UNIVERSITY OF ZAMBIA AND ZIMBABWE OPEN

UNIVERSITY POSTGRADUATE PROGRAMMES

The sustainability of Dairy Cooperatives in Lusaka Province.

By

Munsanda Mudenda

A Dissertation submitted to the University of Zambia in partial fulfilment of the requirements for the award of degree of Master's in business administration

THE UNIVERSITY OF ZAMBIA 2020

DECLARATION

I hereby declare that this submission is my own work towards the Master of Business Administration general and that, to the best of my knowledge, it contains no material which has been accepted for the reward of any other degree of the University, except where due acknowledgement has been made in the text.

Munsanda Mudenda Student	……	…….
	Signature	Date

Certified by:

Dr Victor Muchemwa Name of Supervisor	……	……..……
	Signature	Date

ACKNOWLEDGEMENT

I would like to thank the almighty God. I am heavily indebted to my supervisor Dr Victor Muchemwa for his valuable advice, guidance, positive criticism, patience and encouragement throughout the entire research period. Thank you!

I also wish to appreciate everyone who contributed to the finalisation of this document, thank you very much and God bless you all.

ABSTRACT

This research examined the sustainability of dairy cooperatives by examining the performance of 3 dairy cooperatives in Lusaka district. The purpose of this research was to ascertain the feasibility of the dairy cooperatives to be financially and operationally sustainable to allow for business continuity even without externa/donor aid. The objectives of the study were to examine the performance of the cooperatives, evaluate measures put in place to achieve sustainability and to evaluate the feasibility of the dairy cooperatives to operate in continuity and provide services to their members and the communities they serve.

A descriptive research design was adopted in this study. Purposive sampling was used to select the 3 study sites and 38 questionnaire participants of this study. Quantitative data resulting from the questionnaires was analysed using a mixed method approach. Based on the findings, Dairy cooperative are not operating at their optimum and their performance is below par. This is mainly due to the reasons that the employees and management of the cooperatives lack specific skills to manage the operations of the cooperative. Findings in this research indicate that measures have been put in place in various cooperatives to ensure governance, operational and financial systems. However, the Cooperatives are not utilizing these systems and furthermore are not operating as a business that uses mechanisms of financial, governance and operational systems but rather operate at a bare minimum in their provision of services to their members. The study revealed that the cooperatives are feasible as a business entity and provided recommendations to build their internal capacity in business, financial and management skills necessary for efficient management of the cooperatives.

Table of Contents

CHAPTER ONE

INTRODUCTION

1.0 Overview

This Chapter outlines the background, statement of the problem, purpose of the study, study objectives, research questions, significance of the study, delimitations of the study, the theoretical framework and operational definitions of this research.

Dairy is a business enterprise established for the harvesting of animal milk – mostly from cows or goats, but also from buffalo, sheep, horses or camels – for human consumption. Dairy is typically multi-purpose farming that is concerned with the harvesting of milk. 'A dairy cooperative society is therefore understood as a group of milk producing farmers who have specific common needs and have come together to form an economic enterprise to improve the economic status. Most cooperative societies offer their products to their members and others do not serve non-members.' (Raychelle, 2019). Cooperative ownership in any industry encourages participation and ownership of member producers. Through a cooperative, members are able to influence public policy and the regulation of the industry they belong.

For the purpose of this research, business sustainability or simply sustainability will refer to adequate governance structures, sound and functional financial and operational systems.

The term Civil society organisation (CSO) is all-encompassing and inclusive of non-governmental organisations (NGOs), charities, cooperatives, trusts, foundations, advocacy groups, and national and international non-state associations, which are all particular types of organisation within civil society. Apart from signifying separation - both normative and institutional - from the state, the term 'civil society' or civic organisation is also commonly used to denote a distinction from the economic sphere, or from organisations which are primarily about profit. Non-profit is often the key condition for tax exemption and charitable status. (Hutter, 2004)

The above definition highlights the important aspect of a civil society organisation, inclusive of Dairy cooperatives, to being independent of the government and have a commitment to provide a service to the communities they serve.

Developing countries like Zambia, are a host to several social and economic issues. The global community through international organisations like the United Nations and its subsidiary

organisations, aid developing countries in the effort of addressing many of the problems that developing countries have. Dairy cooperatives represent members in the dairy industry to access aid and services in a systematic and organised manner.

Cooperatives in Zambia have shown potential to contribute considerably to the human, social, political and economic development of the country. (Mumba M. H., The Status of Civil OSciety in Zambia: CHallenges and Future Prospects, 2010) Cooperatives participate in activities of lobbying for better policies, advocate for the rights of their members who are in need of improved access to services, environment and climate mitigation measures, financial services and market linkages, gender inclusion and many other issues that characterise the problems of developing nations.

1.1 Background of Dairy cooperatives in Zambia

Dairy cooperatives play a significant role in the development of the dairy industry in Zambia. Zambia has about 2,500 smallholder dairy farmers affiliated to dairy cooperatives whose capacities in smallholder dairy farming are being strengthened by resource persons, including materials & financial support mainly from Non-profit organisations such as, the Dairy Association of Zambia (DAZ), Golden Valley Agricultural Research Trust (GART), Heifer International, and many other Non- Governmental Organisation (NGOs) in collaboration with the Government of Zambia. (Mumba C., 2012). The Supporting NGOs are funded by international agencies from the United States government, Swedish government and other European Union (EU) countries. (Mumba C. , 2012)

The dairy sector is a key business opportunity for smallholder farmers in Zambia. In addition to providing milk, it is a valuable source of income and nutrition to rural populations, dairy is a food product that has growing interest among consumers, particularly the growing middle class in Zambia, a fairly urbanized country (Patrick Kawambwa, 2014). However, dairy farming is not easy and requires a lot of training, perfection and skill that is gained through, formal training, experience and knowledge sharing. This is because milk is highly perishable and an excellent medium for the growth of micro-organisms – particularly bacterial pathogens – that can cause spoilage and diseases in consumers. Therefore, membership to a dairy cooperative allows a farmer to be part of an organised body of fellow farmers that enables access to various services such as

provision of various production inputs, training, markets as well as a platform for collective lobbying and advocacy activities to improve the performance of the industry.

In Zambia, the role of dairy cooperatives is to serve the interests of smallholder dairy farmers by provision of a milk collection centre (MCC). The MCC enables smallholder farmers to preserve milk in a cooling tank for the processor to collect. This is because milk processors are unable to collect milk from individual farmers. However, not all dairy cooperatives have MCC's and few MCCs in Zambia have the capacity to collect/bulk milk, process it and deliver it to final consumers. Many dairy cooperatives in Zambia are largely dependent on the support they receive from NGOs such as, the Dairy Association of Zambia (DAZ), Heifer International, Agri-Pro focus, SNV and many other non-governmental organisations.

This study examines the sustainability of dairy cooperatives in Zambia. We understand organisational sustainability to be 'one that can continue to fulfil its mission over time' and in so doing meets the needs of its key stakeholders – particularly its beneficiaries and members. 'As such, sustainability should be seen as an ongoing process rather than an end in itself. It is a process that involves the interaction between different strategic, organisational, programmatic, social, and financial elements.' (Hailey, 2014).

The question therefore is whether the operations of dairy cooperatives in Zambia are operating within the realm of the concept of business sustainability. Business sustainability refers to a broad range of factors in an organisation, including sound financial systems, a strong organisational structure and the ability to conduct operations with a going concern. 'Business sustainability, also known as corporate sustainability, is the management and coordination of environmental, social and financial demands and concerns to ensure responsible, ethical and ongoing success' (Rouse, 2013).

What is unclear, however, is whether the aid provided to these non-profits is helping to build the capacity of dairy cooperatives to operate with the concept of business sustainability or whether donor funding or donor aid is regarded as a continuous source of income. An important aspect to consider in the business sustainability of civil society organisation and cooperatives in particular is, are these CSOs operating in a manner that considers their continuity in the event that donor funding is seized. What mechanisms and structures are present in civil society organisations, specifically to dairy cooperatives, that give the indication that CSOs have a sustainability plan and

will be able to operate as a going concern without donor funding. In a report by the Zambia Council for Social Development, for the World Alliance for Citizen Participation, found that 'Zambian CSOs are highly dependent on donor funding and usually have no say on how funds should be used. Therefore, there is need for them to develop income generating activities in order to have more independence in their development intervention.'

1.2 Statement of the Problem

There is a lot of literature and research on the need for sustainability of civil society organisations, so that they can provide services for communities they serve beyond donor funding, however, it is unclear if NGOs in Zambia are following these recommendations towards self-sustainability, particularly Dairy cooperatives. Furthermore, there is limited research to give evidence that dairy cooperatives in Zambia, are building their internal capacity, to gain financial and corporate sustainability.

This research aims to establish whether Dairy cooperatives in Zambia are building their internal capacities in governance, financial controls and operating in a manner that will achieve financial sustainability.

1.3 Purpose of the Study

The purpose of the study is to ascertain whether dairy cooperatives in Zambia are building their internal capacities and operating in a manner that enables them to operate sustainably, so that, in the event of donor withdrawal of financial support, they can continue to provide services to the communities that they serve.

1.4 Study Objectives

1. To examine the performance of dairy cooperatives in Lusaka province
2. To evaluate the measures put in place by dairy cooperatives to continue to operate sustainably in business continuity.
3. To establish the feasibility of a dairy cooperatives in Lusaka to continue providing services without external donor funds.

1.5 Research Questions

1. Are dairy cooperatives operating profitably?
2. What measures have been put in place for self-sustainability?

3. To what extent are dairy cooperatives able to continue providing services to their member farmers without external aid?

1.6 Significance of the Study

Dairy Cooperatives provide for the promotion of democracy and as partners to the government, agro- dealers, service provides and a number of institutions in the delivery of services to dairy farmers and the dairy industry as a whole.

This research will give indication for the importance for the sustainability of dairy farming cooperatives and the challenges that the cooperatives in the dairy sector are having in their efforts to being sustainable, if any. The research will highlight the areas of weakness of Zambia's dairy cooperatives and provide suggested solutions in how business sustainability can be achieved.

The research will be helpful to dairy farmers, who receive services from cooperatives, and will enable the members to hold their rights bearers accountable for the actions and operations of their organisation.

Donor agencies will use the material from this research to review member based cooperatives that they fund, to analyse operations and service delivery of cooperatives so as to determine reporting guidelines that will be able to reflect systems and methods of operations that can encourage corporate and financial sustainability as a going concern for the respective non-governmental organisation that they fund.

1.7 Bounds or Delimitations of the Study

Delimitations are boundaries that are set by the researcher in order to control the range of a study. These were created by the researcher before any investigations have been carried out in order to control the scope of the study, given the time allocated to this research. Only Dairy Cooperatives in Lusaka province were considered for this research. Mutaba Cooperarive in Chisamba district, Palabana Cooperative, in Chongwe District and Mapepe cooperative in Chilanga District. i.e. Cooperatives with a radius of up 40 40Km from Lusaka district.

In respect to sustainability, the researcher recognises that they are many aspects that determine the overall sustainability of an organisation. This study limited focus to two aspects of organisational

sustainability, the first being financial sustainability as the underlying factor of sustainability and the second being the existence of operational governance structures in dairy cooperatives.

1.8 Theoretical Framework

1.8.1 The triple Bottom Line approach or 3 Ps approach

Sustainability has been an often-mentioned goal of businesses, non-profits and governments, yet measuring the degree to which an organization is being sustainable or pursuing sustainable growth can be difficult.

'John Elkington strove to measure sustainability during the mid-1990s by encompassing a new framework to measure performance in corporate America. This accounting framework, called the triple bottom line (TBL), went beyond the traditional measures of profits, return on investment, and shareholder value to include environmental and social dimensions. By focusing on comprehensive investment results—that is, with respect to performance along the interrelated dimensions of profits, people and the planet—triple bottom line reporting can be an important tool to support sustainability goals.' (Timothy F. Slaper & Hall, 2011)

Interest in triple bottom line has been growing across for-profit, non-profit and government sectors. Many businesses and non-profit organizations have adopted the TBL sustainability framework to evaluate their performance TBL "captures the core of sustainability by measuring the impact of an organization's activities on the world. Including both its profitability and shareholder values and its social, human and environmental capital.

However, despite its popularity and seemingly inclusiveness for all aspects of business sustainability, the triple bottom line or 3 Ps approach neglects the aspect that there is not one single measure for all 3 variables to provide a conclusive comparison. Profits are measured in currency. Whereas there is no clear measure to be used for social capital or the environment. Finding a common unit of measurement is one challenge.

1.8.2 Prisms Models

The Prism model also called the four pillars model, proposes a set of interlinked components. Spangenberg and Bonniot (1998) distinguish between the aspects of human-made capital, social capital, human capital, and natural capital. Other versions of the Prisms model include the basic three-pillar model that has been acknowledged to separating social capital into social capital and

cultural capital (Nurse, 2006). (Thatcher, 2014)The prism model of sustainability suffers from much the same criticisms as the three-pillar model in that the models assumes that the different components/pillars are independent, also there is no time dimension built into the model, which is an essential component of the World commission of economic development definition.

1.9 Operational Definitions

The following are the definition to the key words that are used in this study;

- **Sustainability:** relates to meeting the needs of the present without compromising the ability of future generations to meet their needs. In this study, sustainability has been considered in terms of functional governance systems, operational financial systems and procedures as well as profitability of an organisation to meet its obligations.
- **Financial systems:** A network of monetary transactions that facilitate for the payments of obligations to enable the organisation to operate efficiently
- **Employee** A person who works in someone else's business for wages paid by that business
- **Performance:** comprises the actual output or results of an entity as measured against its intended outputs or goals and objectives of the organisations.
- **Productivity** it is a measure of performance that takes into account the cost of achieving a given performance level.
- **Organization productivity** the capacity of an organization, institution, or business to produce desired results with a minimum expenditure of energy, time, money, personnel, and materials.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This chapter sights relevant literature guided by the global, regional and local perspective on the importance of sustainability of cooperatives with specific relation to the dairy industry. Information quoted and sited was collected from various journals, online articles, books, reports and publications relevant to the area of study.

As the global economic downturn restricts donor resources and more developing countries reach middle-income status, an increasing number of local civil society organizations are watching international donors reduce or withdraw funding and reduce staff presence. Thus, the future of civil society organisations including cooperatives that are supported by donor aid, in many developing countries will be directly impacted by civil society's reactions and adaptations to donor withdrawal. Donor withdrawal affects local civil society on multiple levels.

Much research has been conducted on the importance of donor funding to Non-governmental and the effects, of that funding being withdrawn. However, what we do not know, is if civil society organisations, and particular to this research, dairy cooperatives in Zambia are operating with the view of corporate sustainability, this would involve that the cooperatives build their internal capacities in financial and governance structures, in the efforts towards achieving self-sustainability. This research aims to identify what challenges dairy cooperatives are facing in their efforts towards becoming sustainable, in the event of donor aid withdrawal and operate in continuity to providing the much-needed services to the communities they serve.

2.1 Global Sustainability of Cooperatives

2.1.1 Donor dependency

There have been significant changes in civil society dynamics in recent years with regards to sustainability of non-governmental organisations worldwide. Reductions in traditional forms of funding have meant that organisations are seeking alternative sources of income. Yet overcoming dependency on external sources is a challenge that many local organisations are struggling with. (Sarah Lewis, Building sustainability of Civil Society, January 2015). A report by the International NGO Training and research Centre (INTRAC), revealed different views on the debate of

sustainability of civil society organisations. Among many issues debated, the table below highlights the main areas of concern on the debate.

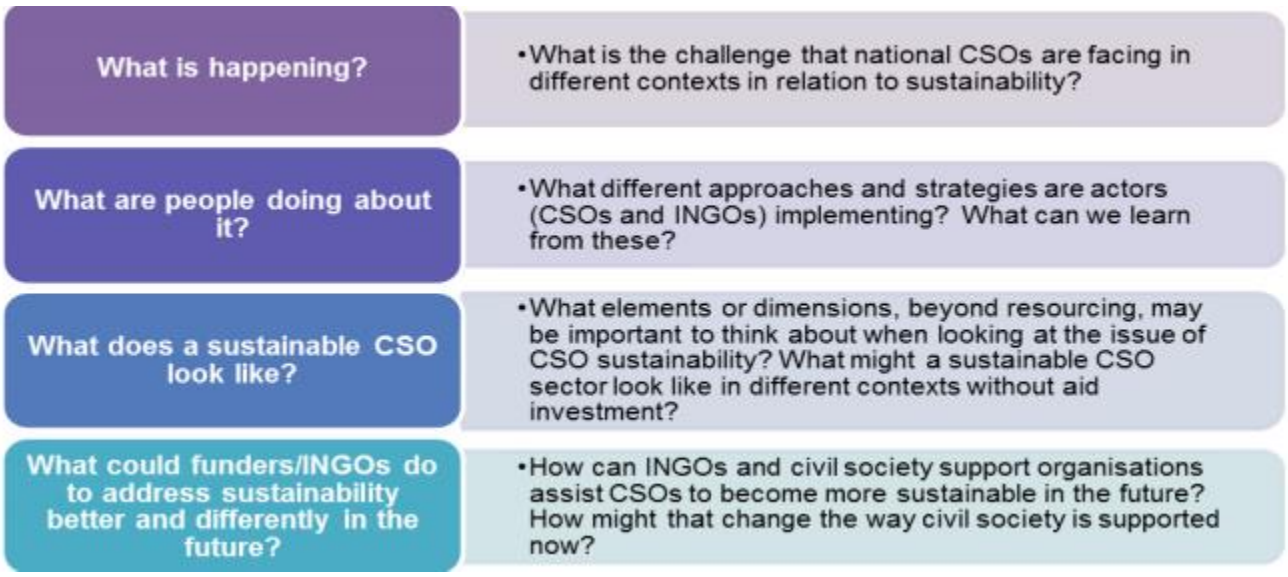

Figure:2.1. Source: International NGO Training centre

Discussions in this debate revealed the dimensions of sustainability to be legitimacy, resourcing, leadership, mission and values, space and context as all important elements in building the sustainability of civil society. Though these different dimensions identified the report lacked an in-depth analysis into he challenges that CSOs are facing in achieving sustainability.

In a report for the United States Agency for International Development (USAID) Report, Megan Renoir and Matthew Guttentag highlighted that 'there is increasing evidence that internal dynamics and mechanisms of CSOs may also determine their capacity to be financially sustainable. For instance, when an organization has sound administration and robust financial and strategic planning, they are far more likely to be financially sustainable than they would be without these characteristics. Transparent reporting though strong monitoring and evaluation or financial systems is also linked to maintaining strong donor relationships, reinforcing the capacity to acquire additional funding in the future. In this report, it is further indicated that despite identifying these as reasons as to why sustainability is a problem for CSO in developing countries, these organisations are faced with operating in an environment that is characterized with issues of social stigma, cultural norms, poor economic conditions and stringent government regulations to name a few. These all contribute to the constraints of achieving sustainability.' (Guttentag, May 30, 2018)

However, despite highlighting and identifying these issues, the authors do not give recommendations on how the CSOs that exist in these conditions can achieve self - sustainability. Therefore, the feasibility of CSOs achieving financial sustainability is still unknown.

2.1.2 **The Need for Sustainability**

Business viability of an organisation, as a going concern, is a key requirement for any organisation to continue to operate as a going concern. More so for dairy cooperatives that are accountable to the members that they serve. Sustainability of Civil society organisations gets plenty of lip service in the civil society sector, and anyone who has filled out a grant application has probably written a required "sustainability plan" for a set of activities. It is unquestionable that sustainability is a requirement for all organisations, profit or non-profit, this is especially so for dairy cooperatives that serve members who are among the most vulnerable in society and are in great need of the services that the cooperatives provide as well as lobby and advocate for, on their behalf. The International NGO Training and Research Centre (INTRAC), convened an important debate around civil society sustainability, INTRAC identified that, there have been significant changes in civil society dynamics in recent years. For example, reductions in traditional forms of funding have meant that organisations are seeking alternative sources of income. Yet overcoming dependency on external sources, is a challenge that many local organisations are struggling with.

2.1.3 Performance of Dairy Cooperatives in India

Cooperatives play an important role in achieving and strengthening the sustainability of dairy value chain. In developing countries like India most of the small, marginal and landless farmers are engaged in dairying for their livelihood and hence there is a dire need to strengthen the milk value chain for effective and efficient performance (Vanishree M, 2018 1.)

Dairy cooperatives in India are owned by farmer-milk producers who are also the suppliers of milk. The objective of a cooperative, broadly, is to serve the best interest of its members (Boland and Barton, 2013). Dairy cooperatives in India operate and are organized under a special structure known as the 'Anand Pattern' which is essentially a three-tier structure: a village level dairy cooperative society; a district cooperative milk producers' union owned by; and a state federation which is responsible for marketing of milk for district unions and determining prices of milk to consumers. In a system where selling price is exogenously determined by the State federation, it is the economic performance of the district union that will determine the quantum of surplus

(patronage refunds) generated for paying maximum price to its owner-suppliers. Under this controlled environment, the District cooperatives ought to run efficiently and ensure sustainability of operations for continued service to dairy farmers; earn maximum possible return to pay higher milk price to farmers and at the same time taking care of reasonableness of price to its customers (Rajendran and Mohanty, 2004). In order to do so, dairy cooperatives require sound financial management practices and financial performance indicators that can help to evaluate performance and take decisions. (Bhatia, 2019)

In this book, Bhatia, Anuj & Arrawatia, Rakesh, highlight the elements that need to be present to have a profitable dairy cooperative. However, traditional financial management and accounting tools such as return on asset and return on equity are argued to not consider the objective of a cooperatives structure. Thus, what should be a good tool for evaluating financial performance and taking financial decision for cooperatives is still unknown.

2.1.4 Global Measures Towards Sustainability in Dairy Farming

A report held for Proceedings of an international consultation held in Bangkok, Thailand revealed that 'Asia as a region has emerged as a major player in global dairy production and consumption. Aggregate consumption gains in dairy products in Asia over the past decade have exceeded twice the annual global average. Recent OECD-FAO Agricultural Outlook estimates that the demand for milk and milk products in the region will touch almost 320 million tonnes by the year 2021 (OECD-FAO, 2012). This means the region will need to increase milk availability by another 40 million tonnes within this decade. This growth in demand is happening at a time when concerns about resource scarcity, growing pressure on feed resources, climate change and the need for more equitable development are becoming more and more important. Farmers worldwide face the challenge of producing more food with fewer resources while also addressing climate change and impacts on ecosystems.

The agriculture sector in general is under pressure to increase the efficiency of natural resource use to meet society's growing food and environmental needs. For the dairy sub-sector, this means that the economic agents along the entire dairy value chain must adopt technologies and management practices that facilitate integration of environmental health, economic profitability and social and economic equity goals. Further, it is imperative that the transition to a more sustainable path considers sustainability in its full complexity encompassing all its pillars—

economic, ecological, and social. Partial solutions will not produce the desired results. For example, any efforts towards conservation that ignore the need for economic development, food security and livelihoods are unlikely to succeed. Conversely, socio-economic development will not be sustainable if it does not maintain the ability of the ecosystem and society to adapt to short and long-term changes. This complexity necessitates consideration of sustainability as a societal issue and requires integrated efforts by a wide range of stakeholders to capitalize on the strength of dairy production systems in Asia and to minimize the potential negative impact of rapid growth in demand and supply of dairy products in the region. It is also imperative that such efforts be realistic, equitable, and conscious of region's ecological, socio-economic and cultural dimensions.' (FAO, 2014)

The need for milk and ultimately the dairy industry is on the increase, this report by the FAO highlights that in the wake of sustainability, it is important that the organisations that the donor agencies support, in efforts of increasing productivity are able to continue providing services to farmers in efforts of increasing productivity. The report indicates the need for consideration of economic, ecological, cultural and social considerations in the exertions towards sustainability. However, the proceedings at this conference did not highlight and address what practises and technologies should be put in place to achieve sustainability so as to increase productivity in the production of milk.

A strategy report for support via Swedish Civil Society organisations, 2016 – 2022, (Ministry of Foreign Affairs , 2013) identified that a 'common problem in civil societies in developing countries is that groups and organisations with the potential to contribute to democratic development and respect for and promotion of human rights have weak thematic, organisational and financial capacity and therefore do not gain traction. This report further highlighted that 'the real challenge is for local CSOs in middle and low-income economies, who are best-positioned to serve their communities but face a limited supply of local financial resources and difficulty in accessing funding from abroad.

Through the cited literature it is clear that NGOs should invest in sustainability strategies that will enable them to fundraise for funds and limit reliance one source of funding and also ensure that they are financially independent and gave solid governance structures that will enable them to sustain their programmes as well as to continue to lobby, advocate for and provide services to their

members, donor funding. Despite recognition of the need and importance of, financial and governance sustainability, there is a wide array of literature with various strategies and methods to reach sustainability for donor funded non-profit organisations such as cooperatives, a gap still remains on the implementation of these suggested strategies systematically and realistically.

USAID published the first Sustainability Index in 1997, covering twenty-one countries in Central and Eastern Europe and Eurasia. The Index has expanded considerably over the past fifteen years. The Central and Eastern Europe and Eurasia Index has covered twenty-nine countries since 2003. In 2009, USAID. Introduced the CSO Sustainability Index for Sub-Saharan Africa, which now includes reports on twenty-three countries.' (United States Agency for International Development (USAID), 2011)

2.1.5 Research Gap

The Sustainability reports compiled by the USAID, gives a holistic representation of the performance of CSOs in the countries the UN has a presence in. However, this report groups all CSOs in the countries into one category and measures scores and indicators across different industries and sectors with the same scores and indicators. Though, it is very likely that challenges across all CSOs from different sectors would be similar, it would be difficult to obtain an accurate representation of each sectors challenges, as the efforts of CSOs in each sector have varying economic, social and cultural conditions that affect their industry and are unlikely to be the same for all other CSOs in different sectors. 'The United Nations sustainability index, analyses and assigns scores to seven interrelated dimensions: legal environment, organizational, capacity, financial viability, advocacy, service provision, infrastructure, and public image. These scores are averaged to produce an overall sustainability score.' (United States Agency for International Development (USAID), 2011)

2.2 African Perspective on Dairy Farming

In Africa, a distinct advance in the development of the cooperative movement was made in the 1960's, after most of the countries were freed from colonial rule. In 1969, the membership of cooperative societies in the African countries reached 3.5 million. (In 1937 it was 332,000.) The cooperative movement is relatively advanced in the following African countries: in East Africa—Tanzania, Kenya, Zambia, and Uganda; in West Africa—Nigeria, Ghana, Sierra Leone, Cameroon, and the Ivory Coast; and in North Africa—Egypt. In Central Africa the cooperative system is developing at a considerably slower rate (Mwangi Ruth, 2013)

2.2.1 The Dairy Industry in Kenya:

The Kenyan dairy industry is the second largest in terms of the number of people it employs, and amount of milk produced after South Africa. Kenya has an estimated 1.7 million dairy farmers with average herd size of 4 cows. Almost 80 per cent of Kenya's total milk production of about 5 billion Kg is produced by the small holders. Kenya has about thirty active milk processors, of which the largest are Brookside, New KCC, Githunguri Dairies and Daima Dairies Ltd. Together, these four are processing 85 per cent of the 1.5 million kilograms of milk that are processed daily in Kenya. (O, 2016).

Despite its impressive size, the research by Oloo Benard O, concluded that the Kenyan dairy industry must consider incorporating lessons of sustainable intensification, fostering stronger collaborations among all actors, and adopting appropriate technology to the benefit of the dairy farming community.

2.2.2 The Dairy Industry in Ethiopia

The Increasing population, urbanization, and the rise in consumers' income is expected to increase the demand for milk and milk products in Ethiopia, since they constitute an important part of the Ethiopian diet. Ethiopia has the largest cattle population in Africa and milk production is by far dominated by small-scale landholders. Such conditions create opportunities for achieving a higher level of market integration by small farmers, particularly for serving urban consumers, which could induce significant improvement in rural income. (Clarietta Chagwiza a, 2016). As a result of this, several Collective action among farmers is costly and not always leads to the expected outcomes. In the case of agricultural cooperatives, there are different sources of costs towards collective action:

1. Collective decisions may require investment in time, particularly if the member of the cooperative is committed to participate in decision making stances, such as commissions and assemblies;
2. There might be temporary costs associated with being loyal to the cooperative. For instance, competitors to the coop may offer better prices during some seasons, to which loyal members cannot tap to; Collective decision regarding the services provided by the cooperative may also entail some costs derived from the heterogeneity of farmers. If not all the members coincide on the demand for services from the coop, decisions may be

costly for some (due to, for instance, concessions of the minority group to the request of the majority);

3. Costs may also arise from the vulnerability involved in being exposed to opportunistic behaviour of other members or cooperative.

The perception and incidence of these costs, as well as of the benefits derived from cooperative membership, may vary considerably among farmers not only due to farmers' diversity with regards to production profile, size or level of market integration, but also because agricultural cooperatives are very diverse, in terms of specialization, services delivered and internal governance. The above highlighted issues according to the authors of this studies, (Clarietta Chagwiza a, 2016), are highlighted as key issues that may discourage cooperative performance in small scale dairy farming.

2.3 Regional Perspective of Dairy Farming

2.3.1 The Dairy Industry in Botswana

The dairy production in Botswana can be categorized into commercial and subsistence sectors. The commercial sector is further sub-divided into small-scale dairy farms that keep 1 to 50 milking dairy cows; medium scale with 51 to 100 milking dairy cows and, large-scale with more than 100 milking dairy cows. Dairy animals are either kept under intensive, semi-intensive or extensive systems (Ministry of Agriculture, 2013). Mahabile (1997) reported that semi-intensive system predominately used and, Gaborone Agricultural Region (Botswana) reported adopted the semi-intensive system by both small-scale and large-scale dairy farmers (Mahabile & De Waal, 2010). (Som & Gosalamang Dikgang, 2016)

2.3.2 The Dairy Industry in Zimbabwe

The dairy industry of Zimbabwe consists of two sectors, the large-scale and the smallholder dairy sector that vary with scale of production. The large-scale dairy sector that originated in 1910 has large farms with high producing (> 5000 kg/lactation) pure exotic cows and their crosses and produces the 98 % of marketed milk for the nation. The smallholder dairy sector, initiated in 1983, has limited resources to justify large-scale commercial milk production. Milk is produced for home consumption with surplus sold locally through milk collection centres. This sector contributes only 1-2 % of marketed national milk production (Dairy Marketing Board (DMB) 1992). Smallholder dairying is a farming system that promotes regular monetary earnings to people who normally

access cash once a season after the sole harvested crops. The regular monthly monetary earnings from the sale of milk and milk products have favourable effects on the cash flow charts of rural households and improve the lifestyles of the rural people. The dairy industry was facing viability problems when the smallholder dairy sector was introduced. Due to pre-independence government policies of separate development, improved technologies on dairy production were targeted for the large-scale commercial dairy sector. The essential skills for dairying were lacking among the smallholder farmers when the market-oriented smallholder dairy programme was set up (National Association of Dairy Farmers (NADF)1993).

2.4 Regional Performance of Dairy cooperatives

2.4.1 Zimbabwe

Soul Washaya, (Washaya, 2018) in a journal article on small holder dairy farming in Zimbabwe, stated indicates that thirty-five years after the smallholder dairy farming program was initiated, milk intake is still below average in Zimbabwe. Several reasons have been identified to limit optimum milk production and these include; inappropriate breeds, inadequate feed supply, lack of government support, cost of production, poor marketing channels, poor disease control methods, inadequate infrastructure, weak extension support, lack of farmer involvement in production planning, poor social relations between farmers and management. Regrettably none of the limitations have been adequately addressed within the context of a smallholder dairy farmer; therefore, the initiative has not been fully tested for or against. The reliance on well-wisher funds by local authorities in this farming sector cannot be a solution to improving milk production. There is need for control mechanism and proper budgeting of available funds towards capacitating of smallholder dairy farmers.

2.4.2 Botswana

Data on local milk production from 1999 to 2009 are presented in Table 2. According to the table below,, the highest quantity of milk produced was recorded in 2008 (i.e., 8.30 million litres) while the lowest was 3.50 million litres in 1999. The decline in milk production was experienced in 2006 and 2009 despite an increase in milking cows. The decline may be attributable to the collapse of some four large-scale dairy projects due to the low prices of milk offered in the market, poor management (poor feeding and poor herd health) and inadequate funds to enable purchase of feeds. From 1999 to 2009, the dairy cow population increased at an average of 333 cows per annum while milk production increased by an average of 0.42 million litres per annum. During the same

period, the population of milking cows averaged 39.7% compared to 60.3% for dairy cows. This indicates that the majority of dairy cows on farms are unproductive. Poor feeding in terms of quantity and quality and inappropriate breeding method used (natural service preferred over artificial insemination) are the major contributory factors to high proportion of dry cows on farms. (Moreki J C, 2020)

National dairy herd population and milk production from 1999 to 2009

Year	**No. of dairy cows**	**No. of milking cows**	**No. of dry cows**	**Milk production/ year (million litres)**
1999	2673	1384 (51.8)	1289 (48.2)	3.50
2000	2919	1458 (49.9)	1461 (50.1)	3.70
2001	3936	2552 (64.8)	1384 (35.2)	4.20
2002	4478	1838 (41.0)	2640 (59.0)	4.70
2003	5304	1763 (33.2)	3541 (66.8)	5.70
2004	5694	1779 (31.2)	3915 (68.8)	5.90
2005	4953	1641(33.1)	3312 (66.9)	6.30
2006	5138	1707 (33.2)	3431 (66.8)	5.40
2007	6475	1989 (30.7)	4486 (69.3)	7.70
2008	5348	1810 (33.8)	3538 (66.2)	8.30
2009	6000	2000 (33.3)	4000 (66.7)	7.70

Values in brackets are percentages

Source: Zimbabwe Ministry of Agriculture (2009); Ruminants Division Annual Report (2010)

2.4.3 Research Gap

Despite the literature presented highlighting and identifying the of the challenges that have affected the dairy industry in the region, as examples taken from Botswana and Zimbabwe. Literature indicates that there is still a lack of further analysis into the role of cooperatives in addressing the challenges highlighted in the cited literature. Due to a lack of an analysis of the dairy cooperatives as a vehicle of production or an entity that can be used to address challenges identified, there is furthermore a gap on the measures to be undertaken to achieve optimum performance that will lead to sustainability of dairy cooperatives.

2.5 Overview of the Dairy Industry in Zambia

The Zambian Dairy Produce Board collapsed in the early 1990s and the dairy industry moved towards privatization. International companies such as Parmalat entered the sector through buying the assets of the Dairy Produce Board. The main focus in the agricultural industry was food security and the maize industry was a focus area. A subsidy program was launched whereby a producer could purchase inputs at 75 per cent of the cost of the inputs. The subsidy program had a major negative impact on the private suppliers of inputs. This effectively led to a situation where families registered for the subsidy program to get as many inputs. Cooperatives were established in the process and what are now known as Milk Collection Centres (MCC). (Thomas, 2013)

Dairy Farmers like many other smallholder farmers in Zambia are organised in cooperatives. It is through these cooperatives that dairy farmers obtain support services of marketing and input supply. Dairy cooperative organise a large part of civil society in Zambia. Dairy cooperatives belong to the group of NGOs or CSOs that engage in grass root activities with members who come together for the purpose of finding joint solutions to their problems through lobby advocacy in efforts towards changing public policy within their industry.

Productivity within the Zambian traditional dairy sector is currently at 2 litres per cow, per day. Emergent farmers who also keep cross breeds produce between 12 and 15 litres, while commercial producers are at between 17 and 24 litres. The bulk of this milk (over 90 percent), however, does not reach the formal market. (Kawambwa, Hendriksen, Zandonda, Wanga, & UR, August 2014). The Question then arises if the cooperatives are adequately providing services to their members to

enable them to market their produce. Are dairy cooperatives operating in a profitable and efficient manner that allows members to use the cooperatives market their produce?

This research seeks to address these key questions whilst ascertain if dairy cooperatives are operating in a sustainable manner that allows for adequate service delivery to their members without external aid.

2.5.1 Challenges in Dairy Cooperatives of Zambia

A report for Stellenbosch university on the challenges of dairy farming in Zambia found that;

1. The management structure of cooperatives is not focused on business principles. In fact, they are often managed like social-welfare organizations.
2. They lack sound business principles also creates opportunities for an abuse of the system.
3. Smallholder dairy farmers have no ownership in the dairy cooperatives or the MCC, even though the livelihood and existence of the smallholder dairy farmers are dependent on the MCC buying their milk. As a result, smallholder dairy farmers do not really care about the success and sustainability of these centres.

   (Thomas, 2013)

As a result, cooperatives are present throughout the south and western regions of Zambia. These cooperatives are largely focused on the dairy industry, but their number of farmers delivering milk fluctuates each year. Farmers do not have the inputs and capital available to deliver consistent milk production. The supply to milk processors is therefore irregular and could negatively impact on the future of the MCC and the smallholder farmers

2.5.2 Research Gap

There has been a great amount of research conducted on the performance and sustainability of Dairy Cooperatives, globally and in Africa. Literature on Dairy cooperatives with a close analysis on the performance of dairy cooperatives whilst investigating sustainability with a look into the governance, financial systems and member attitudes. Despite this literature, countless project reports, and relevant article, it is still unknown whether Dairy cooperatives in Zambia are following recommendations from the literature published to achieve sustainability. The results presented in this study will give indication to whether dairy cooperatives are operating sustainably and offer an indication to their feasibility beyond external/donor support

CHAPTER 3

METHODOLOGY

3.0 Introduction

This chapter outlines the methodology used in this study. It describes the research design, location of the study, population and sample of the research. Sampling techniques, data collection instruments, data collection procedures and timeline and data analysis instruments and procedures.

3.1 Research Design

MacMillan and Schumacher (2001:166) define research design as a plan for selecting subjects, research sites, and data collection procedures to answer the research question(s). (University of Pretoria, 2004)

The research design for this study is a case study approach which is adopting an exploratory mixed method. The approach is a mixed method because qualitative and quantitative data will be used to answer the research questions. Research questions 1 and 2, i.e. 'What is required for a dairy cooperative to operate profitably and 'What measures have been put in place for self-sustainability? will be collected using qualitative data and data to answer research question 3, will be collected using quantitative data. A desk research study method was also used to collect secondary data on historical and current data pertaining to the dairy industry in Zambia.

'Case studies are used in design research to analyse a phenomenon, to generate hypotheses, and to validate a method. Though they are used extensively, there appears to be no accepted systematic case study method used by design researchers. Considering its nature and objectives, the case study method could be considered as a suitable method for conducting design research (Teegavarapu, Summers, & Mocko, 2008). The researcher decided that a case study method would be ideal to closely examine the data in this research which is within a specific context. 'In most cases, a case study method selects a small geographical area or a very limited number of individuals as the subjects of study (Yin, 1984 p. 23). It is for this reason that a case study design was undertaken in order to evaluate the performance of dairy cooperatives in Lusaka. The essence for choosing a case study approach was so as to hear from the management of the selected co-operatives, they're opinions on whether cooperatives in Lusaka are operating sustainably.

3.2 Study Sites

The study was conducted in Lusaka, Zambia. The 3 Cooperatives chosen for the study were, Mapepe cooperative and Milk Collection centre in Chilanga, Kafue District, Palabana milk collection centre and cooperative in Chongwe District and Mutaba Chisamba, Milk Collection centre and cooperative in Chisamba district. The sites were chosen out of a population of 6 dairy cooperatives in Lusaka province (as provided by the Dairy Association of Zambia), however, only 4 of the 6 dairy cooperatives are functioning as mil collection centres too. Of the 4 functioning dairy cooperatives in Lusaka Province, 3 were selected for this study. The researcher selected 'the existence of a milk collection centre (MCC) at the cooperative as a characteristic for the sites chosen in order to be collect data from dairy related activities to determine, profitability and business viability with aa direct relation to Dairy production. A list of dairy cooperatives with a functioning MCC. Due to logistical constraints and convenience, the areas of study were limited to Lusaka province. The case study cooperatives were selected with the help of extension officers from DAZ Lusaka district.

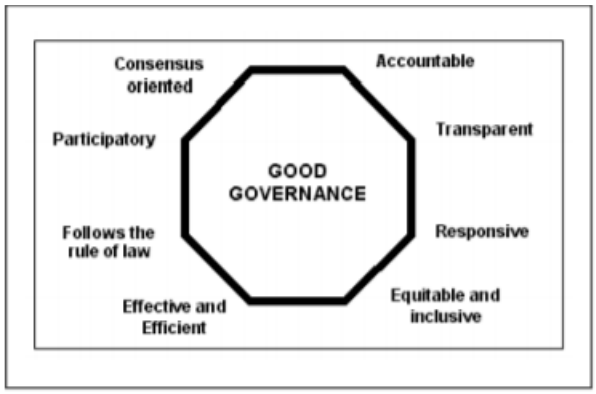

Figure 1 Characteristics of Good governance: Source: What is good governance? (Sheng, 2009)

The characteristics of good corporate governance as exhibited above where incorporated to determine the soundness of the governance systems existent in the dairy cooperatives sampled. Members satisfaction was measured using a scoring mechanism of 1-10, with 1 indicating a dissatisfied member and 10 a satisfied member of the cooperative. Data was collected to simultaneously determine the profitability and productivity of the dairy cooperative using records from the cooperatives Milk Collection centres, indicating the number of litres of milk that the cooperative receives monthly.

The Validity and reliability of the data were addressed by content inter-ratter reliability to address consistency. For content validity, experts in the field of dairy or managers and or board members of the cooperatives were interviewed to provide information whilst inter-ratter reliability was achieved by the amount of agreement amongst the different people interviewed as well as information obtained through desk research on sustainability of the cooperatives.

3.3 Study Population

The Dairy Association of Zambia Secretariat in Lusaka provided the list of active dairy cooperatives in Lusaka and advised on the best respondents to provide the information required for the research. There are 6 active Dairy cooperatives. With 9 members of staff, 19 board members and 83 ordinary members, thereby totalling a population of 93.

3.4 Study Sample and sampling techniques

Purposive sampling was used to select the and subjects to be interviews and the criteria used to select these informants was an understanding on the operations of the dairy cooperatives, preferably board members and staff of the cooperatives. The criteria for this selection was participants who have a good understanding of the operations of the cooperatives. A sample size of 3 cooperatives was used with 38 participants.

On sample size, if it is intentionally a qualitative study, then relatively small, purposive samples would be typically be used, and there is no "rule" that determines sample size. The sample builds and evolves as data gathers, and it is the quality, rather than the quantity of the sample that is the researcher's prime concern. (Salkind: 2000, p.96).

The research was qualitative and evaluative. The researcher interpreted the primary and secondary data and information by investigating whether they describe the sustainability of the co-operative. By adequately describing the structure of an organisation or enterprise, the researcher was be able to deduce the effectiveness and efficiency of the business model as well as the organisational structure and operational efficiency of the dairy cooperatives to determine their viability as business. Similarly, through interpretation the researcher was able to reason whether the responses and the available secondary data adequately provide answers to questions on how viable and sustainable dairy cooperatives in Lusaka district are, so as to continue to providing services to their members. Reference is made to Cook and Franken, (Cook, 2019), Cooperatives are, by nature, a sustainable and participatory business entity that, despite theoretical shortcomings, have in many

parts of the world and in Zambia in particular, shown remarkable resilience in the face of economic and financial crises. As a prominent business form in agriculture, cooperative governance and performance is of longstanding interest. Unlike profit making businesses whose primary aim is to maximize return on investment for its shareholders, cooperatives are a member-owned and member-controlled businesses from which benefits are derived and distributed equally based on use. The researcher developed the data collection tools to identify, the cooperatives financial performance, member satisfaction, through membership levels, productivity records and existing governance structures.

3.5 Sampling Technique

Purposive sampling, also known as judgmental, selective or subjective sampling, is a type of non-probability sampling technique. According to John Dudovskiy, purposive sampling (also known as judgment, selective or subjective sampling) is a sampling technique in which researcher relies on his or her own judgment when choosing members of population to participate in the study. Purposive sampling is a non-probability sampling method and it occurs when "elements selected for the sample are chosen by the judgment of the researcher. Researchers often believe that they can obtain a representative sample by using a sound judgment, which will result in saving time and money" (Dudovskiy, 2019)

3.6 Data Collection Techniques

(McCombes, 2020) describes descriptive research as research that aims to accurately and systematically describe a population, situation or phenomenon. It can answer *what*, *when*, *where*, *when* and *how* questions, but not *why* questions. To determine cause and effect, experimental research is required. A descriptive research design can use a wide variety of quantitative and qualitative methods to investigate one or more variables. Questionnaires offer an objective means of collecting information about people's knowledge, beliefs, attitudes, and behaviour, it is for this reason that questionnaires were used in the collection of primary data from the Milk Collection centres and cooperatives in this study. The researcher prepared open and semi structured questions that were administered face-to-face and telephone interview for those who were unable to make face to face appointments, during the time of the research. Other sources of information were reports from various institutions, the Zambian Cooperative Societies Act 1998, and observations from the sites visited during this research. 'For case study design, multiple

sources of evidence are permissible and methods to use can be qualitative and quantitative (Yin, 1984

3.7 Data analysis instruments and procedures

Data analysis is the process of bringing order, structure and meaning to the mass of information collected (Mugenda & Mugenda, 2003). The analysis of quantitative data resulting from the questionnaires involved coding, data entry, and data processing using Microsoft Excel.

3.8 Ethical considerations

The university of Zambia requires everyone undertaking research with human subjects to seek and obtain ethical approval before commencing the fieldwork. I therefore obtained ethical approval from the University of Zambia Committee. The researcher strictly followed the code of ethics provided by the university for all students conducting field research with human participants and obtained consent from each of the research participants. The researcher explained to participants what the research was about and the purpose of the information. In order to maintain confidentiality, names of participants will not appear in this report

CHAPTER FOUR

DATA PRESENTATION AND INTERPRETATION

4.0 Introduction

This chapter presents the findings and analyses from the interview's observations and secondary data and information. In line with the study objectives of this study to understand whether dairy cooperatives are operating sustainably, in the vent of ceased donor funding. The use of descriptive statistics has been used in some cases for easy presentation and reading. The data gathered was analysed by using descriptive summary statistics generated from the use of Microsoft Excel.

4.1 Data Presentation, Interpretation and Analysis

This chapter is a presentation of the study of 38 participants, (comprising of 6 staff, and 9 board members) representing 40% of the sample size on the subject of sustainability of the dairy cooperatives. The cooperatives have limited staff, in some instances it was found that some board members also worked at the cooperatives as staff or gave support to staff members, for instance with financial issues. For the purpose of this research, only staff that were employed by the cooperatives were considered as staff of the cooperatives.

The researcher analysed the opinions and responses of the employees and board members and used secondary data from Milk delivery records from their member, the researcher used this information to determine the productivity of farmers members of the cooperatives to analyse the profitability of the cooperatives. Key questions presented to respondents i.e. staff, board and members of the cooperative include; organisational structure and governance systems to ascertain accountability of the cooperative to its members, average milk litres and deliveries a day that the cooperative receives, to determine, profitability of the cooperative, member score satisfaction to determine whether cooperatives are successfully providing services to their members. In order to address the research questions, there are key questions presented to respondents with regards to governance structure, accountability, efficiency of operational and financial systems profitability, and member satisfaction rating. The questions were asked using different levels of agreement basis (i.e. Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree) and ratings of 1-5(5 being very satisfied, 3 moderately satisfied and 1 being not satisfied at all) Responses to questions were

analysed using Excel, the researcher used bar charts pie charts and descriptive analysis to describe the main aspects of the data collected.

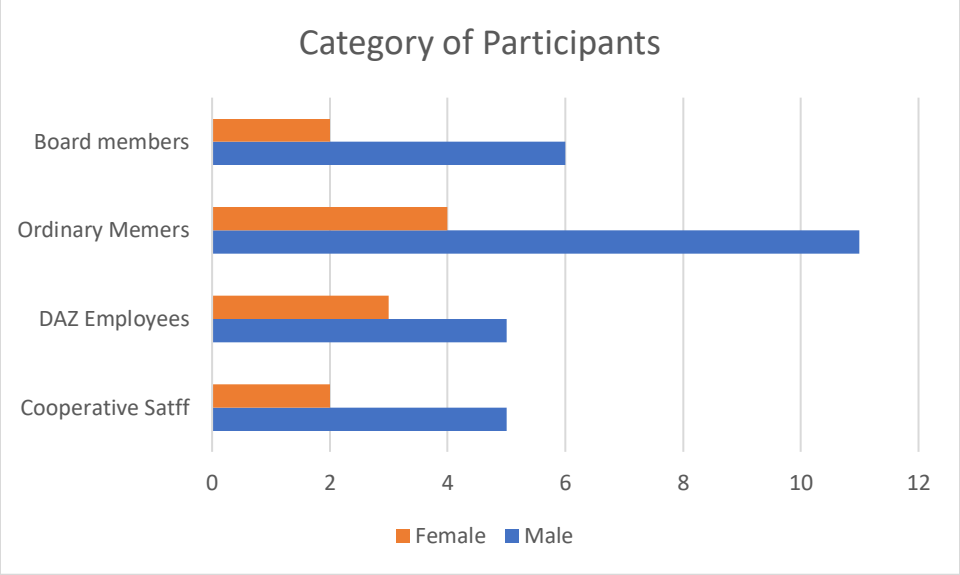

Figure 4.1 Category of participants: Source: Field Data

4.1.1 Category of Respondents

The illustration above presents the research participant groups disaggregated by gender. The researcher is confident that the persons interviewed had a good understanding of dairy the co-operative operations. However, as reflected in the data represented, the dairy industry is largely dominated by men, this imbalance was not investigated as it was not part of this study, furthermore, key informant interviews of the board and staff of the cooperative were chosen for the reason that they were active participants in the operations of the cooperative.

4.2 Performance of Dairy Cooperatives.

The data in this section analyses data to address the first research objective by answering research question one. i.e. Are dairy cooperatives operating profitably. In order to answer this research question, the researcher, collected data pertaining to the average annual incomes of the cooperatives and analysed this against the cooperative's average annual costs and expenditures. This information was collected from secondary data made available by the Dairy Association of Zambia and the 3 cooperatives in this study.

4.2.1 Dairy Cooperatives Average Annual Income

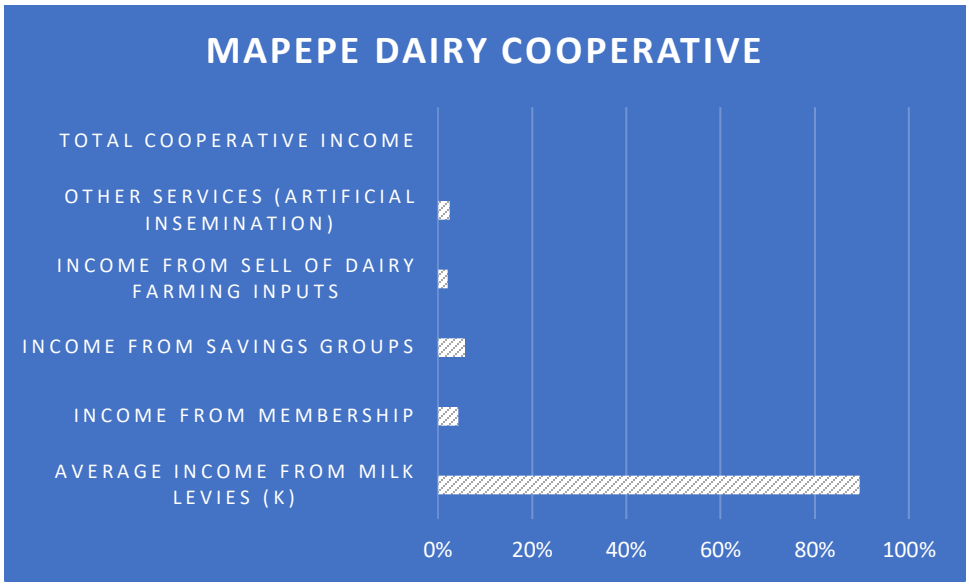

Figure 4.2.1.1Mapepe Dairy Cooperative average annual income: Source: Field Data_Cooperative financial records

The chart illustrates that Mapepe dairy cooperative receives the bulk of its income comes from milk levies, i.e. 93.5%. Mapepe Cooperative has facilitates and manages a members savings group, of which it collects a commission for administration and interest on loans borrowed by the cooperative, therefore the cooperative grosses about 4% of its income from the savings groups, 0.26% from the sale of inputs such as feed to its members, just 3% from its membership fees and about 2% of its income is from other services, such as veterinary services, that the cooperative collects a commission of for veterinary doctors that go through the cooperative to offer vet services.

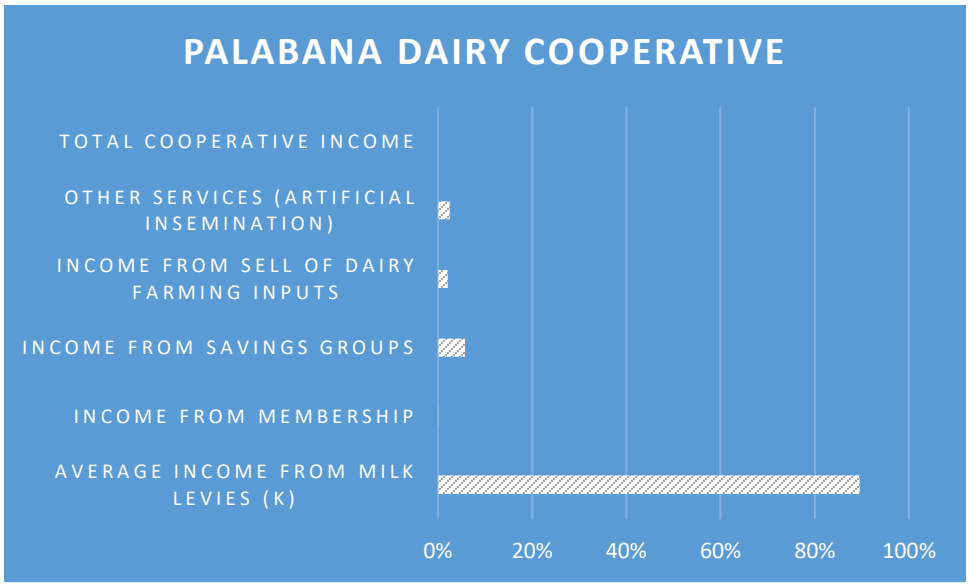

Figure 4.2.1.2, Palabana dairy cooperative average annual incomes. Source: Field data_Cooperative financial records

The chart illustrates that a large portion of the Palabana dairy cooperative income comes from milk levies, i.e. 90%. 6% from commission from savings groups, 2% from commissions from the savings groups and loan association and another 2% from other services, such as commissions from veterinary services of Artificial insemination.

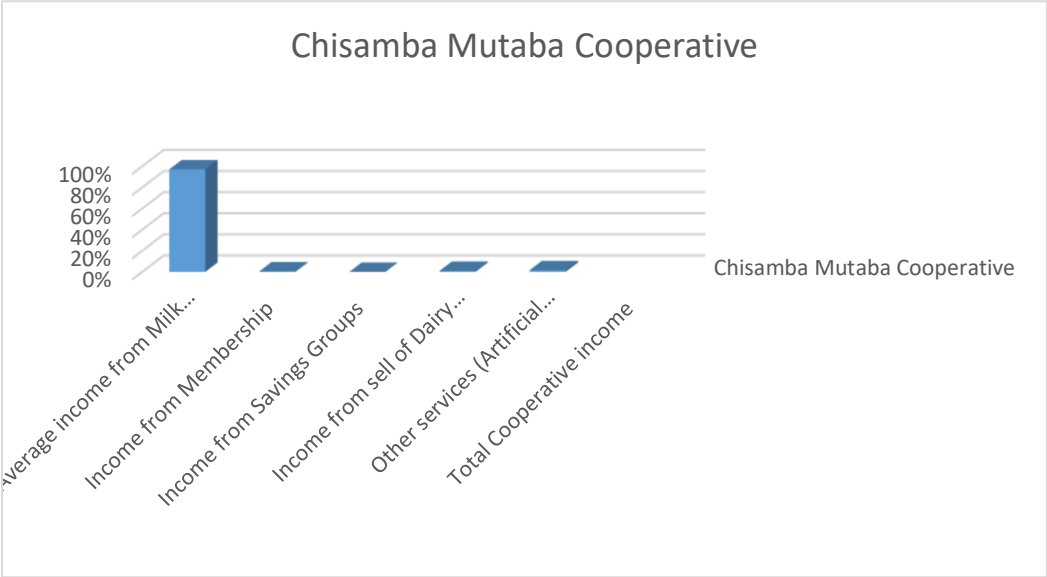

Figure 4.2.1.3 Mutaba cooperative average annual revenue. Source: Field Data_Mutaba cooperative financial records

The chart illustrates that a large portion of the Mutaba Chisamba dairy cooperative income comes from milk levies, i.e. 97%. Mutaba cooperative has a savings and loan group but these groups are not formed or facilitated by the cooperative so, no admin or facilitation commission from the savings groups are charged to the cooperative. Mutaba cooperatives relatively small and does not have many members, at the time of this research, the cooperative had 32 paid up members of which membership is K50, annually 2% from other services, such as commissions from veterinary services of Artificial insemination.

4.3.4 Cooperatives Average incomes

A summary of the average incomes of the dairy cooperatives is depicted in the chart below. As depicted, the larger portion of income from the cooperative is generated from milk collection levies. This indicates that the services of the cooperative in extension and productivity directly

benefit the incomes of the cooperatives. Savings groups seem to be a good source of income, at the time of this research, savings groups had only been introduced and in existent in the cooperatives for not more than 3 cycles. Growth potential for the savings groups could result to be a good source of income for the cooperative.

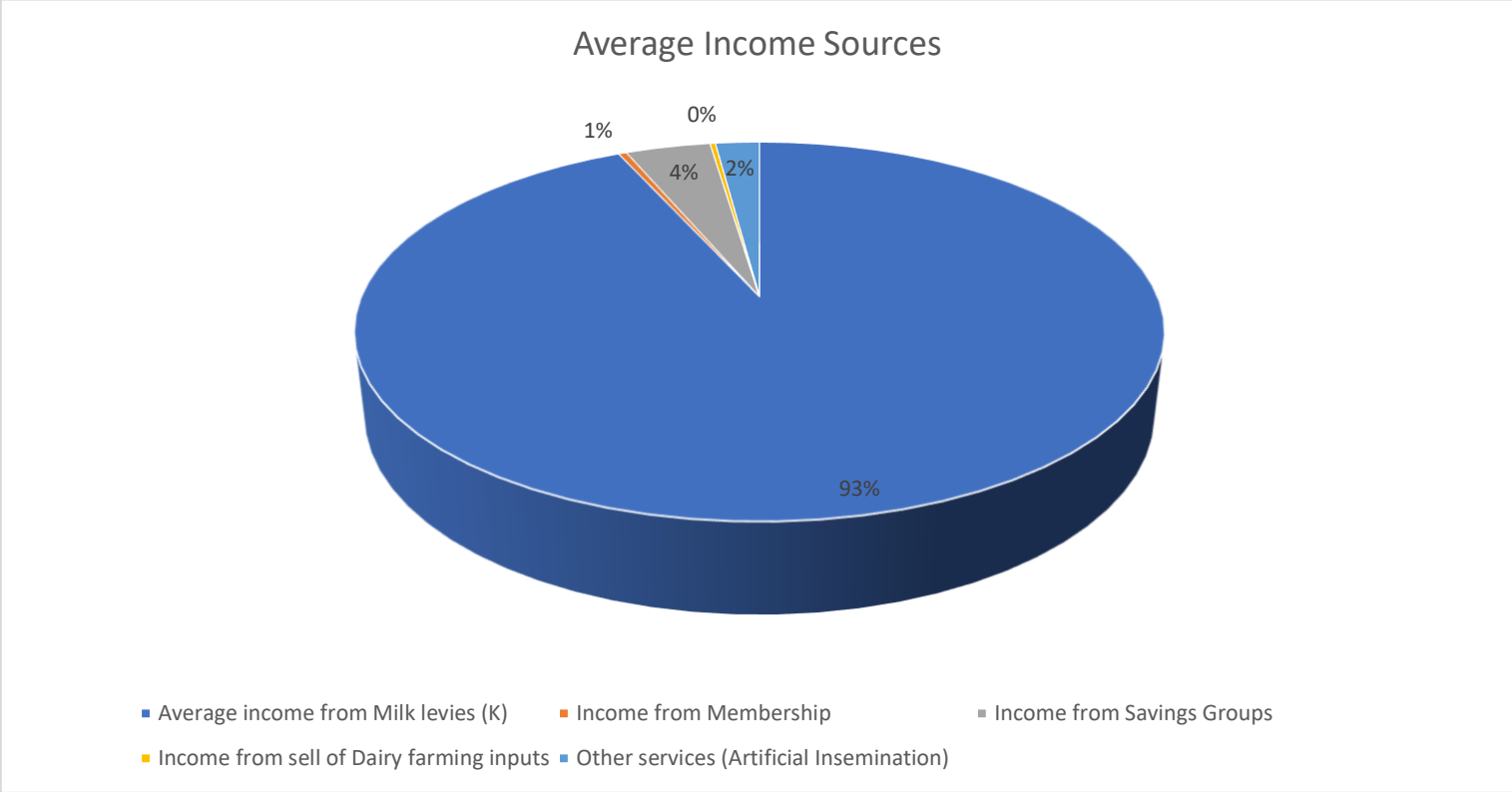

*Figure 4.2.1.4 Dairy Cooperative average annual income: Source: Field Data_The Dairy Association of Zambia and Cooperative Financial record*S

From the data presented it can be observed that over 90% of revenue received for the cooperatives is from Milk levies. Savings groups represent 4%, other different services that include, artificial insemination and sell of inputs that the cooperatives are engaged in. a minimal amount of revenue, i.e. less than 1% is received from membership fees.

Cooperative Average Expenses

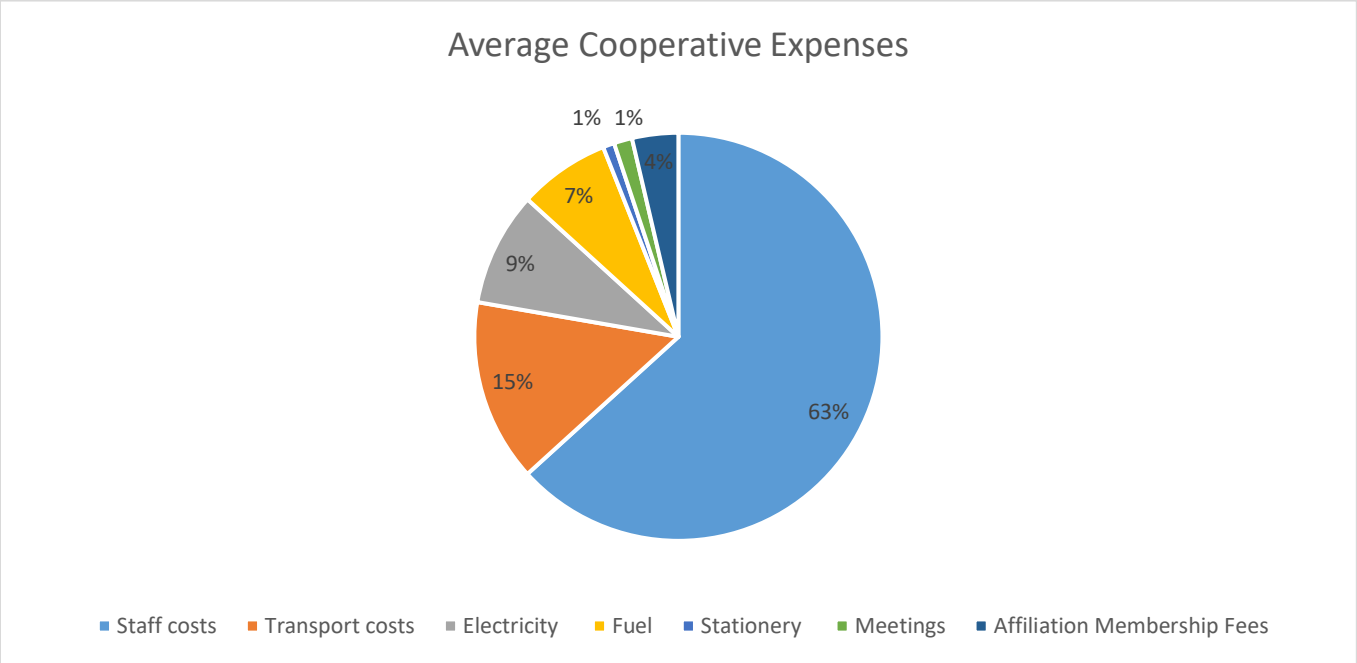

Figure 4.2.1.5 Average cooperative expenses. Source: Field Data_ Cooperative financial records

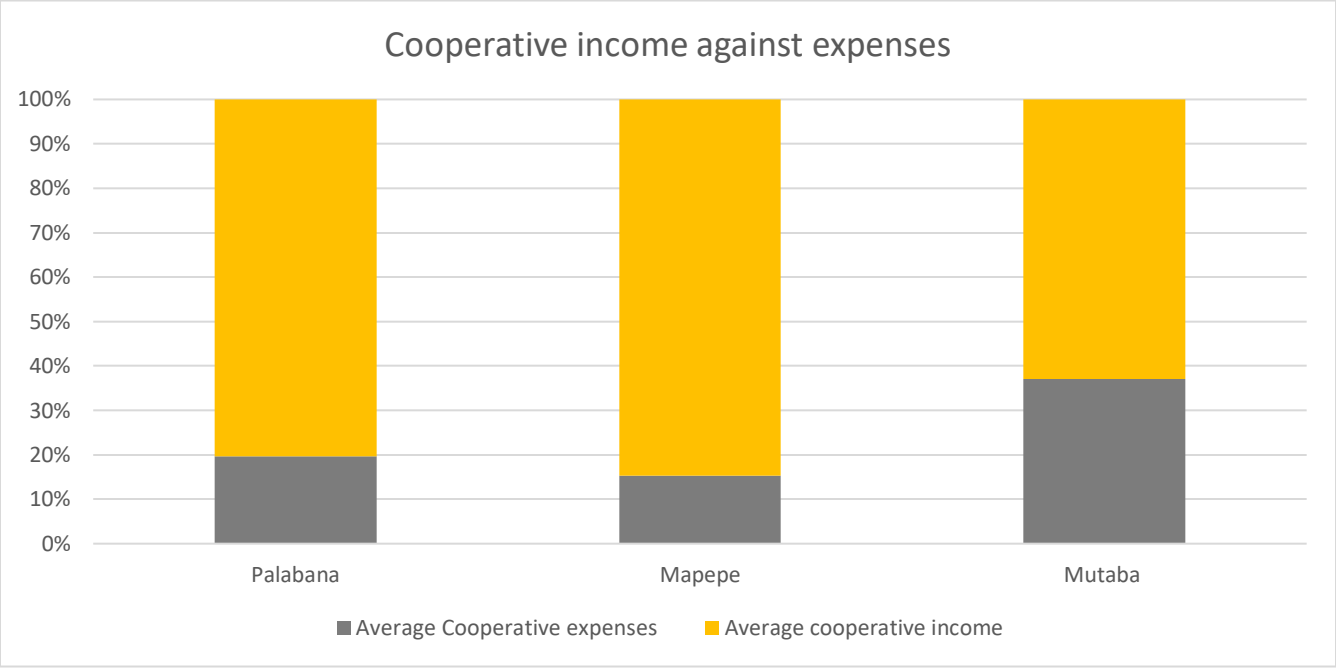

Figure 4.2.1.6: Cooperative income against Average expenses Source: Field Data

The above illustration compares the cooperative incomes against their expenses. As can be seen from the data presented. The cooperatives receive a lot more funds than is expensed, thereby making a profit. This data answers the question of whether cooperatives are operating profitably

to be that dairy cooperatives do make a profit and from the records it can be deduced that the cooperatives are operating profitably.

4.3 Measures towards sustainability

The data analysed in this section of the research investigates the measures that have been put in place towards sustainability and business continuity in the operations of the dairy cooperatives. Data presented in this section relates to objective two and answers research objective 3. i.e. What measures have been put in place for self-sustainability?

4.3.1 Level of Education

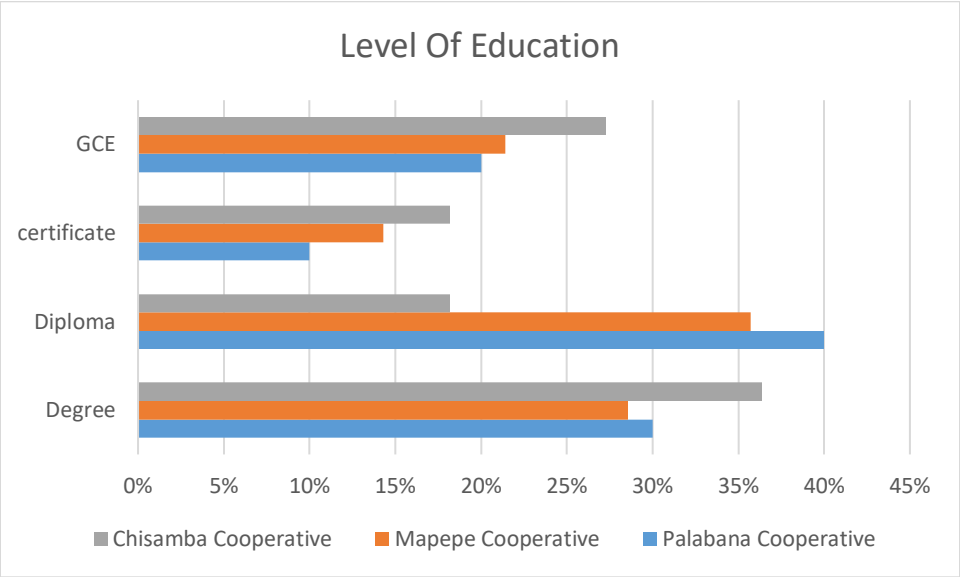

Figure 2.3.1.1 Level of Education: Source: Field Data

Questions to used gather this information, probed on the qualifications of staff and board members of the cooperatives. Data for the level of education of participants was necessary in order to analyse the level of skill and expertise of the people involved in the day to day operations of the cooperative. The statistics for education and profession qualifications in the illustration above show that the Mapepe Cooperative in Chilanga, has the most people, directly involved in the operation of the cooperative who hold professional certificates, followed by Palabana cooperative in second and Chisamba dairy cooperative with the least number of professionals directly involved the operations of the cooperative. It is worth noting that the cooperatives were all supported by the treasurers on their board who had some training or skills in finance as support.

4.3.2 Records of Accounts for the Cooperatives

In the illustration below, statistics indicate that of the respondents 27% indicated that their co-operatives keep books of accounts, although these do not have financial statements and only have basic records of mild delivered and sold to the off takers. while 64% indicated that they keep an audited book of accounts. Only 9% claimed to have their books of accounts audited regularly by external auditors.

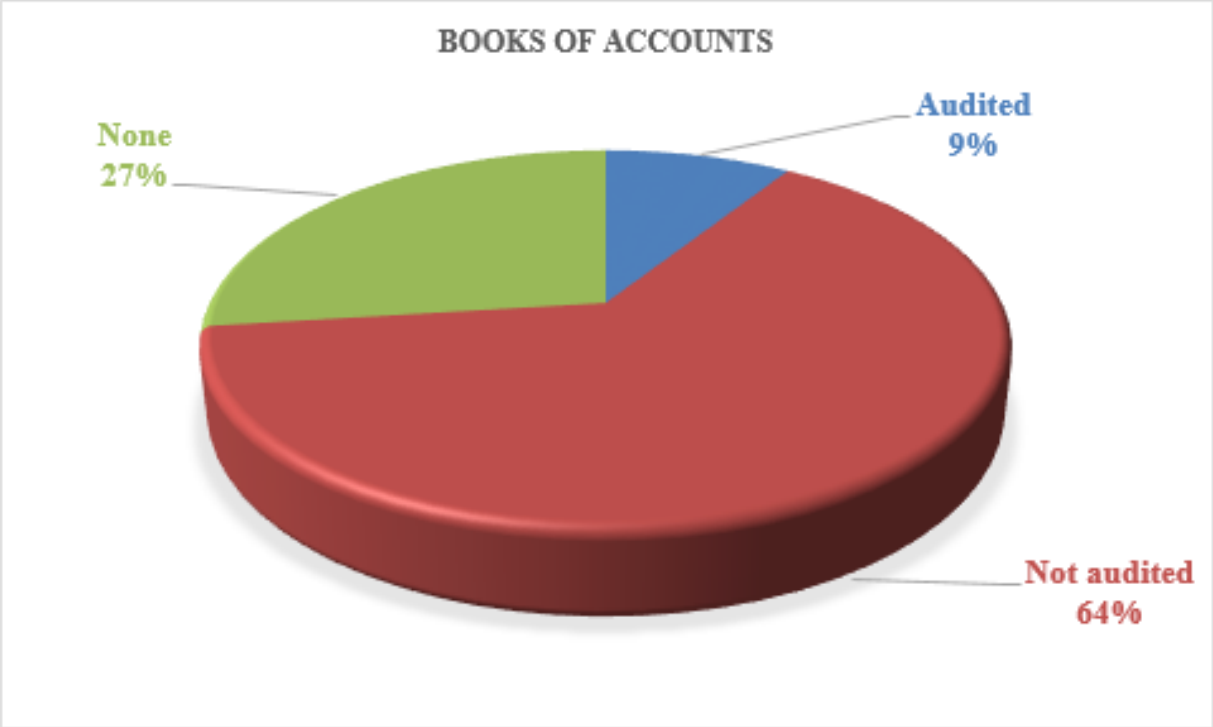

Figure 4.3.2.1 Dairy Cooperatives Audited books of Accounts: Source: Field Data

4.3.2 Cooperative Governance Structures

Co-ops have many governance tools at their disposal that have served them well, such as Policy Governance, a system for defining Ends and clarifying roles and structure for organizing the board's work. (Marilyn Scholl, 2014)

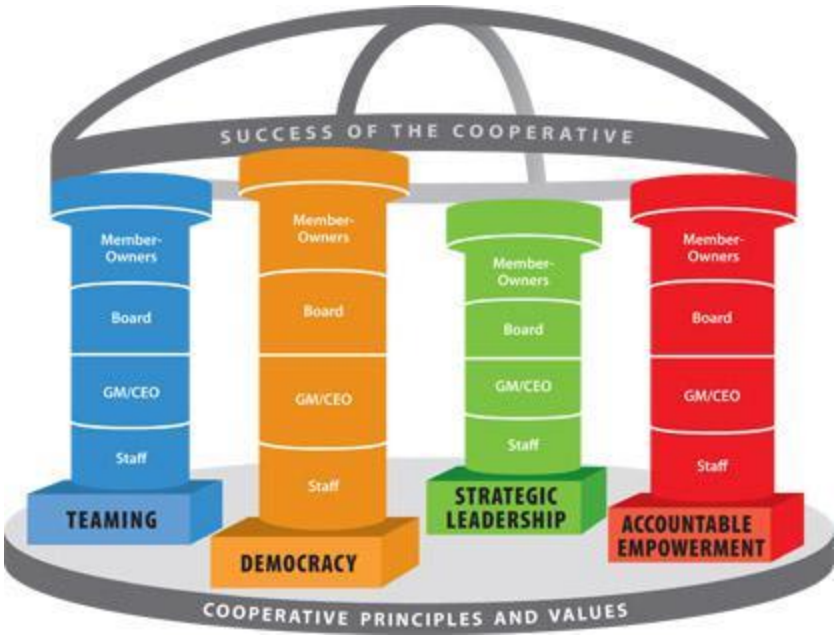

Figure 4.3.2.1. Source: Four Pillars of Cooperative governance (Marilyn Scholl, 2014)

The illustration above depicts the pillars of corporate governance according to Scholl and Sherwood. (Marilyn Scholl, 2014)

The researcher in the investigation into the governance structures of the dairy cooperatives collected the information illustrated in the table below on the existence of governance systems for accountability to the cooperative members as follows.

Cooperative Governance

	Board of Directors	**Oganogram**	**Financial system**	**Accountability (AGMs)**	**Operational Systems**	**Board Meeting Minutes**
Mapepe	Yes	Yes	Yes	Yes	Yes	Yes
Mutaba Chisamba	Yes	No	Yes	No	Yes	No
Palabana	Yes	No	Yes	Yes	Yes	Yes

Figure 4.3.2.23 Key Elements of Cooperative Governance. Source: Field Data

The Table above depicts the cooperative governance structure. From the table above, the data can be analysed as, all cooperatives in the study had an active board of directors that were elected by the cooperative at the Annual general meeting. However, even though the staff involved in the operations of the cooperative understood their duties, there was no clear organogram to depict accountability at cooperative level for task and operations. All Cooperatives had financial and operative systems through the Digital Management systems project that is being piloted by the Dairy Association of Zambia to improve operations and financial management of the cooperatives. Mutaba and Palabana dairy cooperatives did not have filed minutes from board meetings that had been held by the cooperative board of directors.

CHAPTER FIVE
DATA ANALYSIS

5.1 Feasibility of dairy cooperatives to be sustainable

This section of study analyses the viability of the dairy cooperatives to be sustainable so as to continue providing the much-needed services to their members. Analysis in this section is derived from data pertaining to a mix of questionnaires to participants from the dairy cooperatives and from information shared by the donor agencies that currently support or have supported the cooperatives in the last 12 months.

5.1.1 Customer Satisfaction

Figure:5.5.1.1. Cooperative members' satisfaction. Source: Field Data

Rating used: (Excellent (5), good (4), moderate (3), not so good (2), not at all happy (1))

The figure above depicts the levels of satisfaction of the respondents to being members of the cooperative. A total of 32 respondents answered the question with the results depicted above. With the rating on the scale Excellent(5), good(4), moderate(3), not so good(2), not at all happy (1) 6% responded to be unsatisfied with the services the cooperative was offering, 9% claimed to be not at all happy with the services of the cooperative, scoring 1. 9% considered the services of the

cooperatives to be not good and felt could do better. 12.5% reported their satisfaction levels to be moderately satisfied with cooperative services, 37% felt that the cooperative services were good and majority of responded that they were very happy with the services of the cooperative, and 34% responded that the services of the cooperatives were excellent. This information was collected and analysed at it was useful to the researcher to determine the willingness of the members to continue to pay membership fees and supply their milk produce to the cooperative which is a source of income for the cooperative. This information is important in the assessment on the viability and feasibility of the dairy cooperatives to operate in continuity, thereby addressing research objective 3 and answering research question 3.

5.1.2 Categories of external support to cooperatives

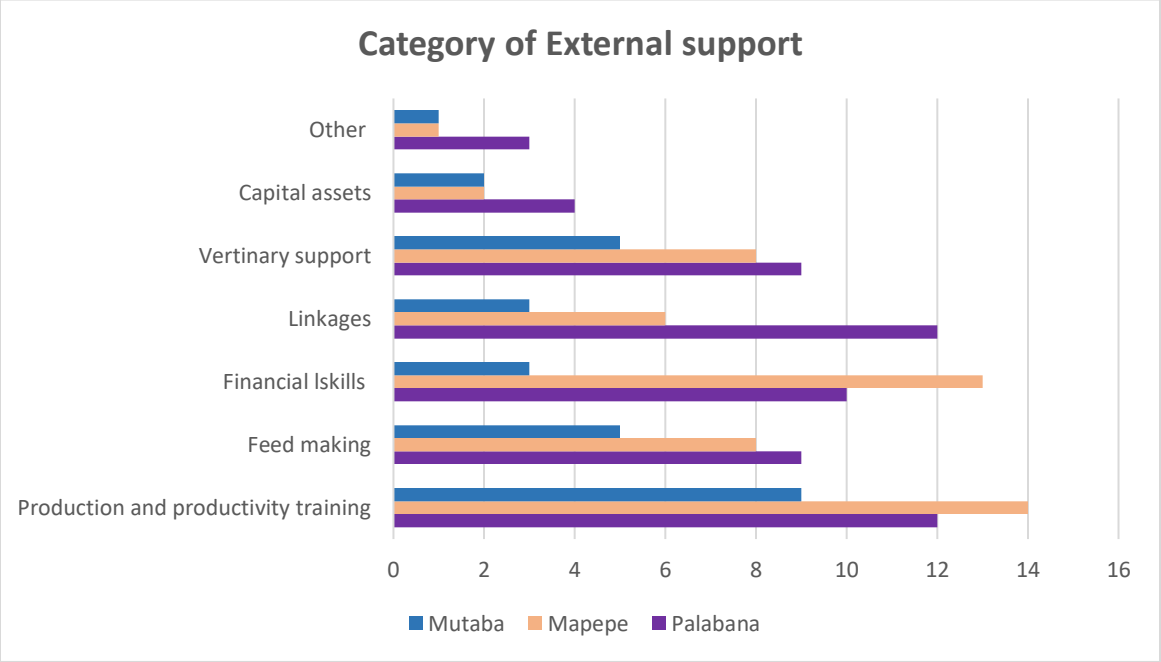

Figure 5.1.2 category of external support to dairy cooperatives as of Dec 2019

5.1.3 Estimated Value of External support to Dairy Cooperatives

The illustration above gives indication that the external support that the dairy cooperatives receives is mainly in the form of trainings in production and productivity training and support. The participants were guided indicate what support they received from external aid. External aid in this instance, being government, NGO or any non-profit organisation that has assisted the dairy cooperatives in the past 12 months

Estimated Value of Support to Dairy cooperatives

Name of Cooperative	Palabana	Mapepe	Mutaba
Net Income	627,800.00	626,190.00	37,187.50
Estimated value of donor	498,000.00	476,000.00	225,000.00
Net amount of External support expenses	129,800	150,190	187,813

Figure 5.2.3 estimated value of support to cooperatives in 2019 Source: Field Data

The table above demonstrates the estimated annual incomes of the cooperatives against the estimated external support that the cooperatives receive. It is important to note that the external donor support is estimated as support is all provided in terms of liquid cash. This support is provided through various channels, such as capital assets, trainings to improve production and productivity and capacity building support of the board or Cooperative members. This information is illustrated in a chart below for ease of comparison.

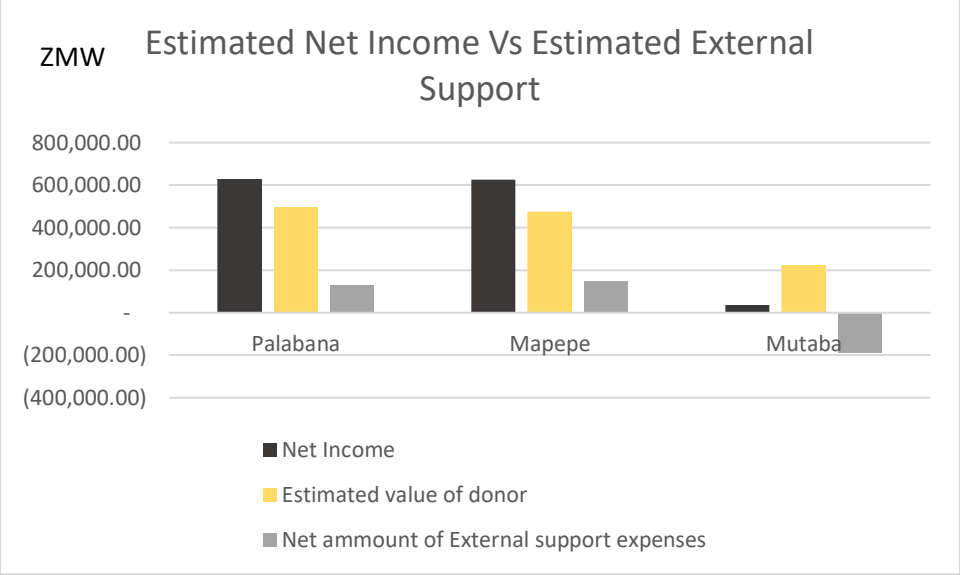

Figure 5.2.4. Estimated Net income against Estimated external support as of 2019: Source: Field data_ Secondary data: project reports and key informant interviews

Addressing Strategic objective 3 by answering research question 3. It can be seen from the analysis in the chart above, evidence that the dairy cooperatives are able to generate sufficient funds in order to provide the support services in dairy farming to their members. For the exception of Mutaba, the other 3 cooperatives generate sufficient net income to provide for services in the event of ceased donor/external support. Mutaba cooperative has a very small number of members

amounting to 35 of which only 15 were active supplier of milk to the cooperative. Therefore, the volumes of milk to the cooperative are low and this has an impact on the income of the cooperative, which is largely, through milk levies per litre sold to off takers.

CHAPTER SIX

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

The purpose of this study is to ascertain the sustainability of dairy cooperatives to continue to provide services to their members, in the event of ceased donor funding. In this chapter, the researcher discusses a summary of the findings of the research and literature review to relate them to the research questions and objectives which lead to recommendations and conclusions of the research.

6.1 Summary of Key findings

The research objective was to evaluate the sustainability of dairy cooperatives as a business going concern without donor funding. The theoretical framework discussed in chapter 2, suggests that sustainability of a business can be measured using the triple Bottom Line approach. However, it is acknowledged in this approach by Slaper and Hall, 2011 that measuring the degree to which an organisation is being sustainable or pursuing business growth is rather difficult. The triple bottom line approach suggested an inspection into the profits, people and planet. These are aspects that are not comparable and therefore using this approach to measure degree of sustainability was not feasible.

Interest in triple bottom line approach is a popular approach used in many studies with regards to sustainability, for-profit, non-profit and government sectors. Many businesses and non-profit organizations have adopted the TBL sustainability framework to evaluate their performance. TBL "captures the core of sustainability by measuring the impact of an organization's activities on the world. Including both its profitability and shareholder values and its social, human and environmental capital. A common unit of measurement to compare these aspects is, however, a large limiting factor. The researcher, adopted an incorporation of the two models and analysed, performance of dairy cooperatives to address research objective one, and incorporated the aspect of people, environment and social capital in addressing research objective 2 and 3.

6.2 Performance of Dairy Cooperatives

From the study findings and analysis, those assigned with the operations and management of the dairy cooperatives co-operatives had challenges that inhibited them to play an effective role in the

enterprise, effectively in terms of skills and resources made available for operational costs and in some cases the level of skill that they possessed to effectively manage the organisation. As can be seen in the data presented in Figure 6.3.1. The prevailing governance structures present in the cooperatives are relatively adequate, though many setbacks are identified as depicted the table Figure 6.3.1.

Based on the data presented, the performance of the co-operatives can be summarised to be profitable though below par. Membership levels of the cooperatives are low and this could be a significant source of revenue for the cooperatives. Milk Levies are directly linked to the number of dairy farmers and productivity of these farmers. It is evident from the data that if the cooperative were to invest in offering adequate extension services to ensure that their members productivity increases, this would result in a increase in the revenue of the cooperatives through milk levies.

An apparent opportunity that presents itself is the commission from loans through management and administration of savings groups. Mapepe dairy cooperative has taken the initiative to incorporate savings and loan groups into their operations and all their members are mandatory saving with the cooperative to which they can access financing. This is a recommendation that can be applied in other dairy cooperative as savings and loan groups are seemingly a very good opportunity for the cooperatives to earn some money.

The cooperatives are generally understaffed and therefore do not provide services in full capacity to their members. With the Aid of organisations like the Dairy Association of Zambia and the Zambian government, through the ministry of Agriculture and Ministry of Commerce, the cooperatives get support in extension, operational support and lobbying. Cooperatives, however, have the potential and ability to be strengthened in order to provide these services to their members in full capacity.

6.1.2 Measures put in place to ensure self-sustainability

From the research conducted, the cooperatives have governance systems, financial systems and operational systems in place, as can be seen in the data presented in Figure 4.3.2.24. The efficiency of these systems is not optimal and need improvement. The governance structures consist of board members who possess skill and expertise to manage the affairs of the cooperatives, though are not involved in the day to day running of the cooperative. However, there are no board charters, to clearly distinct the role of the board and management. The cooperatives in the study had records

of holding Annual General meetings, which gave indication that the board of the cooperatives were accountable to their members. With the aid of the dairy Association of Zambia through a project being implemented with aid from the Embassy of Sweden. The cooperatives in the study have been able to set up a digital information management system to help streamline operations of the cooperative. Prior to this system, financial records were not kept up to date and could not be clearly tracked. It should be noted though the cooperatives have basic entry books of accounts from which historical financial records can be built upon.

6.1.3 Corporative Feasibility

The research deduced that the dairy cooperatives are a business and are feasible to operate in continuity and offer services to their members and communities they serve. Directly linked are the services they offer to their members and the largest portion of income, i.e. from Milk levy, as depicted in *figure 5 Dairy Cooperative average annual revenue.* With this evidence, it is clear that if dairy cooperatives organised and intensified their service deliver in the form of extension support to their farmers, this would increase the productivity of the farmers and in turn result in more income for the cooperatives, through milk levies. Furthermore, cooperatives have the potential to operate as business hubs in the communities they exist in, as a link between the farmers and service providers, agro-dealers and milk off takers. The Dairy Association, through the DIMS project, is working to link dairy cooperatives to service providers. Interesting to note that although this project is being implemented with the aid of donor funds, the project is sustainable as it has the requirement of the cooperative to pay a minimal fee to the service provider for the digital management system. This indicates that the project is sustainable long term, even in the event that the donor pulled away their support.

6.2 Discussions

The research objective was to evaluate the co-operative performance and understand their sustainability without the external support. Based on the data collected, both the secondary and primary, the performance of the co-operatives can be summarised as not profitable. The cooperative has massive opportunity to generate more income and revenue. The governance, financial and operational systems, although in existence and functional are not operation at their best and inconsistent in terms of systems. In this regards, the author agrees with the views of (Thomas, 2013) in his report to Stellenbosch university on the performance of dairy cooperatives in Zambia, to which he quoted that they were not running as a business but as a social welfare.

Performance below par of the cooperatives can be attributed to lack of entrepreneurial skills with co-operative managers and lack of motivation from members and the board. Mapepe dairy cooperative is relatively doing better than the other two cooperatives examined in this study, as their members request for more accountability form their board and management on the operations of the cooperative.Consequently untapped sources of income through business initiatives are potentially a great source of revenue for the cooperatives. However, a lack of expertise and staff to explore these opportunities hinders the ultimate performance of the dairy cooperatives. It is the conclusion of the researcher that dairy cooperatives in Zambia can potentially operate sustainably and continue to provide services to their members beyond external aid. However, the dairy cooperatives currently lack the capacity to be better organized to be more accountable and provide optimum service to their members. This can be remedied with capacity building in skills of business development, extensions support and management. Support which is being provided in various ways from the government, the Dairy Association of Zambia and other NGOs. The researcher recommends that support to dairy cooperatives should be in the form of capacity building than in the form of grants, loans and assists as has been in the past years.

6.3 Conclusions

The researcher identified that the dairy cooperatives are not without a host of challenges that inhibit optimum performance. Dairy cooperatives are a business and have the potential as can be evidenced from the data recorded to be profitable and self-sufficient. A key weakness among others in the view of the researcher is the lack of capacity of the staff and management of the dairy cooperatives. The researcher identified the following challenges as depicted below. With reference to the cited literature by (Thomas, 2013). The researcher agrees with the weaknesses of dairy cooperatives as is evidenced from the findings in this research and tabulated below.

6.3.1 Challenges of the Dairy Cooperatives

Challenges	**Possible Solutions**
Ineffective Cooperative Boards	Separate cooperative boards into committees, one to deal with production and productivity and processing and the other to deal with finance and management of the cooperatives.

Poor participation and attendance of cooperative meetings	Motivate members to be more involved in the affairs of the cooperatives
Low Milk prices	Cooperatives to process their own milk
Costly animal feed	Produce and process own feed
Inadequate extension support for dairy farming specific needs	Cooperatives to link farmers to a larger variety of veterinary services
Lack of cooperative knowledge amongst members	Provide sensitisation and knowledge sharing activities amongst farmers
Long distance between farms and milk collecting centre	Engage community youths in milk delivery services.
Inadequate capital to recapitalise and expand the cooperative operations and infrastructure	Generate specific funds to plough back into investment and include as a strategic plan for this purpose.

Figure 6.3.1.1. Co-operative challenges & Possible Solutions. Source: Field data

6.4 Recommendations

The researcher gives the recommendations to existing donor and funding agencies current supporting the dairy cooperatives or in future, the following recommendation:

1. request of the cooperatives to develop sustainability plans so as to map out a phase out plan for their support.
2. Provide support in the form of Capacity building of management, staff and board members in corporate governance and financial literacy.
3. The Cooperatives to provide incentive plans for new and existing members of the cooperative to continue paying membership to the cooperatives.
4. Support to the cooperatives in the form of capital assets such as chillers and processing equipment so that the cooperatives can begin to process the milk and retain more income, that will allow for value addition services to be introduced to the cooperatives to enable farmers to move up the dairy value chain.
5. Involvement in women and Youth in activities of dairy. Both the cooperatives and the funding agencies must consider capacity building of innovative skill sin the youth of the

communities to encourage motivation and skills development to the women and youth in the community.

5.5 Recommendations or further research

The study had a limited scope, into the dairy cooperatives with proximity to Lusaka from a large population of dairy cooperatives existent all over Zambia. Furthermore, observation on the lower number of women participation of women in the dairy industry was made by the researcher. These are questioning the researcher hopes can be researched into by future studies.

References

FAO. (2014). *Dairy Asia: Towards Sustainability.* Bankok: Food and Agricultural organisation.

USAID, LINC. (2018). *Fascilitating financial Sustainability: Understanding the Drivers of CSO financial sustainability.* USAID.

Bank, T. W. (2019, February 24). *Defining Civil Society*. Retrieved from The World Bank: http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/CSO/0,,contentMDK:20101499~menuPK:244752~pagePK:220503~piPK:220476~theSitePK:228717,00.html

BBC. (2018, September 18). Zambia aid: UK suspends funding over corruption fears. *BBC News*.

Bhatia, A. &. (2019). *What Indicates Financial Performance of Indian Dairy Cooperatives?* Institute of Rural Management Anand.

Buxton, C. (2017). *Strategies for civil society sustainability social enterprise developement in Kyrgyzstan.* United Kingdom: Intrac for Civil society.

Clarietta Chagwiza a, ⇑. R. (2016). Cooperative membership and dairy performance among smallholders. *Elservia*.

Cook, J. R. (2019, September 26). Do Corporate Governance Recommendations Apply to U.S Agricultural Cooperatives. *sustainability*, 1-2.

coopseurope.coop. (2019, September 18). *EU Commission recognizes cooperative enterprises as Civil Society actors.* Retrieved from coopseurope.coop: https://coopseurope.coop/resources/news/eu-commission-recognizes-cooperative-enterprises-civil-society-actors

DAZ. (2019). *Annual Report.* Lusaka: The Dairy Association of Zambia.

Dudovskiy, J. (2019). *Research Methodology. Purposive Sampling*. Retrieved from Necessary Knowledge to conduct a business research: https://research-methodology.net/sampling-in-primary-data-collection/purposive-sampling/

Guttentag, M. R. (May 30, 2018). *Facilitating FInancial Sustainability* . USAID.

Hailey, B. J. (2014, Novmber 16). *The sustainable NGO: Why resourcing matters*. Retrieved from Intrac for Civil Society: https://www.intrac.org/sustainable-ngo-resourcing-matters/

Hutter, B. &. (2004). The Role of Civil Society Organisations in Regulating Business.

Kawambwa, P., Hendriksen, G., Zandonda, E., Wanga, L., & UR, M. U. (August 2014). *Business Viability assessment study of smalljoder dairy farming in Zambia.* Lusaka Zambia: Alterra Wageningen UR.

LINC Local. (2018, May 31). *The Sysytem Matters in Financial Sustainability.* Retrieved from LINC Local.org: http://linclocal.org/2018/05/31/cso-financial-sustainability/

Marilyn Scholl, A. S. (2014, January 17). Four Pillars of Cooperative Governance; A new model grounded in the cooperative difference. *Cooperative Gorcer Network*.

McCombes, S. (2020, January 13). *methodology/descriptive-research*. Retrieved from www.Sscibbr.com: https://www.scribbr.com/methodology/descriptive-research/

Ministry of Foreign Affairs . (2013). *A Strategy for Support via Sweedish civil society organisations* . Stockholm: Ministry of Foreign Affairs .

Moreki J C, K. O. (2020). A critical review of the performance of the dairy industry in Botswana. *Livestock Research for Rural Development*.

Mumba, C. (2012). *Economic analysis of the viability og small holder dairy farming in Zambia.* Lusaka: the university of Zambia.

Mumba, M. H. (2010). *Sectoral and Regional Distribution of Civil Society In Zambia.* Lusaka: University of Zambia.

Mumba, M. H. (2010). *The Status of Civil OSciety in Zambia: CHallenges and Future Prospects.* Lusaka: Zambia Council for Civic Developement and World Alliance for Civi Participation.

Mwangi Ruth, W. (2013). *FACTORS INFLUENCING DAIRY COOPERATIVE SOCIETIES PERFORMANCE IN MATHIRA AND KIENI CONSTITUENCIES, NYERI COUNTY, KENYA.* nairobi: University of Nairobi.

Naidoo, S. (2014, May 21). *Building Financial Sustainability in Development Organisations: You Can Do It!* Retrieved from www.ngopulse.org: http://www.ngopulse.org/article/building-financial-sustainability-development-organisations-you-can-do-it

O, O. B. (2016). Lessons in Sustainable Dairy Farming to Kenyan Dairy Sector from the Dutch. *Advances in Dairy Research*.

Pallas, C. L. (2018). *The Impact Of Aid Reduction And Donor Exit On Civil Society In Developing Countries.* Kennesaw : Kennesaw State University.

Patrick Kawambwa, G. H. (2014). *Business Viability assessment study of small holder dairy farming in Zambia.* Alterra Wageningen: Alterra (an institute under the auspices of the Stichting Dienst Landbouwkundig).

Pellser, B. (2018, April 18). *Towards achieving sustainable development goals in Zambia: The role of civil society organisations.* Retrieved from Panos institute Sputhern Africa : http://www.panos.org.zm/index.php/2018/04/18/towards-achieving-sustainable-development-goals-in-zambia-the-role-of-civil-society-organisations/

Raychelle. (2019, June 30). *definition and classification of coorperative societies.* Retrieved from kenyaplex.com: https://www.kenyaplex.com/resources/2485-definition-and-classification-of-cooperative-societies.aspx

Rouse, M. (2013, November). *Tech Target*. Retrieved from whatis.com: https://whatis.techtarget.com/definition/business-sustainability

Sarah Lewis, A.-A. B. (2015). *Building Sustainability of civil Society, debates Challenges and moving forward.* International NGO Training and Research Centre .

Sarah Lewis, A.-A. B. (January 2015). *Building sustainability of Civil Society.* Oxford: INTRAC.

Sheng, M. Y. (2009). *What is Good Governance?* Bangkok: United Nations Economic and Social commission for Asia and the Pacific; Poverty Reduction Section.

Som, B., & Gosalamang Dikgang. (2016). Analysis of Constraints and Opportunities in Dairy Production in Botswana: Producer's Perspectives. *International Journal of Business and Management*.

Teegavarapu, S., Summers, J., & Mocko, G. (2008). Case Study Method for Design Research: A Justification. *Proceedings of the ASME Design EngineeringTechnical Conference*.

Thatcher, A. (2014). Theoretical definitions and models of sustainable development that apply to human factors and ergonomics. *HUMAN FACTORS IN ORGANIZATIONAL DESIGN AND MANAGEMENT* (p. 747). NORDIC ERGONOMICS SOCIETY ANNUAL CONFERENCE.

The United Nations . (2019, March 03). *Civil Society*. Retrieved from The United Nations: http://www.un.org/en/sections/resources-different-audiences/civil-society/

Thomas, W. H. (2013). *Challenges of the Dairy Industry in Southern Africa.* Stellenbosch : Stellenbosch University.

Timothy F. Slaper, P., & Hall, T. J. (2011). The Triple Bottom Line: What Is It and How Does It Work? *Volume 86, No. 1*. Retrieved from www.ibrc.indiana.: https://www.ibrc.indiana.edu/ibr/2011/spring/article2.html

United States Agency for International Development (USAID). (2011). *The 2011 CSO Sustainability Index for Central and Eastern Europe and Eurasia.* USAID, Bureau for Europe and Eurasia, Office of Democracy, Governance and Social Transition.

University of Pretoria. (2004). Research and Methodology. In U. o. Pretoria, *Research and Methodology* (pp. 68-95). Pretoria: University of Pretoria.

Vanishree M, S. R. (2018 1.). Role of Dairy Cooperatives in Strengthening Value Chain of Liquid Milk and its Sustainability in Karnataka: Findings from Preliminary Study. . *Indian Journal of Economics and Development*, 14(1a): 410-415.

Washaya, S. (2018). Smallholder Dairy Farming: A Solution to Low Milk Production in Zimbabwe. *Journal of Dairy & Veterinary Sciences*.

White, D. (2019, February 24). *What defines a Civil society Organisation: Definition and Examples* . Retrieved from Study.com: https://study.com/academy/lesson/what-is-a-civil-society-definition-examples.html

6.0 Appendices

ASSESSMENT the sustainability of Dairy Cooperatives
Questionnaire for Dairy Farmers and Management and staff of the dairy cooperatives
Date of the Interview:…/...…… /……. nUMBER #.....
Interviewer Name……. Start Time:……..
Farmer Name:……. Participant Name (if different from Farmer) ……...

SECTION A: BACKGROUND INFORMATION
My name is Munsanda Mudenda I and a student form the university of Zambia, studying for a master's in business studies. I am carrying out a study on the sustainability of dairy cooperatives. You have been selected to take part in this study.
Your participation in this study is highly valued and appreciated. The information you will provide will be very important in understanding how dairy cooperatives operate. Your answers will be kept confidential. This questionaire will take less than 45 minutes to complete. Your participation is voluntary, and you have the right to end this
interview at any time

Can we proceed with the interview? Yes No

Farmer interview
Are you a member of this cooperative? Yes No

1. Sex of the respondent: Male or Female
2 Age at last birthday in years
3 Highest level of education attained
Primary school **Grade 9** **Grade 12 certificate**

College diploma **university Degree** **Other**

Are you happy with the services of your cooperative Yes No?

Does your cooperative keep financial records?

Are they audited?

What services does your cooperative provide you with ……?

Have you you participated in any dairy farming training this year 1. Yes 2. No
What type of training
Training #1
Training #2
Training #3

Training #4

Name of the organization that trained you
Training #1
Training #2
Training #3
Training #4
Training #5

Other than training, what services, if any, have you accessed from the Dairy Cooperative?

1. Purchase feed

(select all that apply)

2. Purchase vaccines
4. Purchase other agricultural inputs
5. Other services (Specify)……..
……..

16 What challenges have you faced as a d farmer in your cooperative.…….

Section B:

Key informant interview Questions

Performance of dairy cooperatives

- What are the main expenses of the cooperative?
- Please give an estimation of these expenses
- What are the annual income of the dairy cooperative?
- Please list in order 'which brings the most income' of the activities the dairy cooperatives engages in
- Who are the dairy cooperatives external sources of income in the last 12 months?

Measures put in place for sustainable operations

Do you keep a record of accounts?

- Are your financial records audited?
- What are the sources of income for the dairy cooperative?
- What services do you provide to your members as a cooperative?
- Estimate the value of support you have received from donors in the last 12 months

Governance questions

- Do you have a board?
- When was the last annual General Meeting?
- Do you have up to date Board minutes
- Does your board have special committees?
- Does the cooperative have a board charter?