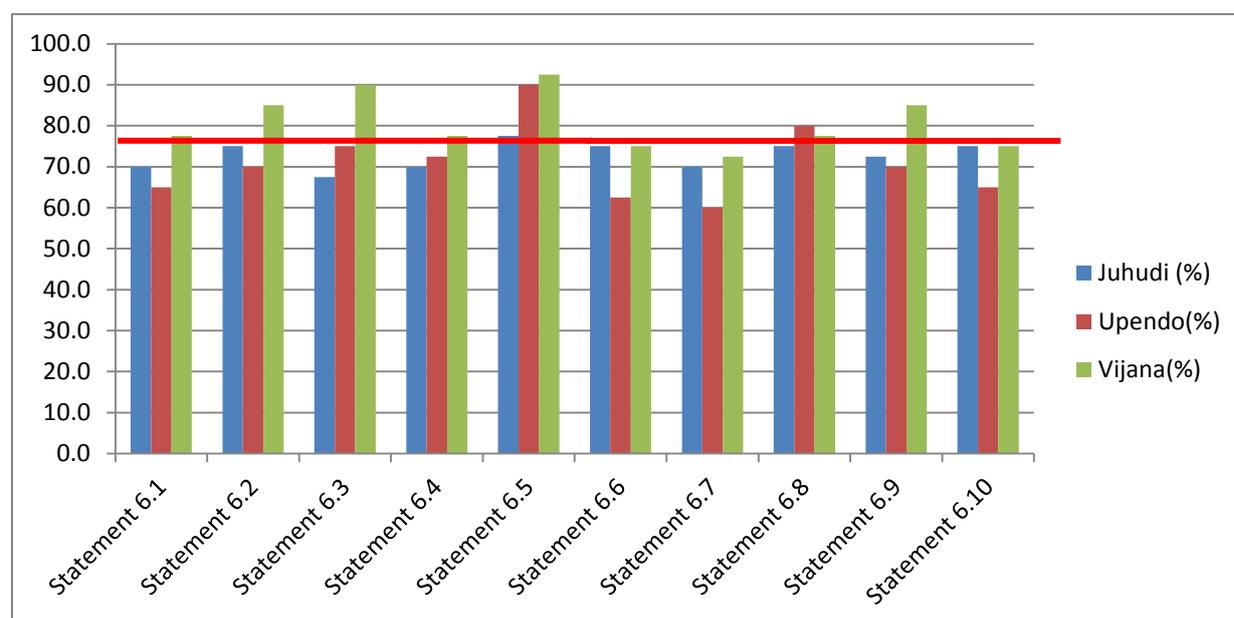
- ✚ Respondents from juhudi dairy goat cooperatives are quite satisfied with the services provided by their organisation but improvement is needed to the services provide to the new members (statement 5.3 (65%)). This situation is similar to the Upendo dairy goat cooperative.
- ✚ Respondents from juhudi dairy goat cooperatives are quite satisfied with the services provided by their organisation (82.5%).

- ✚ The self-assessment results clearly suggest that respondents of all dairy goats cooperative require improved access to inputs and training. It is however especially an issue for upendo dairy goat cooperative, respondents feel that their organization need improvement on providing training to them.

### Animal management and production

In Animal management and production there was ten statements where by the respondents per each cooperative asked to fill to express their views about their respective cooperative

No	Statements
6.1	I have very good knowledge on goat dairy farming
6.2	The production of my milk is high and is how I desired
6.3	I have no problems of feeding the goat(s) sufficiently
6.4	I am able to plant good pastures and feed my goats sufficiently
6.5	I always vaccinate my goat(s)
6.6	My goat(s) are very healthy
6.7	I am very good in recognizing disease symptoms
6.8	In case my goat(s) get sick, I always invest in medicine
6.9	Every season, I calculate the costs and benefits of the goat production
6.10	If I need, I can get credit at the bank to finance production costs



**Figure 5.13 Animal management and production performances**

- ✚ The self-assessment results clearly suggest respondents from all cooperatives are quite satisfied with the performance of their organizations in this assessment area. Majority of the statements assessed by the members were above or around the average total score 77.5%.
- ✚ The self-assessment results clearly suggest that respondents of upendo dairy goat cooperative require training on how to recognize disease in their farm animals (statement 6.7(60%)). It is however not an issue for juhudi and vijana dairy goat cooperatives.

### Stakeholders collaboration

In Stakeholders collaboration there was nine statements where by the respondents per each cooperative asked to fill to express their views about their respective cooperative

No	Statements
7.1	My input supplier gives me advice on how best to use the feeding, medicine and other input supplies
7.2	Our farmers' cooperatives discusses with district authorities for supporting the dairy goat value chain
7.3	We discuss with chain actors about what we can do for each other
7.4	We discuss with chain supporter about what they could do for us
7.5	We know the quality requirements of our buyers and consumers in different markets
7.6	We deal with reliable goat milk traders and processors
7.7	If there is a problem, we openly discuss matters with the goat milk traders and processors
7.8	If our farmers cooperatives would engage in collective marketing and sells at a better price, I would be happy to contribute cash in Tshs for the benefit of the farmers' cooperatives
7.9	Within the district, different stakeholders are discussing how best to develop the dairy goat value chain

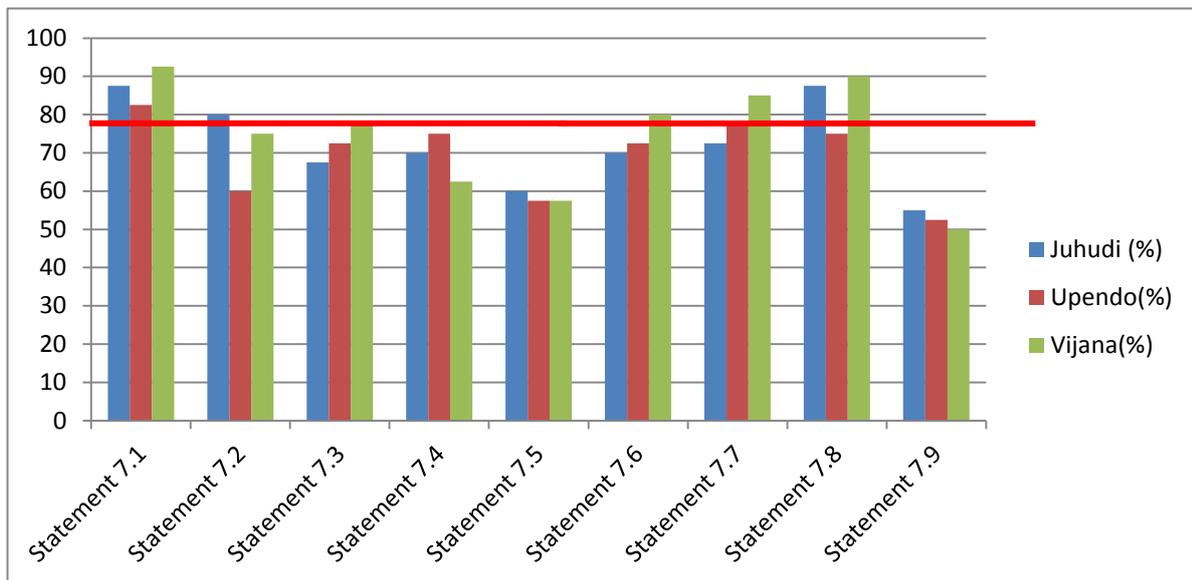


Figure 5.14 Stakeholders collaboration performances

### 5.3.7 Overall results on Stakeholder collaboration

- ✚ The assessment results indicate that respondents are quite satisfied with the performance of their organization in this assessment area. Vijana rank their performance in this area however quite higher than Juhudi and Upendo.
- ✚ It is remarkable that collaboration with different stakeholder to discuss on how to improve the dairy goat value chain within the district is poor
- ✚ The self assessment results clearly indicates that juhudi and vijana dairy goat cooperative seems to prioritize improved relations with district authorities whereas upendo relations with district authorities is insufficient (statement 7.2 (60%)).

### Entrepreneurial skills

In Entrepreneurial skills there was eight statements where by the respondents per each cooperative asked to fill to express their views about their respective cooperative

No	Statement
8.1	Our farmers cooperatives is specialist in our field of expertise
8.2	Our farmers cooperatives has diversified into other activities in relation to milk products
8.3	Our farmers cooperatives has diversified into other activities which are not related to milk goat production.
8.4	Our farmers cooperatives is very good in identifying market possibilities
8.5	Our farmers cooperatives is in general able to identify risks and opportunities very well
8.6	When our farmers cooperatives takes risks, we first analyze the situation properly and think of possible results and things that can go wrong

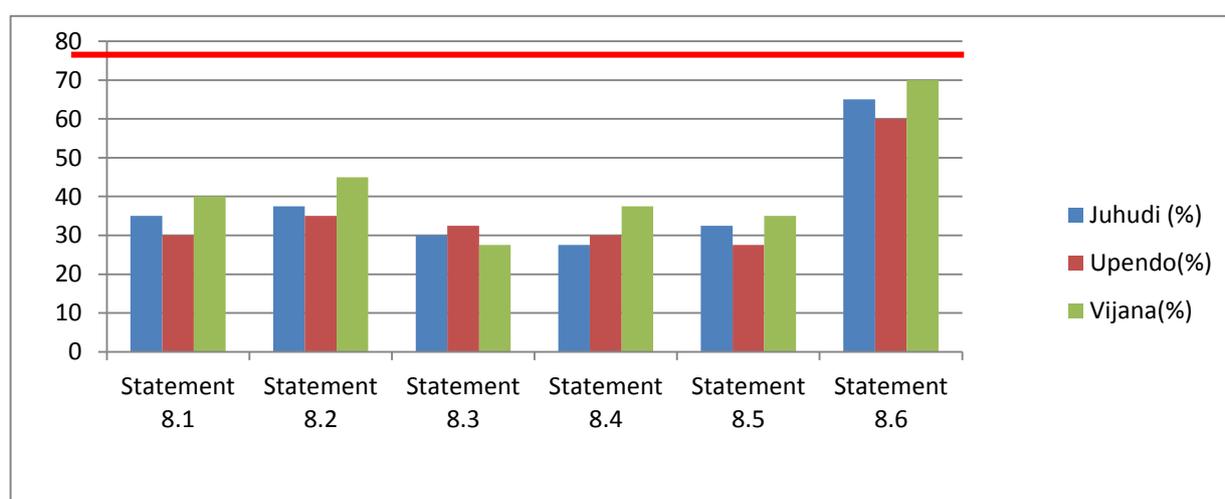


Figure 5.15 Entrepreneurial skills performances

### 5.3.8 Overall results on Entrepreneurial skills

- The self-assessment results clearly suggest respondents from all cooperatives are not satisfied with the performance of their organizations in this assessment area. Majority of the statements assessed by the members were below 50% imply that there is great need for improvement.

### Cost and marketing

In Cost and marketing there was eight statements where by the respondents per each cooperative asked to fill to express their views about their respective cooperative

No	Statement
9.1	I am always able to sell my milk
9.2	The farmers' cooperatives provides enough information about where to sell the milk
9.3	I know milk prices at different markets in Tanzania
9.4	In case there is little market to sell the milk, our farmers' cooperatives searches for new markets
9.5	Even if there is market for the milk, the farmers' cooperatives is still active in searching markets
9.6	I always get the same price for my milk
9.7	I am happy with the price I get for my milk
9.8	I am happy with the procedure how I get paid for my milk
9.9	My production costs are covered by the sales of milk

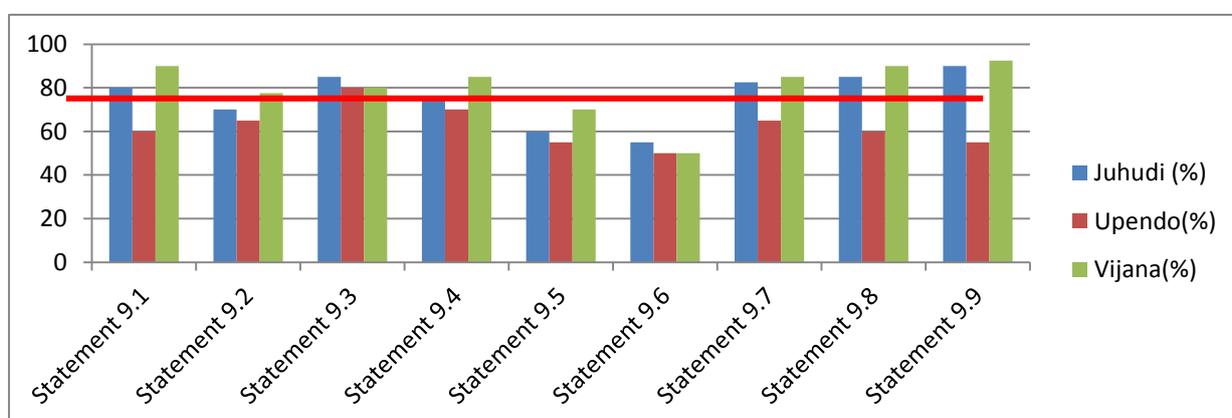


Figure 5.16 Cost and marketing performances

### 5.3.9 Overall results on Cost and marketing performances

- The assessment results indicates that respondents from vijana and juhudi dairy goat cooperatives are quite satisfied with the performance of their organizations whereby on other hand upendo dairy goat cooperative improvement is needed especially in identifying other alternative marketing channels.( statement.9.1(60%))
- It is remarkable that all the cooperatives respondents were not satisfied with fluctuation of price they got from selling milk.(statement 9.6)

## 5.4 Challenges facing three dairy cooperatives

In order to identify areas that can be improved for the success of the cooperatives SWOT analysis was undertaken. Strength and weaknesses are internal factors that will determine the success or failure of the cooperative. Opportunities and threats are external situational factors outside the cooperative. The information obtained through survey, desk study and document from Mpwapwa district council office + SWOT analysis tool was used intentionally to identifying the challenges facing three daily cooperative.

**Table 12. SWOT analysis**

<b>Juhudi dairy goat cooperative</b>			
<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>-Availability of dairy goat farmers (22 members)</li> <li>-Meeting once per month. 41% are female members</li> <li>-Provide services and ease access of inputs to its members e.g. pesticides, fertilizers</li> </ul>	<ul style="list-style-type: none"> <li>-Internal communication is unsatisfactory.</li> <li>-Inadequate collaboration with other actors</li> <li>-Inadequate entrepreneurship skills</li> <li>-Insufficient knowledge on cooperative principles and best practises by management staffs</li> </ul>	<ul style="list-style-type: none"> <li>-There are other two dairy cooperative in a ward, good for sharing information.</li> <li>-High demand of goat milk within and outside the Mpwapwa district.</li> <li>-Existence of Livestock research institutes (NLRI) and VIC</li> </ul>	<ul style="list-style-type: none"> <li>-Inadequate research work have been done and documented on dairy goat (MDC,2010)</li> <li>-Disease e.g. CBPP</li> <li>-High predation &amp; theft</li> <li>-Inadequate extension service services and training</li> </ul>
<b>Upendo dairy goat cooperative</b>			
<b>Strengths</b>	<b>Weaknesses</b>	<b>Opportunities</b>	<b>Threats</b>
<ul style="list-style-type: none"> <li>-Availability of dairy goat farmers (17 members).</li> <li>-Meeting once per three month</li> <li>-Provide services and ease access of inputs to its members e.g. pesticides, fertilizers</li> </ul>	<ul style="list-style-type: none"> <li>-Internal communication is unsatisfactory</li> <li>-Insufficient knowledge in determine disease symptoms</li> <li>-Inadequate collaboration with other actors</li> <li>-29% are female members</li> <li>-Inadequate entrepreneurship skills</li> <li>-Insufficient knowledge on cooperative principles and best practises by management staffs</li> </ul>	<ul style="list-style-type: none"> <li>-There is other one dairy cooperative in a ward, good for sharing information</li> <li>-High demand of goat milk within and outside the Mpwapwa district</li> <li>-Existence of Livestock research institutes (NLRI) and VIC</li> </ul>	<ul style="list-style-type: none"> <li>-Disease e.g. CBPP</li> <li>-No designated land for livestock grazing</li> <li>-Disease e.g. CBPP</li> <li>-Inadequate extension service services and training</li> </ul>
<b>Vijana dairy goat cooperative</b>			
<ul style="list-style-type: none"> <li>-Availability of dairy goat farmers (34 members)</li> <li>Meeting twice per month</li> <li>-Provide services and ease access of inputs to its members e.g. pesticides, fertilizers</li> <li>-82% members are literate</li> </ul>	<ul style="list-style-type: none"> <li>-Internal communication is satisfactory</li> <li>-Inadequate collaboration among actors</li> <li>-35% are female members</li> <li>-Inadequate entrepreneurship skills</li> <li>-Insufficient knowledge on cooperative principles and best practises by management staffs</li> </ul>	<ul style="list-style-type: none"> <li>-There are other three dairy cooperative in a ward, good for sharing information</li> <li>-High demand of goat milk within and outside the Mpwapwa district</li> <li>-Existence of Livestock research institutes (NLRI) and VIC</li> </ul>	<ul style="list-style-type: none"> <li>-High predation &amp; theft</li> <li>-Disease e.g. CBPP</li> <li>-Inadequate extension service services and training</li> </ul>

## CHAPTER SIX: DISCUSSION

### 6.1 Structure of dairy goat value chain in Mpwapwa district

The information discussed below was able to answer sub question 2.1, 2.2 and 2.5

The 'broad' approach to value chain looks at the complex range of activities implemented by various actors (primary producers, processors, traders, service providers, etc) to bring a raw material to the retail of the final product. The 'broad' value chain starts from the production system of the raw material.

Kaplinsky (1999) asserted that broad approach does not only look at the activities implemented by a single enterprise. Rather, it includes all its backward and forward linkages, until the level in which the raw material is produced will be linked to the final consumers.

Kotabe et al. (2003) suggested that a well organised value chain, good communication among actors is a key and sharing of information flows of goods and services within the value chain is important for making the chain stronger through reduction of transaction cost and enhancing coordination of marketing activities of the chain actors.

However it was observed that dairy value chain in Mpwapwa district is not organised since there is insufficient collaboration in regards to information sharing, transparency and milk produced is inadequate to meet the demand in terms of price dependability, volume, design and speed of delivery. Research noted that insufficient communication was seen within dairy goat cooperative and between different dairy goat cooperative. Insufficient communication between dairy goat cooperative and other stakeholders in the chain like NLRI, VIC was evident. As found out by KIT et al, (2006) a well organised value chain is a result of how well the actors in the chain are organized and also how well the chain is supported by a range of business development services. Richter (2005) asserted that for the chain to be strong the product must meet market requirements with regard to quality, price, dependability, volume, design and speed of delivery and the chain should include three or more of the following actors: producers, processors, distributors, wholesalers, retailers and consumers.

The finding from a case study shows that productivity of smallholder dairy farms is generally low. Small-scale producers are facing many challenges which are partly responsible for the poor production performance. Despite various initiatives to enhance performances of the dairy goat value chain like reduction of taxes for inputs, many weaknesses still exist. Some of the factors include insufficient feeds, inadequate extension services, small size of a dairy goat farm and poor genetic make up of animal.

As found out by Bolo et al, (2011) most of the running cooperatives are characterized by weak management capacities, inadequate capital base and low economies of scale. This has resulted in increased competition both in the raw material markets and the consumer markets with an emergence of milk hawkers (Informal markets). The major factors behind the dominance of informal milk markets are mainly lower price and traditional taste preferences. Richter (2005) indicates that formal milk markets will grow only as household incomes increase.

Milk processing companies like Iringa ASAS Dairy Ltd and Tanga Flesh Limited have expanded their retail networks by making their products available at small shops in the new residential areas of Mpwapwa district. In supermarket outlets in Mpwapwa district, locally produced dairy products like pasteurised milk, yoghurt, local cheese and table butter are available almost at any time of the day though consumption of some products may take long time. Furthermore Cousin, (2005) argued that dairy products are more expensive due to high transactions cost and stay for long time in shops. Heiko Bammann (2007) pointed out that in order for the dairy goat value chain in Mpwapwa district to be organised there is a need for collaboration between stakeholders.

## 6.2 Economic performances in the dairy goat value chain.

The information discussed below was able to answer sub question 2.4 and 2.5

The demand for goat milk in Mpwapwa district is higher than supply but it was found that dairy goat farmers still find it hard to market their milk at the best price MDC,(2010).Market of milk is done through three main outlets; dairy goat cooperatives, milk trader (Hawkers) and direct to the rural consumer. Research noted that low volumes of milk supplied to the rural consumer are due to low price per litre obtained by the farmer. Penrose-Buckley (2007) argued that the main functions of the farmers' cooperatives is to strengthen the position of a farmer in market including strengthen their bargaining power and searching for the different markets. Research conducted in Mpwapwa district revealed that majority of the dairy goat farmers is selling their milk through cooperatives. KIT and IIRR (2008) pointed that when farmers are organised into cooperatives they have more assured market and they earn more per litre of milk. On the other hand milk trader have taken the role of cooperatives, they buy milk from farmers. KIT and IIRR (2008) pointed out that milk trader facing a number of challenges in between including high risk for walking around in searching of milk to buy and also endure transport difficulties like unplanned expenses, milk trader in many cases give bribes to facilitate transportation of milk. The results indicates value shares of dairy goat farmer is 44%, ASAS dairy Ltd (39%) and supermarket (17%) of the 1200Tshs final retail price when comparing to results in informal chain that shows value shares of dairy farmer is (50%), hawkers (30%) and kiosk (20%) of the 1000Tsh final retail price.

The dairy goat farmer has a higher value shares than the milk trader and supermarket because the dairy goat farmer have low variable cost compared to milk trader who incur high transport costs. The supermarket incurs high buying cost as the milk either passes through trader or processing company.

From results when we compare milk trader and dairy goat farmer, it was found that the milk trader has the highest profit. The reason is because he link dairy goat farmers to the market. On other hand dairy goat farmer has the highest profit share when selling milk to the milk trader (informal chain) compared to when selling through cooperative. This is because the milk trader covers the transport cost. This finding is supported by Cousin (2005) who state that dairy goat farmer can earn higher farm gate price when selling milk through milk trader due to less transaction cost. Pabuayon (2008) support the findings by saying that dairy goat farmer's participation in the marketing activities is quite limited as they remain in the lowest stage of the chain (at the farm market level).This is because dairy goat farmers only sell raw milk and therefore receive the lowest price among the various market participants. And thus it appears that the farmer's profit share is quite low compared with milk trader.

When we compare the results, it shows that milk trader has a higher cost price compared to dairy goat farmer. This is because milk trader incur unplanned expenses including cost in searching where to buy milk, transportation cost, spoilage cost e.tc. From the results it shows both dairy goat farmers and milk trader make profit. Foo (2009) suggested that when net profit is higher, it implies a profitable business. The study can guide other investors to decide whether to enter in a business or not. Reported milk prices paid to farmers range from 450Tshs to 530Tshs per litre (MDC, 2010). The range of milk products produced are pasteurised milk, yoghurt, local cheese and table butter. Product outlets on the domestic market include supermarkets, kiosk and small shops. The price that smallholder dairy farmers receive for their raw milk generally has the biggest bearing on farmer profits. The price of milk is depending on seasonality. During the rainy season the price of milk is low compared to the dry season. Another factor influencing the price of milk pointed out by Modderman (2010) is insufficient farmer's management skills in producing and harvesting the milk. From the survey it was discovered that some of the challenges facing the dairy goat farmer in Mpwapwa district includes inadequate and expensivity of feeds, inadequate extension services, unprocessed milk e.tc

### **6.3 Governance of three dairy goat cooperatives**

The information discussed below was able to answer sub question 1.1

#### **Internal organisation**

From survey it was revealed that management staffs of all cooperatives were having insufficient knowledge on cooperative principle and best practice. It was found that there were insufficient clear strategic plans of the cooperatives that affect the decision making style and governance in general. Penrose-Buckley (2007) pointed out that management staff may have authority to make major decisions but they need first to be trained on best practice and principles of cooperatives. The management and decision making style of groups has to be appropriate for the situation and build on existing accepted forms of decision making. The ability to manage cooperatives activities also depends on management skills that have been built up from other group activities in the past. Research noted that there was no sharing of information between one cooperative and others. Through focus discussion it was noted that each cooperative is working on its own. Kamara and Kargbo, (1999) indicates that successful growing cooperatives need to participate in meeting and sharing information with other cooperatives transparently. Furthermore results from survey indicate that the management staffs were having inadequate training on entrepreneurship skills. The practical business experience (Penrose-Buckley, 2007) stated that directors or committee members should be supplemented by specialized formal training on entrepreneurship so that to make their cooperative innovative and more attractable to other partners. Carr et al, (2008) asserted that cooperatives must voluntarily organize to help themselves rather than rely on the Government. They can determine objectives, financing, operating policies, and methods of sharing the benefits. Through cooperatives, farmers can own and operate a user or service-oriented enterprise as contrasted to an investor or dividend-oriented enterprise. Farmer ownership allows producers to determine services and operations that will maximize their own farming profits rather than profits for the cooperative itself.

#### **Production**

Results noted that farmers have small farm size, poor genetic potential of the animal, inadequate animal husbandry training and insufficient feeds that contribute to the low farm productivity .This finding was supported by Modderman, (2010) who did research in dairy cooperative in Musanze district Rwanda. She argued that low production performance of the farmers is associated with many attributes. Some of them include market (low price), small plots of land (pasture, forage), milk quality (hygiene, milk containers), insufficient capital and inadequate training. It was revealed from survey that cooperatives are selling raw milk and this reduces the number of customers due to preference. KIT et al (2006) pointed out that the dairy goat farmers should add value to their product through vertical integration to earn more profit. He continues says that cooperatives will be able to improve marketing activities and logistics of goods and services. (FAO, 2002) asserted that for improving market efficiency of any value chain, stakeholders involved in that chain should collaborate with other actors. This will ensure business process of one actor to be well tuned to other actors in the chain.

## **Marketing**

One of the most common justifications for farmer cooperation is that, through collective action farmers are able to counterbalance the market power of their trading partners. This leads to more equitable and efficient market outcomes (Koopmans, 2006). To secure returns, two factors are very important value-addition and marketing. The process of marketing is more difficult than that of production. It requires an intimate knowledge of market trends. It should be scientific and well-organised, otherwise the farmer runs the risk of not getting the full value of his produce and the investment made. In cases where cooperatives are not able to respond to the marketing needs of the members, middlemen thrive and the farmer-members get sucked into the vicious circle which the cooperatives will collapse. From the survey, it was revealed that there is much demand for goat milk though the farmers are having difficulties in searching for better market. The study found that milk trader takes the role of cooperative by linking the dairy goat farmer to the market. The difference in the ability of marketing between cooperatives is much dependent on the management staffs of the cooperative, which include the board and the managers. Managers need to prepare a plan of action for the cooperative. All efforts are then made to implement the plan. If the expectations are not met, members get disjoined from the cooperative. Their participation in business and organisational affairs get reduced, which a cooperative can hardly afford. Carr et al,(2008) pointed out that a manager is confronted with several problems e.g., identification of markets, methods and techniques of handling members' produce, ensuring adequate returns to the member-farmers, maintaining their loyalty and relationship with the cooperative. Managers with experience, capacity, capability, tact, clarity of business ethics, and professional competence can overcome such problems.

## **6.4 Level of member satisfaction with their cooperatives**

The information discussed below was able to answer sub question 1.2

### **Membership base performance**

For a successful farmers' cooperative Penrose-Buckley (2007) suggested that it should be owned and controlled by their members, who are mostly small-scale producers. He continues saying members should pay membership fees and participate actively in the activities of the farmers' cooperative. The farmers' cooperative should know how many members are registered and the number of animals they keep. From self assessment, results clearly indicate that mission and objectives of cooperatives were not understood by some members. There is a need of making small-scale producers fully owners of a farmers' cooperative. Carr et al., (2008) asserted that members should play a vital role in the decision-making process of the cooperative and they should know the mission of their cooperative. The management staff must take initiative to ensure all members know the mission and objective of their cooperative. This will enhance the performance of the cooperatives. Also cooperatives should let the members express their opinions by using their voting right or by serving on the board. Corn forth, (2004) pointed out membership satisfaction can be measured by the fact that they join the cooperative and remain a member and the degree of active participants within the cooperatives.

### **Governance, leadership and internal democracy**

The ability to manage cooperatives depends on the quality of the leadership, governance and internal democracy. Leaders should sacrifice time and effort for the group survival. Leaders should use experience they have had with group members in the past. The differences in the ability to govern group will depend on the history of the group. World

development (2008) pointed out that the members of cooperatives often they have insufficient skills in managing the cooperatives and needs training for solving that. From self assessment results, it was found that there is a need of each cooperative to prepare strategic business development plan/programme that could be used to ensure there is regular training

and follow up to members especially woman and youth to foster their business development. The leaders have to be trusted to represent the group and act as intermediaries between group members especially when there is difference of opinion. It was found that the organisation structures are the same for all cooperatives due few numbers of members. There is a need to adjust as the cooperative grow. Cooperative needs to hire other staff in order to cope with increase in members.

### **Management of financial resources**

In order for any business to be sustainable it is important that the financial reserves are stored at a bank account. The treasurer that keeps the records should be elected by the members of farmers cooperative. There should be internal auditing for at least once per year to explain how resources and incomes of farmers cooperative are used (Koopmans, 2006). Self assessment results clearly indicate that all cooperatives were satisfied with their cooperatives based on the statement asked in this assessment area. On the other hand it was revealed that due to limited resources, cooperative fund are often unable to afford high-cost management information systems or the technology to assess and monitor risk in a timely fashion. With insufficient management and improper risk-monitoring systems, the risk exposure of cooperative is high. Providing a more diverse mix of financial services or spreading risks over a larger geographic area imply at least the potential for improved diversification, so the same protection against financial distress can be attained with fewer resources. Geographic spread of products can further help the financial intermediary to improve its credit risk by selecting borrowers with the best credit and avoiding those with the weakest. With diversification, cooperatives would be able to extend the cooperative fund.

### **Service provision to members and Animal management and production**

Cooperatives will not work unless there are good incentives and individuals are convinced they will benefit personally (Kamara and Kargbo, 1999). However, such benefit will not unavoidably lead to successful community development groups. Bijman, (2007) asserted that farmers' cooperative is normally established to promote the interest of participated members, individual farmer or household. He continue saying members (including those who cannot read or write) learn new techniques in animal production as they meet and teach each other, gain access to news and information, thereby become more aware of what is going on around them. This stops buyers from cheating them and make better profits. Self assessment results clearly indicate that access to inputs was often given by members' interviewees as the main reason for joining the cooperative. Increase in production within cooperative groups is more likely to occur when there is transparency and monitoring of members. It was found that the benefit of economies of scale by selling through cooperative was insufficient. This is because of insufficient standard weights, measures, quality standards and inadequacy of market information on fluctuating price. Ostrom, (1990) pointed out that the regular training on husbandry production should be done to members which in turn benefit the cooperative.

### **Stakeholders' collaboration and networking**

One of seven principles of International Co-operative Alliance (ICA) states that in order for the cooperative to improve its performances, it need to work together with other actors and networking with local, national, regional and international stakeholders. From self assessment results, it was found that none of the cooperatives share experiences with others. It was clearly seen there was insufficient collaboration between the cooperative with other stakeholders along the chain. In order for the cooperative to become sustainable, there is a need of knowing what is done by other actors. Richter (2005) pointed out that information

flow within the chain is necessary for a product to meet market requirements with regard to quality, price, dependability, volume, design and speed of delivery. He continues saying collaboration and networks between three or more of the following actors: producers, processors, distributors, wholesalers, retailers and consumers are key for development of a chain. Therefore it is very important for the stakeholders to collaborate in the chain.

### Entrepreneurial skills, cost and marketing

Most farmers' cooperatives carry out many other collective activities, such as collective production, processing, and influencing policy makers. The core activity that all farmers' cooperatives have in common is that they collectively market their members' produce. In some ways, these defining features represent a goal rather than a fixed definition. Greve, (2003) defined entrepreneurship as the personalized drive and capacity to commercialise the product, service, process, or business idea or in other words means creativity in developing adequate resources and competences. He continues saying that in order for the cooperative to develop based on entrepreneurship skills there must be active attitudes towards the innovation. Self assessment results clearly indicate that all cooperatives members were not satisfied with entrepreneurs skills and it was proved that there was no diversification in other activities apart from selling milk as raw commodity. This means no value addition. Nshimiyimana,(2009) pointed out that entrepreneurship skills are necessary for the development of cooperatives. The cooperative will become innovative and able to attract other business partner both technically and managerially. KIT et al (2006) added that cooperative entrepreneurship can also improve the relationship with processors, traders or retailers and make ease access of information related to the marketing activities.

### 6.5 Challenges facing dairy goat cooperatives

The information presented below in form of table below was able to answer sub question 1.3

**Table 13 Challenges facing dairy goat cooperatives**

Cooperative name	Challenges
/Juhudi/Upendo/Vijana dairy cooperative	<ul style="list-style-type: none"> <li>✚ Inadequate financial resources.</li> <li>✚ Inadequate collaboration with other stakeholders along dairy goat value chain.</li> <li>✚ Inadequate collaboration with actors along dairy goat value chains.</li> <li>✚ Disease incidences eg CCPP, Mastitis High predation &amp; theft</li> <li>✚ Feeds: inadequate &amp; expensive of concentrates</li> <li>✚ Mistrust between the members and Leaders.</li> <li>✚ Insufficient policies and identifying objectives</li> <li>✚ Insufficient entrepreneurship skills</li> <li>✚ Inadequate extension services</li> <li>✚ Small farm size</li> <li>✚ Lack of transparency</li> <li>✚ Insufficient knowledge in writing research proposal.</li> </ul>

**Source: Field survey, 2011**

This supports the findings of Koopmans, (2006) that mention some of the challenging facing cooperative in developing countries including mistrust between members and leaders, lack of entrepreneurship skills and others. Therefore there is a need of external support especially government agents and institutions to motivating the cooperatives in the early stages.

## CHAPTER SEVEN: CONCLUSION AND RECOMMENDATIONS

### 7.1 Conclusion

Generally, it can be concluded from value chain perspective, the structure of dairy goat value chain in Mpwapwa district consists of three channels where by dairy goat farmers selling milk to cooperatives, hawkers or rural consumers. Dairy goat farmers who are all small holder farmers keep average of 2 to 5 dairy goats with average production of 1 to 3 litres per day (MDC, 2010). Majority of dairy goat keepers are man but woman and youth are also involved in this sub sector. The structure of dairy goat value chain is not well organised since chain actors relationship in regards to information sharing and transparency is insufficient. Milk produced is inadequate to meet the demands in terms of price, dependability, volume, design and speed of delivery. Some of the challenges facing dairy goat farmers include inadequate feeds, inadequate extension services, small farm size, poor genetic potential of the animal e.tc The study also revealed that dairy goat farmers when selling milk through informal chain the has less profitability than a milk trader. It was observed that despite the fact that milk trader make a higher profitability than dairy goat farmer, but also incur more cost e.g. transportation cost. The research also acts as guidelines to other investors who are still deciding on whether to enter or not in dairy goat business. Research noted that dairy goat farmer has a higher value shares than the milk trader and supermarket. Dairy goat farmer have low variable cost compared to milk trader who incur high transport costs. As for the supermarket, high costs are due to high purchasing cost because of not buy milk directly from the farmer.

Dairy goat cooperatives played a great role in providing services to members like access to inputs, pesticides, fertilizer, which otherwise would be difficult for dairy goat farmers to obtain individually due to their scarcity. Thus, dairy goat cooperatives contributed positively to the member's economic enterprise development. The study also revealed that management staffs of all cooperatives were having insufficient knowledge on cooperative principle and best practice. This leads to insufficient strategic plans of the cooperatives that affect the decision making style and performance in general. Results noted that farmers have small farm sizes, poor genetic potential of the animal, inadequate animal husbandry training and insufficient feeds. This contributes to low farm productivity that in turn contribute to low volume of milk sold to the cooperatives. The demand for goat milk in Mpwapwa district is higher than supply. It was found that dairy goat farmers still find it difficult to market their milk at the best price. The members were quite satisfied with management of financial resource and service provision, but were unsatisfied with how their cooperatives collaborate with other actors, strategic plans, trainings and entrepreneurship skills of their cooperative..

## 7.2 Recommendations

In respect to the objective of this study, appropriate recommendations towards improvement of cooperatives performances and dairy goat value chain in Mpwapwa district was given.

### To the cooperatives:

#### ➤ **Management staffs**

Management staffs should have knowledge on best practices and principles of the cooperative. This will enable the cooperative to improve its performances, It was noted that the cooperatives management staffs have insufficient knowledge on how to run cooperative effectively therefore comprehensive training programmes for improving management staff skills by government agents/Institutions is important in order to facilitate the development of cooperatives. The trainings should be based on how to improve entrepreneurship skills of the cooperative so that can ease searching different markets, writing research proposal to seek funds from different donors, improve leadership skills to reduce mistrust between the leader and member leading to the improvement in internal communication.

#### ➤ **Members**

Members should have knowledge on animal husbandry practises in order to improve their farm productivity. Research noted that there was insufficient training on animal husbandry practises of dairy goat farmers. The dairy goat farmers should be trained on animal husbandry practises based on how to keep records, determining disease symptoms, improve farm hygiene and nutrition of dairy goat in general. The trainings can be facilitated by Government/Non Government Organisation.

#### ➤ **Networking and collaborations**

Cooperatives need to collaborate and networking with other actors along chain at ward, district, regional, national and international level. Collaboration and network with other stakeholders make cooperatives to be innovative and knowing what is happening in market through information sharing. The cooperatives need to participate in other best cooperative meetings of the same mission and objectives/interests to strengthen their cooperative through sharing of experience.

### To the Mpwapwa dairy goat value chain

#### ➤ **Empowerment of producers**

Government of Tanzania through Mpwapwa district council should empower dairy goat farmers so that they can be able to produce milk of high quality and quantity. Mpwapwa district council under extension service department should provide necessary knowledge and skills e.g. advisory and vocational training for highly productive and environmentally sustainable agriculture. Dairy goats' farmers should be equipped with knowledge on entrepreneurship skills to be able to cope with changes that may occur in subsector including identification of different markets for their produce to avoid risk and uncertainty. Mpwapwa district council should come up with a strategic plan to ensure dairy goat farmers are easily obtaining information related -market this will enable the farmer to know about situation in the market and avoiding to be cheated by the buyer.

➤ **Enabling environment**

Government of Tanzania through Mpwapwa should make conducive environment for the dairy goat farmers to ease access markets by improving their business management skills and marketing strategies and also should make sure that the dairy goat farmers are equipped with knowledge and technologies required to produce a product that can meet the demands in terms of price dependability, volume, design and speed of delivery and government should provide adequate infrastructure to reduce transaction cost. It should also promote more formal sector participation by providing supportive measures and incentives structure and improve access of basic dairy inputs like feeds, animal health to dairy goat farmers.

➤ **Equity**

Government of Tanzania through Mpwapwa district council should ensure that the economic gains in dairy goat value chains are fairly distributed among the various actors, including dairy goat farmers by reducing marketing distortions, building relationships among various chain actors, strengthening farmers' cooperatives and milk traders (Hawkers) cooperatives

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## Appendix A Survey questionnaires for smallholder dairy goat farmers

Personal Information

Gender.....

Location: Village.....

Cooperative name.....

1.1 Are you the head of the household?

- yes
- no

1.2 What is the no. of household members living under your care and vision (including you)?

..... adults

..... Children

..... others, (relatives, orphans)

1.3 Educational standard

Primary level

Ordinary level

Advanced level

Diploma & above

Never been to school

1.4 For how many years have you been member of the Farmers association?

- <1 years
- 1-3 years
- 4-7 years
- 8-11 years
- 12 years

1.5 How long have you been working with Farmers association?

- <1 years
- 1-3 years
- 4-7 years
- 8-11 years
- > 12 years

1.6 What kind of breed were these goats?

- Local breed, namely.....
- Cross breed, namely.....
- Exotic breed, namely.....

1.7 What was the main reason for you to work with goat?

- Manure
- Milk
- Meat
- Tradition
- Family business
- Serves as 'bank account', for savings
- Status
- Others, namely .....

1.8 What kind of goat do you have now?

- Local breed, namely.....
- Cross breed, namely.....
- Exotic breed, namely.....

1.9 And how many goats do you have now?

Breed	No. of goats	No. of kids	No. of male goat
Local			
Mixed			
Exotic			

2.0 With which systems do you keep your livestock?

- Zero-grazing
- Semi-grazing
- Free-grazing

2.1 Are you planning to change your system of animal husbandry?

- Yes, which system.....
- No

2.2 Do you have other types of livestock?

- No → go to question 1.9
- Yes → please fill in the following table
  - Column a) are the animal from a Local breed, fill in Lo. Exotic breed? Please fill in Ex. Mixed breed, fill in Mi.
  - Column b) what is the number of animals you have on average per year?
  - Column c) Could you give a division in percentages of your purpose to keep the animal?

Type of animals present	a) Breed: Local = Lo Exotic = Ex Mixed = Mi	b) Number of animals	c) Sales of the animals	Home consumption	Social activities
Cattle					
Pigs					
Chicken					
Sheep					
Rabbit					
Other...					

2.3 Has your motive to work with goats changed since you are member of the Farmers association?

- No
- Yes

2.4 What is your motive to work with goat now?

- Manure
- Milk
- Meat
- Tradition
- Family business
- Serves as 'bank account', for savings
- Status
- Others, namely .....

2.5 What were for you the 3 most important reasons you joined the Farmers association.

(Please write 1 which was the most important reason, then 2 as the second reason and followed by 3)

- I was forced to join the Farmers association because of .....
- I joined because of the social interaction and activities done by the Farmers association
- I wanted to benefit from the knowledge and skills about animal management and production
- I wanted to benefit from the materials and assets related to animal management and production
- I wanted to benefit from the good agreements the Farmers association has with chain actors
- I wanted to benefit from the increased profitability because of good markets for products
- Other reason, namely.....

## Knowledge and skills

Would you like the farmers association to provide more knowledge about certain aspects? Please choose out of:

- 1: Yes, I would need it very much and I already made a requested for it
2. Yes, I would need it, but I did not request for it
3. Yes, I would like it but it is not necessary or highly needed
4. No, it is not necessary to provide more knowledge

<b>Improvement of knowledge</b>	<b>1,2, 3 or 4</b>
Improvement of goat production (quantity)	
Disease identification, treatment & prevention	
Animal nutrition	
Goat farm record keeping	
Record keeping in general	
Goat breeding and AI	
Goat prices	
Public health issues and requirements	
Awareness of government policies	
Buyers	
Others, namely.....	

Questionnaire /statements, Part 2					
Below, you'll find a list of statements. For every statement, please make up your mind and determine to what extent you disagree or agree with the statement. Please give your opinion on the statement by asking yourself: "Is this statement true or not true? " And: To what extent is this true or not true? "					
You can give a score ranging from 1 to 4. A score '1' means: I totally disagree with the statement. A score '4' means: I fully agree with the statement. The scores 2 and 3 are in between.					
Please clearly indicate the scores you give (circle the chosen scores). Please answer all statements.					
scores	1 = Si kweli kabisa				
	2= Si kweli				
	3= Kweli				
	4= Kweli kabisa				
No	<b>Statement</b>	<b>Score</b>			
1	<b>Membership base</b>				
1.1	The conditions for adhering to our farmers cooperative are clearly defined	1	2	3	4
1.2	Our farmers cooperative has clearly formulated the objectives it wants to reach	1	2	3	4
1.3	These objectives are shared with all individual members	1	2	3	4
1.4	I am totally aware of the objectives and the planning of our farmers cooperative	1	2	3	4
1.5	All people who want to, can be member of our farmers cooperative	1	2	3	4
1.6	I know that we have a member register that is up-to-date	1	2	3	4
1.7	The farmers' cooperative knows how many animals every member has	1	2	3	4
1.8	All members regularly pay their membership fees	1	2	3	4
1.9	All members actively participate in the activities of our farmers cooperative	1	2	3	4
No	<b>Statement</b>				
2	<b>Governance, leadership and internal democracy</b>				
2.1	The internal regulations of our farmers cooperative are well documented	1	2	3	4
2.2	All members know the internal regulations of our farmers' cooperatives	1	2	3	4
2.3	The statutory bodies of our farmers' cooperatives (general assembly, board meetings) function according to their mandates	1	2	3	4
2.4	The governing board of our farmers cooperatives has been democratically and transparently elected	1	2	3	4
2.5	Internal communication within our farmers cooperatives is well organized: members are well informed about whatever is happening	1	2	3	4

2.6	Each member is aware of his/her responsibilities	1	2	3	4
2.7	Women and youth are sufficiently represented in the elected bodies of our farmers association	1	2	3	4
2.8	Collaboration between members is good	1	2	3	4
2.9	Every member in our farmers cooperatives has the same decision rights	1	2	3	4
2.10	Our farmers cooperatives is very good in problem solving	1	2	3	4
2.11	Overall, I am very happy with the objectives and the planning of our farmers' cooperatives	1	2	3	4
No	<b>Statement</b>				
<b>3</b>	<b>Management of financial resources</b>				
3.1	Our farmers cooperatives functions on the basis of the financial contributions of the members	1	2	3	4
3.2	Our farmers' cooperatives can function well without outside financial support	1	2	3	4
3.3	We have elected a treasurer who can keep the books correctly	1	2	3	4
3.4	We have a committee that controls how expenditures have been done and how the financial books are kept	1	2	3	4
3.5	When the farmers cooperatives needs to buy something, the procedures to do so are transparent	1	2	3	4
3.6	If I want to, I am also allowed to check the records	1	2	3	4
3.7	Every year, the board or the treasurer explains how resources and income of the farmers' cooperatives have been used	1	2	3	4
3.8	The assets of our farmers' cooperatives are well used and equally divided among the members	1	2	3	4
3.9	Overall, I am very happy how the financial resources are managed by the cooperative	1	2	3	4
No	<b>Statement</b>				
<b>4</b>	<b>Collaboration and networks</b>	1	2	3	4
4.1	If we want something to be done we seek collaboration with other farmers cooperatives	1	2	3	4
4.2	In the past, we have had exchange visits with other dairy goat farmers' cooperatives, to observe how other farmers cooperatives are functioning and working.	1	2	3	4
4.3	In the past years, our farmers cooperatives has approached institutes, NGO's, research centre's and extension workers to find answers to the questions we had	1	2	3	4
4.4	Our farmers cooperatives had written project proposals with the aim to get support and funding for our activities	1	2	3	4
4.5	Our farmers cooperatives has formal agreements with banks facilitating members' access to credit	1	2	3	4
4.6	Our farmers cooperatives has established good agreements with input providers, to buy animal feed and medicine for reduced prices	1	2	3	4
4.7	Our farmers cooperatives has established good agreements with traders and or to buy and transport our milk	1	2	3	4
4.8	Our farmers cooperatives has established good agreements with veterinary services, such as the set-up of collective vaccination programs	1	2	3	4
4.9	Our farmers cooperatives actively participates in meetings of other farmers association	1	2	3	4
No	<b>Statement</b>				
<b>5</b>	<b>Service provision to members</b>				
5.1	The services of the farmers' cooperatives respond to my needs as a goat dairy farmer	1	2	3	4
5.2	I think our farmers' cooperatives is efficient in providing information and training to the members	1	2	3	4

5.3	New members are well adopted in our farmers' cooperatives and receive proper assistance	1	2	3	4
5.4	I am benefiting from trainings organized by the farmers' cooperatives that make me a more professional farmer	1	2	3	4
5.5	Thanks to the farmers' cooperatives I now use inputs (such as animal feed, medicine, seeds, fertilizer, pesticides), which I otherwise would not have had	1	2	3	4
5.6	Our farmers' cooperatives has the habit of asking the members if they are happy with the services that are provided	1	2	3	4
5.7	By being a member of this farmers' cooperatives I am earning more	1	2	3	4
5.8	The board members receive training to improve the competencies and skills that are needed to perform their tasks	1	2	3	4
5.9	I am very aware of the opportunities that we as dairy goat farmers have to be joined in a farmers' cooperatives	1	2	3	4
5.10	Overall, I am very happy with the services the farmers' cooperatives provides	1	2	3	4
No	<b>Statement</b>				
6	<b>Animal management and production</b>				
6.1	I have very good knowledge on goat dairy farming	1	2	3	4
6.2	The production of my milk is high and is how I desired	1	2	3	4
6.3	I have no problems of feeding the goat(s) sufficiently	1	2	3	4
6.4	I am able to plant good pastures and feed my goats sufficiently	1	2	3	4
6.5	I always vaccinate my goat(s)	1	2	3	4
6.6	My goat(s) are very healthy	1	2	3	4
6.7	I am very good in recognizing disease symptoms	1	2	3	4
6.8	In case my goat(s) get sick, I always invest in medicine	1	2	3	4
6.9	Every season, I calculate the costs and benefits of the goat production	1	2	3	4
6.10	If I need, I can get credit at the bank to finance production costs	1	2	3	4
No	<b>Statement</b>				
7	<b>Stakeholder collaboration</b>				
7.1	My input supplier gives me advice on how best to use the feeding, medicine and other input supplies	1	2	3	4
7.2	Our farmers' cooperatives discusses with district authorities for supporting the dairy goat value chain	1	2	3	4
7.3	We discuss with chain actors about what we can do for each other	1	2	3	4
7.4	We discuss with chain supporter about what they could do for us	1	2	3	4
7.5	We know the quality requirements of our buyers and consumers in different markets	1	2	3	4
7.6	We deal with reliable goat milk traders and processors	1	2	3	4
7.7	If there is a problem, we openly discuss matters with the goat milk traders and processors	1	2	3	4
7.8	If our farmers cooperatives would engage in collective marketing and sells at a better price, I would be happy to contribute cash in Tshs for the benefit of the farmers' cooperatives	1	2	3	4
7.9	Within the district, different stakeholders are discussing how best to develop the dairy goat value chain	1	2	3	4
No	<b>Statement</b>				
8	<b>Entrepreneurial skills</b>				
8.1	Our farmers cooperatives is specialist in our field of expertise	1	2	3	4

8.2	Our farmers cooperatives has diversified into other activities in relation to milk products	1	2	3	4
8.3	Our farmers cooperatives has diversified into other activities which are not related to milk goat production.	1	2	3	4
8.4	Our farmers cooperatives is very good in identifying market possibilities	1	2	3	4
8.5	Our farmers cooperatives is in general able to identify risks and opportunities very well	1	2	3	4
8.6	When our farmers cooperatives takes risks, we first analyze the situation properly and think of possible results and things that can go wrong	1	2	3	4
	<b>Costs and marketing</b>	1	2	3	4
9.1	I am always able to sell my milk	1	2	3	4
9.2	The farmers' cooperatives provides enough information about where to sell the milk	1	2	3	4
9.3	I know milk prices at different markets in Tanzania	1	2	3	4
9.4	In case there is little market to sell the milk, our farmers' cooperatives searches for new markets	1	2	3	4
9.5	Even if there is market for the milk, the farmers' cooperatives is still active in searching markets	1	2	3	4
9.6	I always get the same price for my milk	1	2	3	4
9.7	I am happy with the price I get for my milk	1	2	3	4
9.8	I am happy with the procedure how I get paid for my milk	1	2	3	4
9.9	My production costs are covered by the sales of milk	1	2	3	4

## **Appendix B: Interview checklists**

### **Checklist for the selected representative of three dairy goat cooperative**

1. What is a performance of the farmers association when looking to the marketing, production and internal organisation?

#### **Marketing**

What are the average sales prices received?

What are the clients of cooperative?

What are the relationships with other actors /stakeholder in a goat value chain?

#### **Production**

What are percent numbers of active members out of total numbers?

What average price paid to the farmers?

What plans and implements measures to minimize impacts of its operation to its environment?

#### **Internal organisation**

What are the total numbers of staffs?

What is the organisation structure of cooperative?

What are the sources of grant funding?