FACTORS INFLUENCING DAIRY COOPERATIVE SOCIETIES PERFORMANCE IN MATHIRA AND KIENI CONSTITUENCIES, NYERI COUNTY, KENYA

BY

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DECLARATION

This research project report is my original work and has not been submitted for award of a degree in any other university.

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This research project report has been presented for examination with my approval as the university supervisor.

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DEDICATION

This research work is dedicated to my husband Titus, my son Stephen and my two daughters Catherine and Margaret.

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ABBREVIATONS AND ACRONYMS

A.I.	Artificial Insemination
CBA	Collective Bargaining Agreement
FAO	Food and Agriculture Organization of the United State
GDP	Gross Domestic Product
HRM	Human Resource Management
ISO	International Standard Organization
KARI	Kenya Agricultural Research Institute
KCC	Kenya Cooperative Creameries
KDB	Kenya Dairy Board
KFA	Kenya Farmers Association
MDG	Millennium Development Goals
MoARD	Ministry of Agriculture and Rural Development
MoCDM	Ministry of Cooperative Development and Marketing
MoLD	Ministry of Livestock Development
PRA	Participatory Rural Appraisal
SAPs	Structural Adjustment Programs
SDP	Smallholder Dairy Project
SPSS	Statistical Package for Social Sciences
T and V	Training and Visit
UON	University Of Nairobi
USA	United State of America
USD	United State Dollar
WTO	World Trade Organization

ABSTRACT

Dairy cooperative societies are very central to sustainable development as they are mainly intended to empower the communities especially in rural areas where agriculture is the main stay. According to United Nations estimates, the cooperative movement has brought 800 million people together globally. Dairy farmers have relied more heavily upon dairy cooperative societies to market their milk than have farmers of any other commodity. However, these cooperative societies are faced with various challenges especially after liberation and most cooperative societies in Nyeri County are under performing as compared to other cooperative societies in similar regions. The factors that could influence poor performance of cooperative societies in the liberation era include: lack of training and unpreparedness by cooperative societies to modernize and embrace change, poor marketing strategies and competition from other players, lack of essential services and poor management and leadership since majority of cooperative leaders are either illiterate or with low education levels, exposure and trainings. In addition, mismanagement and corruption influence performance of dairy cooperative societies in Nyeri County. This study therefore sought to determine the factors that influence the performance of dairy cooperative societies in Mathira and Kieni constituencies. The objectives of the study were to assess how management of dairy cooperative societies, stakeholders in milk marketing, training of staff running these cooperative societies and types of services provided by the cooperative societies influenced performance of the dairy cooperative societies. A descriptive survey design was used in the study and data was collected using questionnaires and structured interview schedules. This study targeted a sample size of 204 dairy farmers in Mathira and Kieni constituencies, 4 government officers and 4 staff running the dairy cooperative societies. After editing and coding the data, Statistical Package for Social Sciences was used in the data analysis and findings were presented using tables and percentages. Results showed that 69.0% of the dairy farmers sold their milk to cooperative societies and milk brokers are the biggest competitors(49.2%) followed by the milk vendors (35.7%). Majority (75.5%) of the respondents said that players in milk marketing affect the performance of cooperative societies. On investigating how training of the staff running the dairy cooperative societies influence performance, 50.5% of dairy farmers and all of the government officers and cooperative managers agreed that indeed the training influenced the performance of cooperative societies. On types of services provided by the dairy cooperative societies and how they influence the performance, the results showed that provision of credit facilities according to all the respondents was ranked highest followed by Artificial Insemination and only 2% of the government officials and cooperative managers indicated that extension services are offered. 64.0% of the dairy farmers and 87.5% of the government officers and cooperative managers agreed that indeed the services offered by cooperative societies influence its performance. The findings of the study will benefit the government, dairy cooperative societies, farmers as well as other stakeholders. The study recommends that cooperative societies should be aggressive in marketing, do value addition to create a niche market and be competitive as well as go out of their way to provide the support services.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Cooperative movements bring together various classes of people regardless of their socio-economic status. According to United Nations estimates, the cooperative movement has brought 800 million people together globally. The first Co-operative Society in the world was formed in 1844 in a village in England known as Rochdale, when Britain was undergoing the industrial revolution, (Cropp and Truman, 2001)

In United State of America, dairy cooperative societies were among the first type of agricultural cooperative societies to be organized and they have their beginning in the early 1800s, (Cropp and Truman, 2001). Dairy cooperative societies have played a very significant role in the procurement, processing and marketing of milk and dairy products and in representing farmers politically at both the state and national level.

In Africa Cooperative development is phased into two eras, the post-independence 1960's to 1980s and liberalisation era in early 1990's. In both phases, legal frameworks gave African governments powers to direct and manage the affairs of the cooperative societies, which enjoyed monopolies in trade, were rarely truly voluntary, autonomous or independent. They were subsequently engulfed into state politics, (Karanja, 2003).

In Kenya, the first Co-operative Society, Lumbwa Co-operative Society, was formed in 1908 by the European Farmers with the main objective of purchasing fertilizer, chemicals, seeds and other farm input and then markets their produce to take advantage of economies of scale. The African smallholder farmers fought for formation of their own Cooperative societies and later the dairy cooperative society was formed in 1928 in Nanyuki known as Nanyuki Cooperative Creameries and later an enactment of the Kenya Cooperative Ordinance of 1930 leading to the registration of KCC and KFA in 1931. In 1931 all the cooperative creameries were united under the Kenya Cooperative Creameries. In 1950s they were allowed to promote and register Co-operatives for cash crops like coffee and pyrethrum. Consequently at independence in 1963, there were 1,030 Co-operative Societies with 655 being active with a total membership of 355,000, Owango, et al, (1998).

According to the International Cooperatives alliance 2012 statistics, in Kenya, 1 out of 5 is a member of a co-operative society or 5.9 million and 20 million Kenyans directly or indirectly derive their lives from the Co-operative Movement. Secondly co-operatives are responsible for 45% of the GDP and 31% of national savings and deposits. They have 70% of the coffee market, 76% dairy, 90% pyrethrum, and 95% of cotton. The cooperative movement in Kenya also employs more than 250,000 people. Therefore cooperative societies are significant economic actors in national economies.

According to Food Agriculture Organization (FAO) statistics, the largest world milk producer is the European Union with its present 27 member countries (142 million tones). However, going by country, India is the largest producer with over 94 million tones of which 55% is buffalo milk and New Zealand is the largest producer of cows' milk. Annual global milk production is estimated to be 644 million tones, of which 84 per cent or 541 million tones is cows' milk.

Tropical regions in parts of Asia, the Middle East, South/Central America and Africa produce one third of the measured cows milk produced annually throughout the world. Significant tropical dairy industries can be found in Kenya, Zimbabwe, India and the Caribbean, but dairy farming has been slow to establish in these regions due to limitations of the extreme climates, low quality tropical feeds that are generally high in fibre and low in digestibility, the diseases and parasites associated with hot and wet conditions and therefore milk yields per cow have been low and seasonal, (Walshe, Grindle and Bachmann, 1991).

In Kenya, the dairy industry is the single largest agricultural sub-sector and it contributes to 14 percent of agricultural Gross Domestic Product (GDP) and 3.5 percent of total GDP, (Omore et al 1998). The Ministry of Livestock Development estimates the total annual milk production in the country at 3.5 billion liters (Ministry of Livestock Development, 2009 annual report), translating to an average yield per cow at 564 kilograms per year for both indigenous and grade cows and 1500 kilograms for grade cows. Though the dairy industry has been growing, after years of decline and disruption by liberalization, Kenya's yields remain significantly below international standards; South Africa and Argentina have yields ranging between 2,500 and 3,500 kilograms per year, while the USA stands at an average of 9,000 kilograms per year.

According to the Kenya National Dairy Master Plan, Volume I, the sector has faced many challenges which hinder its optimum exploitation. These include challenges in feeding, veterinary services delivery, breeding services, financial services delivery, challenges in milk production, in extension services delivery and most importantly milk marketing. Further, majority of the country's smallholders had relied heavily on dairy cooperative societies for the market of their produce such that the collapse of the cooperative societies in the county affected the milk production. In 1980 Structural Adjustment Programmes (SAPs) were introduced accelerate in order to reform through liberalization and structural reforms. The SAPs introduces transformation in wide ranging trade and macroeconomic policies impacting on production costs, incentive structures and sector competitiveness. They also allowed market entrants into the areas that were previously protected. Cooperatives were forced to become competitive in order to enhance their survival, (Karanja, 2003). It also led to mergers and others split to uneconomical entities. With all this challenges, some dairy cooperative societies have flourished and expanded their services to value addition and there by becoming a major player in Kenya such as Githunguri Dairy Cooperative society in Kiambu County, Kenya, (Wanyama, 2008). However, in a similar region such as Nyeri county, dairy cooperative societies have not developed as much. This is the gap that this study seeks to bridge. The study will focus on stakeholders in milk marketing , management of the dairy cooperative societies in Nyeri County, trainings and other services provided such as Artificial Insemination (AI) services, extension services and credit facilities, and how they influence performance of dairy cooperative societies in Nyeri County specifically Mathira and Kieni constituencies.

1.2 Problem Statement

Milk production in Kenya is predominantly produced by small scale farmers (625,000) who own one to three dairy animals, and produce about 80 percent of the milk in the country and market their milk mainly through dairy cooperative societies. The production systems are influenced by the agro climatic characteristics of the area, land productivity potential and prevalence of animal diseases. The engagement of smallholders in dairy production provides a pathway out of poverty through enhanced household security in nutrition, food, income, employment and both human and environmental health. Dairy production offers regular income and asset accumulation to families, thereby contributing to Millennium Development Goal one of poverty reduction through the economic growth and wealth creation.

However, the dairy cooperative societies have faced various challenges especially after liberation and most of the cooperative societies in Nyeri County are not performing well compared to other cooperative societies in similar regions in the country. According to Karanja (2003), factors that could influence poor performance of cooperative societies particularly in the liberation era include lack of training and unpreparedness by cooperative societies to modernize and embrace change, poor marketing strategies and competition from other stakeholders, lack of essential services and poor management and leadership since majority of cooperative leaders are either illiterate or with low education levels, exposure and trainings. In addition, mismanagement and corruption could also influences performance of dairy cooperative societies in Nyeri County. This study therefore sought to investigate the factors which influence performance of the dairy cooperative societies in Nyeri County in order to improve on their performance.

1.3 The Purpose of the Study

The purpose of the study was to assess the factors influencing performance of the dairy cooperative societies in Nyeri County. This study focused on management of cooperative societies, training of staff running the cooperative societies, players in milk marketing, and types of services provided by cooperative societies and how they influenced performance of dairy cooperative societies.

1.4 Objectives of the Study

The study was guided by the following objectives:-

1. To establish the extent to which stakeholders in milk marketing influence the performance of the dairy cooperatives societies in Nyeri County.

2. To assess how management of the dairy cooperative societies influences performance of the cooperative societies in Nyeri County.

3. To investigate how training of staff running the dairy cooperative societies influence performance of the dairy cooperative societies in Nyeri County.

4. To assess how types of services provided by the dairy cooperative societies influence the performance in Nyeri County.

1.5 Research Questions

The study was guided by the following questions:

1) To what extent do stakeholders in milk marketing influence performance of the dairy cooperative societies in Nyeri County?
2) To what extent does management of the cooperative societies influence performance of dairy cooperative societies in Nyeri County?
3) How does training of the staff running the dairy cooperative societies influence performance of the dairy cooperative societies in Nyeri County?
4) How does the provision of services by the cooperative societies influence the performance of dairy cooperative societies in Nyeri County?

1.6 Significance of the Study

The findings of the study will benefit various stakeholders with knowledge on factors that are currently affecting performance of dairy cooperative societies in Nyeri County. The government through the Ministry of Livestock Development and Ministry of Cooperative Develoment and Marketing can use the findings of this study for policy formulations and develop support strategies for implementation of the various reforms regarding dairy and dairy cooperative societies. The dairy cooperative societies and service providers will use the report to enhance linkages with farmers and identify areas of training and capacity building. The farmers can use the report to lobby for support from the players. The study will provide empirical findings on factors that influence dairy cooperative performance and form basis for further research by other scholars.

1.7 Limitations of the Study

The constraint that the researcher was likely to encounter were inadequate finances and time to collect data from each farmer and other respondents but had made a budget for the intended research within available means and permitted time. The researcher was a full time employee with other responsibilities. Other challenges could have been unwillingness to give information by respondent and therefore the researcher tried to convince the respondents on the intended use of the findings. Geographical distance between the two constituencies and sparse distribution of farmers in Kieni constituency was expected to pose a challenge especially during rainy season.

1.8 Delimitation of the Study

The research project covered dairy cooperative societies in Mathira and Kieni Constituencies of Nyeri County. The study targeted a population of 25,000 including dairy farmers, 12 dairy cooperative society's managers as well as 10 staff from Ministry of Livestock Development and Ministry of Cooperative Development and Marketing. The research employed descriptive research design and used questionnaire and interview schedules as the data collection tools.

1.9 Basic assumptions of the Study

The researcher assumed that respondents would give correct and valid information during the study. As shown in Table 4.1 there was high response rate (98%) and this was due to the fact that the data collection tools were physically administered.

1.10 Definition of Significant Terms

Management of cooperatives	Referred to the capacity of cooperative leaders to run dairy cooperative societies well and thus improving performance
Performance of Dairy Cooperative	Referred to the growth in membership over time and increased output of dairy products over time there by accruing benefits to members.
Milk market p**layers**	Meant the actors buying and selling milk and milk products
Trainings	Referred to capacity building workshops courses and seminars organized by dairy cooperatives to give skills to staff running the cooperatives and farmers.
Type of services	Referred to other services provided by the cooperatives contributing to improved output of the dairy cooperative societies thus increasing farmers' loyalty to the cooperative society.

1.11 The Organization of the Study

Chapter one covers background of the study, statement of the problem, purpose of the study as well as its significance limitations and delimitations. Chapter two contains literature review on cooperative movement globally, regionally and local has been covered Cooperative management in East Africa and in Kenya has been discussed in details as well as the Small holder dairy in Kenya. Aspects of milk marketing have also been highlighted. Chapter three contains research design, target population, sampling and data collection methods have been discussed in details. Variability and reliability have been defined and ethics to be considered highlighted. The Chapter also includes the operationalisation of variables. Chapter four contains the data analysis, presentation and interpretations of the findings while Chapter five contains summary of findings, discussions, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter contains literature related to factors affecting dairy cooperative society's performance. The literature covers the genesis of cooperative movement, the history of cooperative societies in United State of America, their role and challenges that these cooperative societies faced. The researcher also discusses market access and marketing both in India and East Africa as well as dairying in East Africa. Major emphasis has been given to the significance of cooperative societies in Kenya and small holder dairy in Kenya both historical and current situation. Management of dairy cooperative societies has also been discussed giving Githunguri Dairy cooperative society as an example. The chapter also includes empirical reviews, research gaps and conceptual frame work.

2.2 History of Cooperative Societies

2.2.1 United States of America

The physical characteristics of milk and the small production on individual farms encouraged collective action by farmers in the United States of America (USA). It took more milk than what one farmer produced to make Swiss cheese of the wheel or drum style. To obtain standardized quality, uniformity of grade, and large quantities of dairy products required cooperative action (Cropp and Graf 2001). A feature of the cooperative movement among dairymen was the promotional effort that was made by manufacturers of creamery equipment to interest farmers in cooperative associations.

It is reported that the first U.S.A cooperative society was a creamery built at Goshen, Connecticut, in 1810 (Cropp and Graf, 2001). In 1841 Wisconsin farmers around Rock Lake, Jefferson County made their cheese collectively at the home of a Mr. Pickett. In 1851 the so-called American system of associated manufacturers of cheese was evolved at Rome, New York. In 1856 a butter factory was established at Campbell Hall, Orange County, New York. The early cheese rings in Massachusetts, dating back to 1835, were cooperative and quite typical of the cheese rings of the Jura Mountains of Europe, where the Swiss and French peasants made their well-known cheeses collectively (Cropp. and Graf., 2001).

Cheese, butter plants, and creameries proved popular and successful. Dairy farmers set examples in early cooperative activity and had established more than 400 cooperative dairy processing plants by 1867.

These were organized as local cooperatives. But in 1913 representatives of cheese factories in Sheboygan County, Wisconsin organized the first federation of cheese factories. The organization of county creamery associations (1917-1920) in northwestern Wisconsin and in Minnesota later federated into an interstate unit (1921). This federation preceded the Land O Lakes Creameries, Inc., which was also initially organized as a federation in 1924.

Among the producers of fluid milk for city consumption purposes there were three main types of cooperative effort. 1) Cooperative retail distribution which started around 1822. This was primarily carried on by farmers adjacent to small cities who wished to sell their milk directly to consumers. Somewhat later, cooperative milk distributing companies with relatively limited membership were operating in large cities such as Cincinnati, Milwaukee, and Oklahoma City. 2) Cooperative wholesale distribution of milk which started around 1899). 3) Collective bargaining between farmers and private distributors which began in about 1909. The latter were of two types, those that merely bargained for a price and those that in addition to bargaining also operated processing plants where surplus milk (milk not required for beverage consumption) was converted into butter, cheese, evaporated milk, or other manufactured dairy products.

One of the largest operating cooperatives organized during the 1920s was Dairymen League Cooperative Association of New York. It operated country plants and receiving stations, serving secondary as well as primary markets. The League had 273 country plants in 1930, but reduced this number to 117 plants by 1936. In 1934-35, 110 dairy cooperatives were bottling and distributing milk. They had about 5 percent of the fluid milk sales by all commercial processors. There were 87 bargaining cooperatives with 172,000 members that represented about half of all fluid grade milk. Dairy cooperatives varied in number between 2,300 and 2,400 during the late 1920s and the 1930s. In 1935, 2,270 dairy cooperatives represented 16 percent of dairy farmers, but 45 percent of all milk delivered to plants from farms.

Dairy cooperative societies in the U.S.A. saw the need to become more politically active. Dairy cooperative societies across the U.S.A organized the National Milk Producers

Federation (NMPF) in 1916. NMPF established an office in Washington D.C. for the purpose of representing the political interests of dairy farmers and their dairy cooperatives, and has continued in operation right up to the present time (Cropp and Graf, 2001). Dairy cooperatives greatly increased their participation in milk procurement and in disposal of surplus milk between 1955 and 1963.By this time nearly one-fourth of all dairy cooperatives either provided facilities to manufacture surplus milk or assumed responsibility for diverting surplus milk to manufacturing facilities operated by other marketing agencies. Cooperatives that assumed responsibility for surplus milk quite commonly used full-supply contracts with milk handlers.

In 1955, two-thirds of the cooperatives assuming responsibility for handling part or all of the surplus milk had full supply contracts with all or part of the milk handlers. Under the full-supply contract the milk handler agrees to obtain his milk supplies through the cooperative. The cooperative usually supplies the handler with only the volume of milk needed in his regular operations. The cooperative is commonly responsible for obtaining supplementary milk if volume from regular farmers is insufficient to meet the handler's needs (Cropp and Graf, 2001).

The trend toward fewer and larger dairy farms, and regional shifts in milk production from traditional dairy regions of the Northeast and Upper Midwest to the Southwest and West, continued to forced structural changes of dairy cooperatives. Mergers and consolidations among dairy cooperatives slowed from the mid-1970s to mid-1980s, but accelerated in the 1990s. Not only were there more mergers and consolidations in the 1990s, but joint ventures and strategic alliances among dairy cooperatives (even among dairy cooperatives and investor firms) became common.

But not all dairy cooperative societies are becoming larger as a means of competing in the market place. Dairy farmers continue to operate and organize new very successful smaller dairy cooperatives. These are mostly in specially cheese markets that carry a higher value than commodity cheeses. Others have successfully entered the niche market for organic dairy products.

A major problem faced by cooperative societies in the U.S.A. including dairy cooperative societies, are non-excludable benefits. Dairy cooperative societies, being voluntary membership organizations, face the continuing problem of these non-excludable benefits.

Non-excludable benefits are programmes or benefits established by a cooperative society for its members, and at a cost to the cooperative society. However, these benefits cannot be excluded from producers who are not members of the cooperative society. An example is the market-wide services provided by dairy cooperatives. These services include transporting milk and balancing market supplies by a handler in a ways that benefit the total market but with the costs borne solely by the organization providing the service (Cropp. and Graf, 2001). In addition, with the structure of dairy farms and the food system changing rapidly, dairy cooperatives will be challenged in meeting the needs of a more diverse farmer membership, and being competitive in serving the needs of customers in the marketplace With the structure of dairy farms and the food system changing rapidly, dairy cooperatives will be challenged in meeting the needs of a more diverse farmer membership, and being competitive in serving the needs of customers in the marketplace.

2.2.2 Cooperative Societies in Africa

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.

2.2.3 Dairying in Eastern Africa

The three major land-based systems producing milk in sub-Saharan Africa, pastoralists, agro-pastoralists and crop-livestock farmers (Walshe *et al.*, 1991), represent a descending scale of cattle wealth and therefore potential milk off-take. Household demand and market access determines actual off-take, which ranges from near zero to 500 kg per lactation in the traditional (indigenous breed) systems (de Leeuw and Thorpe, 1996). Except in Kenya, these traditional systems and their indigenous cattle breeds dominate milk production in eastern Africa (Table 2.1). Yet they contribute relatively little to marketed production (apart from cooking butter in Ethiopia), mainly because of challenges such as poor access to major urban markets, mismanagement of dairy cooperative societies among others.

Table 2.1 Dairying in Eastern Africa: Cattle, Milk Production, Milk Prices and Per Capita Milk Availability

Parameter	Kenya	Tanzania	Uganda	Ethiopia
Cattle ('000) Zebu	9,860	13,500	4,060	31,000
Dairy	3,045	250	150	100
Total annual milk Production ('000 MT)	3,075	814	455	738
Farmgate milk price (USD)	0.20-0.45	0.30-0.60	0.20-0.40	025-0.35
Annual per capita milk Availability, Litres LME	106	28	22	14

KEY: MT….Metric Tonnes, USD….United State Dollar, LME….Liquid Milk Equivalent

Sources: Omiti and Staal, 1996, More and Staal, 1998 et.al. FAO, 1999

In contrast to the low extracted milk yields in the traditional systems, lactation yields three to four times higher are common in market-oriented smallholder dairy systems in the region; and, in turn, these systems have the potential to increase their and farm productivities considerably (Omiti and Staal, 1996; Omore and Staal, 1998; Omore *et al.,* 1999). As Table2.1shows, Kenya dominates in dairy production and marketing in eastern Africa to the extent that it has over 85% of the dairy cattle population in the region (and because the dairy cattle populations in southern African countries are small, Kenya has over 70% of the population in eastern and southern Africa). As a result of this large dairy herd, the per capita milk availability in Kenya is four to seven times higher than the other countries in the region (Table 2.1).

Delgado *et al* (1999) have estimated that between 1993 and 2020, the annual demand for milk and dairy products in developing countries will more than double, from 168 to 391 million tonnes. Driven by population growth, urbanisation and increased purchasing power, the estimated annual growth in the consumption of milk and dairy products is 3.3%. These market opportunities represent exciting challenges for all associated with smallholder agriculture in eastern Africa, and in Kenya particularly, and it's continued intensification through dairy production and marketing. Farmers have joined themselves to form cooperative societies which deal with the problem milk marketing.

2.2.4 Smallholder Dairying in Kenya: Historical and Policy Contexts

The adoption of dairy cattle for marketed milk production has been a striking feature of Kenyan agricultural development. As smallholder crop-livestock systems intensified in the face of increasing human population pressure, the integration of dairy cattle into the systems was a frequent strategy for increasing productivity and generating income, particularly in the densely populated Kenya highlands such as Nyeri County (Conelly, 1998; Omore *et al.,* 1999; de Leeuw *et al.,* 1999). Favouring this widespread adoption by smallholders were several interacting factors: smallholder communities who kept cattle and who had milk as an important part of their diet; the presence of significant dairy populations (kept by settler farmers); a sub-tropical geography suitable for dairy cattle; and, the conducive policy and institutional environments provided by successive Governments.

As Conelly (1998) and Omore *et al.* (1999) have documented, market-oriented dairy farming with exotic cattle in Kenya started almost a century ago when European settlers introduced dairy cattle breeds from their native countries. Most of these settlers occupied the most agriculturally productive highland areas of Rift Valley and Central Provinces. Cross-bred dairy cattle production by Africans started after 1954 when a colonial policy paper, the Swynnerton Plan of 1954, allowed them to engage in commercial agriculture. By 1963, when Kenya attained independence, the dairy herd had expanded to about 400,000 exotic cattle and their crosses with the local East African zebu. To support dairy production by the European settlers, input services and output market organisations were established. These included: the Veterinary Research Laboratories (in 1910); the Kenya Co-operative Creameries (KCC) (1925); the Animal Husbandry Research Station (AHRS), Naivasha (1935); the Central Artificial Insemination Station (1946); and, in 1958 the Kenya Dairy Board (KDB) to regulate dairy marketing.

After independence in 1963, many foreign settlers who opted to leave the country sold their farms to Africans or to the government. Many of these farms were rapidly sold to African smallholders resulting in a decline of the dairy cattle population in large scale farms to 250,000 heads by 1965 and a rapidly expanding smallholder herd. To encourage dairy production, the government affected a number of changes in the provision of livestock production and marketing services. By 1966, free or cheap and efficient livestock services were introduced including clinical and daily runs to provide artificial insemination services. In 1971, the government abolished the contract and quota system of dairy marketing to KCC, because it had effectively excluded most smallholder producers from selling milk to KCC. The relatively efficient provision of livestock services continued to the early 1980's when inadequate Government budget allocations caused the quality of services to decline, prompting the government to think about restructuring the industry with a view to increasing the role of the private sector (Omore *et al*., 1999). For the dairy sub-sector, the major policy change was the liberalization of milk marketing in 1992 (Dairy Development Policy, 1993), which effectively ended KCC's monopoly in milk marketing in urban areas and stimulated increased small scale trading in fresh milk (Owango *et al.,* 1998). Its major impact has been a rapid growth of the formal and informal private sector who provide input and output services, and a redistribution and increase of the overall social and economic benefits of market-oriented dairying to smallholder producers, market agents and consumers in Kenya. Changes in the legal framework to support the stated policy revisions have however lagged behind the policy statements. Farmers continued to face serious challenges in marketing their product after incurring huge input costs in terms of feeding the animals. Most local cooperative are still ineffective in Nyeri County.

2.3 The Significance of Cooperative Societies in Kenya's Economy

Kenya has a long history of cooperative development that has been characterized by strong growth, thus making a significant contribution to the overall economy. Cooperative societies are recognized by the government to be a major contributor to national development, as cooperatives are found in almost all sectors of the economy. With the total population of Kenya at approximately 37.2 million (Republic of Kenya, 2008: 13), it is estimated that 63 per cent of Kenya's population participate directly or indirectly in cooperative-based enterprises (Ministry of Cooperative Development and Marketing, 2008: 4). Indeed, the

Ministry of Cooperative Development and Marketing estimates that 80 per cent of Kenya's population derives their income either directly or indirectly through cooperative activities.

Empirical evidence shows that cooperatives play an important role in Kenya's economy. In the agricultural sector, cooperatives previously handled over 72 per cent of coffee sales, 95 per cent of cotton sales, 76 per cent of dairy produce sales, and 90 per cent of pyrethrum sales. However, with the exception of coffee and dairy cooperatives (whose share in the total market has remained stable), other agricultural marketing cooperatives have seen their market share fall below 40 per cent, with cotton cooperatives recording a paltry two per cent of the marketed bales of lint in 2008.

Agricultural cooperative societies total turnover was Kenya shillings (KES) 8.4 billion (USD $112 million) (Ministry of Cooperative Development and Marketing, 2008: 20). With the cooperative movement playing such a significant role in economic development, the Government has over the years maintained an institutional framework to develop the movement. The Ministry of Cooperative Development and Marketing is the current Government's official agency for coordinating cooperative development in Kenya. As per the current policy, the main duties of the Ministry include: registration and liquidation of all cooperatives register under the Act, Enforcement of the Cooperative Societies Act, formulation of cooperative policy, supporting development of a conducive environment for cooperative growth, registration of cooperative audits and carrying out of inquiries, investigations and inspections.

The office of the Commissioner for Cooperative Development serves as the hub for registration and regulation of cooperatives in Kenya. The Ministry of cooperative Development and Marketing has 775 technical staff (cooperative officers and auditors) and 343 support staff. These are the staffs that are expected to regulate a total of 11,968 cooperatives as of 2008 (Kenya National Bureau of Statistics, 2009: 165). With regard to the technical staff, this translates to a ratio of one staff to every 15 cooperatives that are dispersed in a wide and varied geographical area. The staffing at the Ministry is clearly inadequate for the task, which partly explains why the Ministry experiences difficulties in maintaining up-to-date statistical data on the cooperative movement.

2.4 Challenges facing Milk Marketing in India

2.4.1 Market Access and Marketing

The dairy sector in India is characterized by small-scale, scattered, and unorganized milk-animal holders; low productivity; inadequate and inappropriate animal feeding and health care; lack of an assured year-round remunerative producer price for milk; an inadequate basic infrastructure for provision of production inputs and services; an inadequate basic infrastructure for procurement, transportation, processing and marketing of milk; and lack of professional management (Rajendran and Mohanty, 2004). Other important characteristics of the Indian dairy sector are the predominance of mixed crop-livestock farms and the fact that most of the milk animals are fed on crop by-products and residues, which have very low opportunity costs. Additionally, the dairy-development policies and programs that are followed, including those relating to foreign trade, are not congenial to the promotion of sustainable and equitable dairy development (Rajendran and Mohanty, 2004). This is a similar to Kenya, where policies regarding dairy sector have not been very helpful making the sector disorganized and ineffective.

Low productivity of milk animals is a serious constraint to dairy development. The productivity of dairy animals could be increased by crossbreeding low-yielding nondescript cows with high-yielding selected indigenous purebreds or suitable exotic breeds in a phased manner. The cattle-breeding policy should not only focus on milk yield but should also provide for the production of good-quality bullocks to meet the draft-power requirements of agriculture. Upgrading nondescript buffalo through selective breeding with high-yielding purebreds such as Murrah, Mehsani or Nili Ravi should be given high priority in all areas where buffalo are well-adapted to the agro-climatic conditions (Rajendran and Mohanty, 2004). While fixing procurement prices, Indian producers' interests receive the utmost attention, (Rajendran and Mohanty, 2004).

Despite all the problems it faces, the dairy sector in India holds high promise as a dependable source of livelihood for the vast majority of the rural poor. Liberalization of world trade in dairy products under the new trade regime of the World Trade Organization (WTO) poses new challenges and has opened up new export opportunities for the dairy industry in India (Rajendran and Mohanty, 2004). The dairy sector in India needs to enhance its competitive economic advantage in dairy products in terms of both quality and cost and its credibility in

international markets (Rajendran and Mohanty, 2004). The role of government should be to direct, coordinate, and regulate the activities of various organizations engaged in dairy development; to establish and maintain a level playing field for all stakeholders; and to create and maintain a congenial socio-economic, institutional, and political environment for smallholder dairy development.

The future of dairying will also rely on the continued adaptation of management techniques to suit markets, environments, and socio-economic conditions. Managing dairy plants and cattle-feed factories is not the business of government; it is better left to professional managers who are employees of the milk co-operative societies and hence are accountable to their member milk producers, (Kumar and Kumar, 2006)

In spite of these developments, milk marketing in India remains grossly primitive compared to its western counterparts. It begins with the largely unregulated sector, which handles the majority of the milk production, providing ample opportunity for malpractice. Some of the common forms of malpractice include false measurements in the selling of milk and adulteration of milk.

Another major impediment to an efficient marketing system is the presence of numerous intermediaries, which take advantage of producers' weakness. In many cases, intermediaries dictate the price by advancing a loan to the milk producers. Producers' bargaining power is also limited because of perishability and bulkiness of milk. In addition, the lack of proper infrastructure for transportation, distribution, and storage also makes milk procurement difficult.

On the other hand, it will be impossible for most producers to market their milk without the presence of these market intermediaries. The Cooperative Societies Act continues to be restrictive rather than enabling, even though the Anand Pattern milk producers' cooperative societies have emerged as the most stunningly effective institutional model for milk marketing. Political and bureaucratic interference, delayed payments to the primary producers, and the decision-making power of the administrators over marketing of milk and milk products by the district-level union and the state-level federation also adversely affect the growth of dairy co-operative societies.(Kumar and Kumar, 2006) The cooperative laws in general have inhibited the emergence of true leadership, professional management, and democratic functioning of the co-operatives.

Delivery of livestock services away from government, progressive privatization of the services, a nationwide program for prevention and control of animal epidemics, and creation of disease-free zones will all reduce avoidable production losses, investment risks, and the yield gap; improve output; and will facilitate India's entry into global product markets, improving the quality and viability of the entire Indian dairy industry. Restructuring the governments' legal and regulatory framework, thus liberating the cooperative movement, will enable milk producers to extensively adopt the proven Anand Pattern producers' cooperative model to manage their assets and business interests (Banishree, 2006). This will help them vertically integrate production, processing, value additions, and marketing of milk and milk products in domestic as well as global markets, converting India's comparative advantages in dairy production into globally competitive advantages.

2.4.2 Marketing in East Africa

The importance of these spatial and temporal effects of markets is clearly illustrated in Tanzania where a quarter of a million dairy cattle (compared to 13.5 million zebu, Table 1) contribute some 90% of marketed milk (Omore and Staal, 1998). In 1997, nearly all milk in Tanzania was marketed informally, either by direct sales to customers (60%) or through vendors (30%); the remainder was marketed by cooperatives and retailers. The very small contribution of the extensive and semi-intensive (mainly zebu-based) production to milk markets (10% of market flow from 98% of the animals) is indicative of the separation of these systems from the major urban consumption centres, and the inadequate market infrastructure to link them. This is further indicated by large price differentials between rural and urban, indicating relative deficit and surplus areas.

Even given the extensive formal marketing network in Kenya (KCC; private processors; dairy co-operatives), estimates (e.g. Omore *et al*., 1999) show that currently approximately 85-90% of marketed milk is not processed or packaged, but instead is bought by the consumer in raw form. The factors driving the continued importance of the informal market are traditional preferences for fresh raw milk, which is boiled before consumption, and unwillingness to pay the costs of processing and packaging. By avoiding pasteurizing and packaging costs, raw milk markets offer both higher prices to producers and lower prices to consumers.

Surveys in the Kenyan highlands consistently show some 15% higher farm-gate prices and 25-50% lower retail prices through the raw milk market compared to the formal packed milk market (Staal *et al.,* 1998). As a consequence, the largest single market outlet for smallholder farmers, comprising over half the marketed milk, consists of direct sales of raw milk from producer to consumer, typically through farmer delivery to nearby households. Other important players in the informal market are small milk traders, who handle about a third of marketed milk, and who deliver milk to consumers or other retail outlets. In the more formal market, dairy farmer cooperatives are the largest players, while private dairy processors are thought to capture only some 12%. Dairy cooperatives play an intermediary role, by supplying both informal traders and dairy processors. Thus the market share of the dairy processors includes that share collected through cooperatives which is then sold to the formal market (Staal *et al*., 1998). These relative market shares have been changing through the 1990s, with an increasing role for the informal market.

In 1992, the Kenyan government liberalized the dairy industry, revoking a parastatal (KCC) monopoly on urban milk sales. The period since then has seen the rapid development of a variety of milk market innovations, mainly in raw milk markets. Dairy co-operatives themselves, once an integral part of the formal milk collection system, are marketing a greater proportion of their milk raw through intermediaries to urban markets. Owango *et al*. (1998) found that between 1990 and 1995, the share of cooperative milk sales going to dairy processors fell by more than half in some cases. The market policy change caused dairy cooperatives to pursue the higher prices in the informal market. As a consequence, the same study showed that real milk prices paid to producers by the co-operatives rose significantly during 1990-1995 (Owango *et al.,* 1998). In the more competitive and uncertain market post-liberalization, both individual producers and dairy farmer cooperatives have better opportunities for higher milk prices, but also face greater risks due to the uncertainties of relying on informal traders. As a consequence, more research has indicated that milk suppliers are returning to traditional outlets (the cooperatives and dairy processors) as the costs and risks of dealing with informal intermediaries are found to be too high (Morton *et al.,* 1999).

In addition, the dairy cooperatives in Nyeri County have not developed as those of other similar counties like Kiambu and Meru. For example, approximately 20 dairy cooperatives have set up their own milk cooling and/or processing plants, in order to add value to farmers'

produce and maximize income. The best dairy cooperative in this regard is Githunguri Dairy Farmers Cooperative Society, which is the fifth largest dairy processor in Kenya, followed by Limuru Milk Processors and Meru Central Dairy Cooperative Union.

In the study "Obstacles to the advancement of women-owned dairy processing micro-enterprises" by Milcah Mulu-Mutuku, Adijah Ali-Olubandwa and Dolphine Odero-Wanga in 2006, Marketing and low demand were cited as problem by women micro-entrepreneurs, who felt that customers tended to prefer products from larger enterprises. This gives the local dairy cooperatives big marketing challenge. Another problem was customers' preferences for products from established cooperatives due to the fluctuations in quality standards. Some local cooperatives did not do anything to ensure constant product quality, and were accused of medium technology methods, such as lactometers, to determine the quality of raw milk before processing, while some even used simple methods, such as matchsticks, or relied on smell, sight and taste. A further marketing problem was the inability to estimate customer numbers, thus affecting the ability to develop strategic market plans and resulting in a high incidence of unsold products.

2.4.3 Marketing in Kenya and Small Holder Dairy

After independence, marketed milk production shifted from large-scale (mainly settler-owned) herds to smallholder crop-livestock farms closer to the urban centres. These smallholdings also grew coffee and tea, and vegetables and fruit (Tiffen *et al.,* 1994). Hence, the dairy enterprise became an integral part of a farming system having cash crops, and subsistence maize and beans, supported by off-farm income from towns through the extended family network. Today most of Kenya's 3 million dairy cattle are kept in smallholder agriculture areas of high and medium cropping potential (80% in Central and Rift Valley Provinces) on farms of less than 2 ha. Generally the 1-2 dairy cows (mostly Holstein Friesian or Ayrshire) comprise 50% of the herd, the other half consisting of female calves and heifers. Feeding is mainly cut-and-carry with planted Napier grass (*Pennisetum purpureum*) and crop residues, especially from maize and bananas, supplemented by forage gathered from common properties around the farm and purchased from neighbours (Staal *et al.,* 1997a). On average total daily milk output is 10 kg per farm, of which a quarter is for home consumption and the rest sold. In the late 1980s, sales were mainly through local dairy co-operative societies, with some to neighbours, but, as explained in the previous section, since economic reforms and

liberalisation of trade, marketing channels have diversified, with a larger proportion of direct sales to private and institutional consumers (Staal *et al*., 1997b; Owango *et al.,* 1998).

Characteristic of tropical regions with good market access, the development of smallholder dairy production systems in the Kenya highlands is therefore marked by three elements: declining farm size, upgrading into dairy breeds and an increasing reliance on purchased feeds, both concentrates and forage (Staal *et al.*, 1997a), resulting in milk yields per lactation increasing by as much as five times, while milk yield per ha of land planted with forage rose by a factor of 40 (de Jong, 1996). And, increasingly in the intensive crop-dairy systems, manure is an important product. Underpinning these production responses are strong local demand for milk (rural communities and neighbouring urban populations) and effective market mechanisms, which link smallholder producers to local and distant markets (Staal *et al.*, 1999).

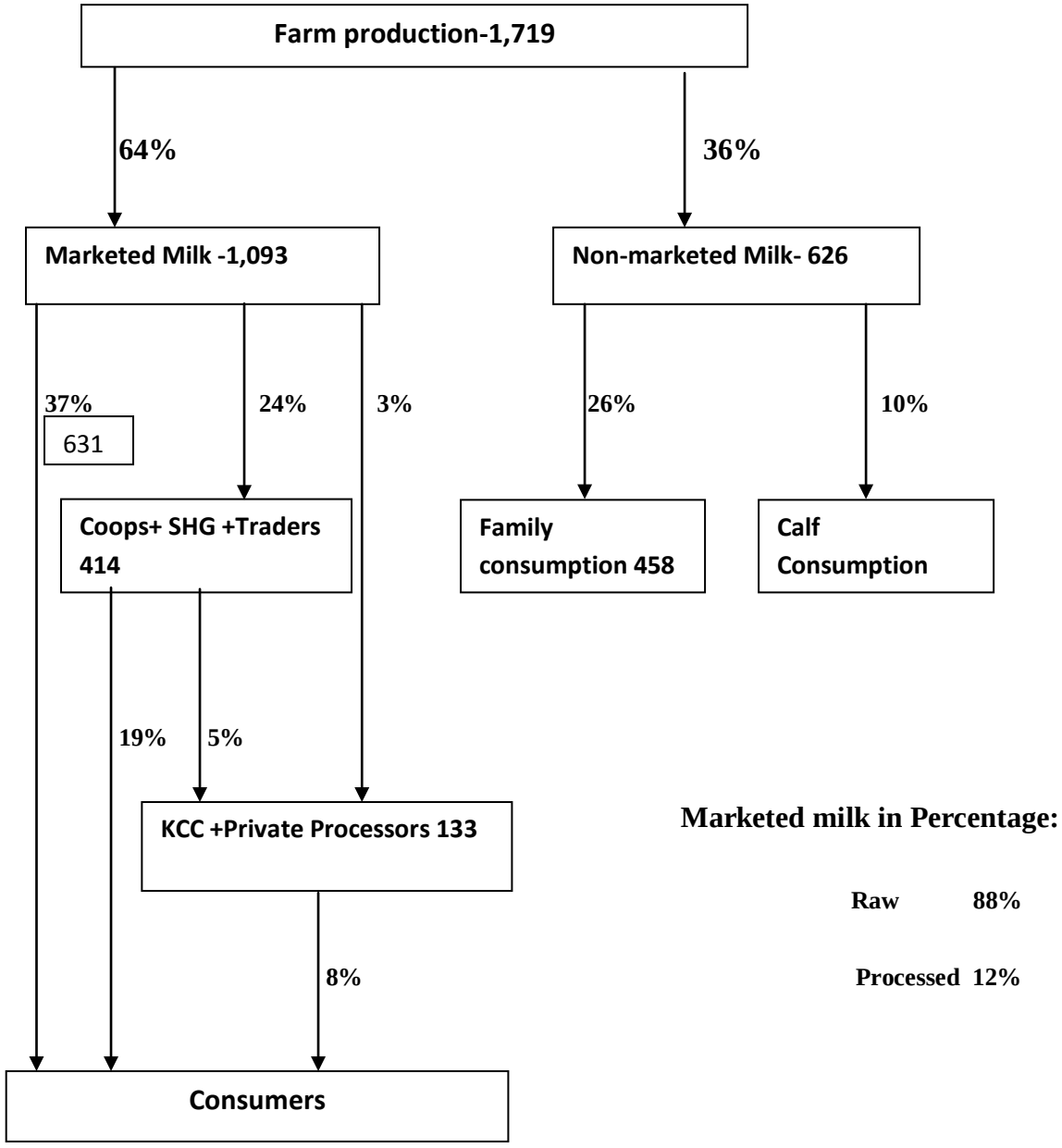

Figure 1. Marketing Channels in thousands of metric tones for Smallholder Milk in Kenya, 1997, Omore et al, 1999.

The predominance of smallholder crop-dairy farms in the highland areas as the major suppliers of marketed milk in Kenya reflects the strong historical linkages between cash crop co-operative marketing systems (especially tea and coffee, but also pyrethrum) and dairy production and marketing. Kenya therefore has given less emphasis than, for example, Uganda, and is doing less currently than Tanzania, to increase marketed milk production from pastoralist and agro-pastoralist systems. The competitiveness of these systems in comparison with marketed milk from the intensive smallholder crop-dairy farms will depend

on the costs of milk collection and transport, particularly where distance-sensitive informal (raw milk) markets predominate as they do in Kenya (Figure 1). Unit costs of the support services (input supply; animal health services; milk marketing) for dairying decrease as production density increases (Walshe *et al*, 1991). Consequently, production systems nationally become highly differentiated in structure of production and achievement of biological potential, effects which have recently been quantified in central Kenya by applying combined household and GIS analytical methods to current production systems (Staal *et al.*, 1999).

2.5 Management of Cooperative Societies and Influence on Performance

Githunguri Dairy Farmers Co-operative Society in Kiambu County, Kenya is one of the prime cases in this regard. Formed in 1961 through state initiative, its membership grew from 31 to about 9,000 by 1998. The collapse of the Kenya Co-operative Creameries (KCC), the dairy cooperative union that monopolized the marketing of milk for cooperative societies, in the early 1990s severely affected Githunguri's milk collection activities, as it did not have its own milk processing plant. With difficulties in marketing members' milk, which was its principal activity, the active membership of the cooperative dropped to just about 600. However, the liberalization of the cooperative movement in 1997 helped to improve the fortunes of Githunguri for at least three reasons (Wanyama, 2008).

First, liberalization afforded the management committee of Githunguri the freedom and power to hire professional staff to steer the day-to-day management activities. This was possible because the committee, which took office in 1999, had a visionary leadership that took the opportunity to run the cooperative societies in the interest of members, without state interference. Second, the management committee used its new power to borrow using collateral from the cooperative's property in order to get a loan of approximately 70 million Kenya shillings (about $1 million USD) from OIKO Credit of the Netherlands in 2003 to build a dairy processing plant. In 2006, OIKO provided a second loan of €670,000 to fund purchase of additional equipment. The desire to build the plant had previously been frustrated by the lack of adequate funds in the midst of state-imposed regulations that prevented cooperatives from borrowing outside the cooperative movement against their assets. Third, Githunguri acquired the freedom to sell its produce to any willing buyer on the market. This was a radical departure from the past, when cooperatives were only allowed to sell milk to

the ailing KCC. Located on the outskirts of Nairobi, Githunguri found a ready market for its products in the city (Wanyama, 2008).

There has been a tremendous turnaround in the fortunes of the cooperative since the commissioning of the plant in 2004. Membership of the cooperative now stands at over 17,000 and demand by new dairy farmers to join is overwhelming. It has overstretched its capacity that it is reluctantly accepting new members, who must meet membership requirements (Wanyama, 2008).

The expansive activities of the cooperative are taken care of by a staff of about 300 employees. Low skilled positions are recruited from within Githunguri division, but management staff is sought nationally and appointed competitively on the basis of professional qualifications. This is one aspect this study investigated, the appointment of managers of dairy cooperative in Nyeri County.

Employees have formed a workers union that negotiates a Collective Bargaining Agreement (CBA) with the management of the cooperative for improved remuneration. This is increasingly enabling the cooperative to attract and retain competent staff; relative to the era of state control recruitment of staff was dependent on the discretion of the Commissioner of Co-operative Development (Wanyama, 2008).

This revolutionary trend has also been demonstrated by the fact that Githunguri became the first milk processor and cooperative society in Kenya to be certified in June 2011 as complying with the globally recognized Food Safety Management System based on ISO 22000:2005 standard. The ISO 22000:2005 standard certification means that the cooperative is benchmarking its food chain operations to the highest international level of food safety by systematically identifying, assessing, anticipating and controlling risks arising from biological, chemical and physical hazards along the food chain from the reception of raw materials to processing, storage, distribution and sale. This study investigated the extent management of dairy cooperatives influence their performance in Nyeri County.

2.6 Training and Performance of Cooperative Societies

The resource-based view of the firm suggests that a firm's pool of human capital can be leveraged" to provide a source of competitive advantage (Barney, 1991; Wright, McMahan, and McWilliams, 1992). The heterogeneity among firms with respect to their human capital,

competitive advantage is possible if a firm insures that its people add value to its production processes and that its pool of human capital is a unique resource, both difficult to replicate and difficult to substitute for. Training comprises the many activities through which firms create human capital that meets these conditions. This study assessed the extent to which cooperatives in Nyeri County train their leaders on various aspects of management and how such trainings influence performance. Specifically, firms can select high-ability employees, whose talent is rare by definition (Wright and McMahan, 1992), and to train employees so they have the unique skills needed. Strategic Human Resource Management (HRM) activities help a firm to ensure that its human resources are not easily imitated. Because of the social complexity and causal ambiguity inherent in strategic HRM practices such as team-based designs, empowerment, and the development of talent for the long term, competitors can neither easily copy these practices nor readily replicate the unique pool of human capital that such practices help to create.

Cooperative societies can adopt various HRM practices to enhance employee skills and thereby improving performance. Employees can be hired via sophisticated selection procedures designed to screen out all but the very best potential employees. Indeed, research indicates that selectivity in staffing is positively related to firm performance (Becker and Huselid, 1992; Schmidt, Hunter, McKenzie, and Muldrow, 1979). Most members of cooperative societies vote for their director who manages cooperative society from among the farmers themselves. This could result to appointment of incompetent leaders which may lead to poor performance of cooperative in Nyeri County.

Second, organizations can improve the quality of current employees by providing comprehensive training and development activities after selection. Considerable evidence suggests that investments in training produce beneficial organizational outcomes (Bartel, 1994; Knoke and Kalleberg, 1994; Russell, Terborg, and Powers, 1985). This study explored the extent to which dairy cooperatives train their management and its influence on performance cooperative societies. The effectiveness of skilled employees will be limited, however, if they are not motivated to perform their jobs. According to Gerhart and Milkovich (1992), training showed evidence on the impact of incentive compensation and performance management systems on firm performance. In addition, protecting employees from arbitrary treatment, perhaps via a formal grievance procedure, may also motivate them to work harder

because they can expect their efforts to be fairly rewarded (Ichniowski, 1986; Ichniowski et al., 1994).

Ichniowski, (1986) and Ichniowski et al. (1994) noted that, the way in which a workplace is structured affect organizational performance to the degree that skilled and motivated employees are directly involved in determining what work is performed and how this work gets accomplished. This study examined the environment that complements performance of managers such as offices and other facilities provided by dairy cooperatives.

2.7 The type of Services Offered by Cooperative Societies

Lack of proper extension services is partially to blame for poverty, according to participatory poverty assessments conducted in 10 districts in Kenya in 2000 (Meru Central District Development Plan 2002; Republic of Kenya 2001). This is due both to reductions in government services in Kenya, and ineffective and inappropriate extension approaches (Eponou 1996; Gautam 2000). These issues have led to gaps in extension of technologies to small-scale farmers, who play a major role in the Kenyan economy.

Technologies to address rural problems have been developed by research, development organizations, and farmers working together in Kenya. A major issue then becomes how to scale up these technologies to benefit more low resource farmers, despite limited extension resources. The extension system in Kenya today is pluralistic, with the government, private companies, and non-governmental organizations (NGOs) all providing extension. Recently, community-based extension mechanisms have come to the fore, as a means of scaling up these technologies to have a wider impact in rural economies (Franzel, Cooperand and Denning 2001; Misiko, 2000; Noordin, Niang, Jama and Nyasimi 2001). Farmer groups are an important vehicle for such community-based extension.

However, there is little research showing what factors, if any, make community-based groups effective in disseminating technologies. If evidence could be found for which factors could or do affect farmer group effectiveness, it would facilitate technology dissemination to small-scale farmers. This information would be useful for organizations working with farmer groups, and to the groups themselves, by providing a means to strengthen and guide the groups. Finally, it would provide valuable information to policymakers and practitioners.

2.7.1 Extension Services

Agricultural extension finds itself in the midst of significant changes and uncertainty. Processes of change have been underway for some time but in many developing countries these have been accelerated by structural adjustment reforms aimed at reducing public sector spending. An environment of declining government budgets combined with waning donor interest has led to significant cuts in public extension services (Farrington, 1994). Those public extension activities that remain are under increasing pressure to provide an accountable and responsive service to citizens. At the same time, the retreat of governments from managing agricultural input and output marketing, a diversification in the sources of agricultural research, and increased opportunities for trade, have opened many new opportunities for the private sector, including extension provision.

In addition, there is growing uncertainty about what role extension is supposed to play in the development process. There is now a much-reduced emphasis on uniform messages such as those provided by the Training and Visit system (T and V). The need to involve farmers more in the extension process itself has been recognised for some time and a number of participatory and facilitation approaches have been developed (Roling, 1995; Coldevin, 2000). In addition, farmers need extension on a diverse range of rural development options including information on markets, rural industry and other income opportunities (Farrington et al., 2002).

In a systematic survey carried out in Central, Eastern and central Rift Valley Provinces of Kenya (Staal *et al.*, 1999), an increasing shift towards intensification of dairying through growing of fodder crops with “cut-and-carry” feeding systems and keeping of improved dairy breeds on the ever decreasing land available for agriculture was observed. This selection of crossbred and exotic dairy cattle has the potential to rapidly improve milk production but with the unwanted consequence of lowering resistance against diseases (Minjauw and de Castro, 1999) and increasing the need for quality forage and improved management practices. Staal *et al.* (1998) stated that the success of smallholder dairying would depend on the ability of producers to adapt to changes in available resources and market forces. Thus, the smallholder dairy farmer systems requires information and services covering a range of subjects including animal health, nutrition, breeding and marketing to increasing the productivity of their high potential animal (Barton and Reynolds, 1996; Schreiber, 2002.)

In a study of agricultural knowledge and information systems undertaken by the Kenya Agricultural Research Institute (KARI) and the Ministry of Agriculture and Rural Development (MoARD), field research conducted to assess the significance of different actors and organisations as potential dissemination pathways for agricultural technologies, the results showed that most farmers require information on technical details of farming. The study demonstrated the importance of participatory learning approaches as potential delivery systems and entry—points for knowledge dissemination (Rees *et al.*, 2000). In another study in Kiambu District, Wambugu (2000) exposed the deficiencies of the current extension services in providing the necessary information to dairy farmers and she suggested that participatory and interactive learning approaches should be promoted.

Furthermore, using Participatory Rural Appraisal (PRA) and survey techniques, Schreiber (2002) showed that lack of information is a major constraint to improved milk production in Kenya. In a formal survey carried out with dairy farmers in Western Kenya, the most important category of source of information, service or input needed by farmers to implement changes in their dairy management systems was extension services. This included information material, education and individual farm visits by extension officers. The most important areas where information is needed were cited as feeding and breeding, followed by information on how to improve general farm management (Schreiber, 2002).

2.7.2 Artificial Insemination Services

According to Belavadi and Niyogi small holder farmers have taken a bold step in tropical countries towards creating their own infrastructure of milk marketing and provision of production support services India with its nationwide dairy cooperative network of small holder dairy farmers has merged as a major dairy nation and other counties have shown similar developments. For instance Karia district dairy cooperative society in India initiated dairy enhancement services such as animal health and breeding. This assured incentives to increased milk production and exposed farmers to the process of development by placing the required tools in their own hands.

Liberation in the dairy industry in Kenya is currently under way several forms in marketing as well as provision of other services. Clinical services and Artificial Insemination (A.I.) which are not publically supported in may areas have been taken by dairy cooperative societies' Survey conducted by Omore on Dairy cooperative and policy reform measured the

change between 1990 and 1995 and a dramatic increase of provision of these services were observed. According to Omore dairy cooperative are able to compete with private providers of Artificial Insemination services

2.8 Stakeholders in Milk Marketing

Kenya's dairy industry is dynamic and plays an important economic and nutrition role in the lives of many people ranging from farmers to milk hawkers, vendors, processors and consumers. Kenya is the next country to South Africa in Africa which produces enough milk for domestic consumption and for export. A survey conducted by Small Holder Dairy project asserts that the industry is the single largest sub sector in Kenya contributing 14% of Agricultural GDP and 3.5% of the total GDP (Government of Kenya, 2008). Liberation led to growth of the informal milk trade that mainly consists of small scale operators dealing with raw milk marketing. At time, there was an emergence of new institutional arrangements in milk collection, processing, and marketing which include hawkers brokers self help groups, neighbours and business establishments like hotels (Karanja, 2003).

The informal market control 70% of the total milk marketed in Kenya (Kenya Dairy Board 2009, Government of Kenya 2006). The sector is driven by among other factors the traditional preference of raw milk and relatively lower cost. The informal market was not officially recognized before the change of policy and powerful cooperatives and processors were the main players then. The dairy policy at the time focused on promoting value addition and increased marketing of pasteurized milk while attempting to address potential health risks in consuming raw milk. However, after 2004, there was change in policy and practice towards informal market (Leksmono et.al, 2006). The policy has acknowledged the role of small scale milk vendors..

2.9 Theoretical Framework

2.9.1 Scientific Theory of Management

Frederick Winslow Taylor developed the scientific theory of management which he published in the journal of the American Society of Mechanical Engineers in 1895. Scientific Management focuses on the efficient accomplishment of work tasks with an attitude of work smarter, not harder. Taylor meant his methods to be both a win for management in increasing productivity and a win for laborers making their jobs easier. But Taylor as a mechanical

engineer focused on the physical aspects of the job and the formal organization of the shop. Scientific management was the seed bed of the Efficiency Movement in the United States. His consideration of motivation was primarily limited to the scientific determination of fair financial incentives for worker performance (Wren, 2005). This study focuses on factors that influence performance of dairy cooperative societies. Such factors include training that is geared to improve productivity of cooperatives, marketing and management of cooperatives as well as influence of other services offered by cooperative.

2.9.2 Theory of Transfer of Learning

Transfer of training refers to the effect that knowledge or abilities acquired in one area have on problem solving or knowledge acquisition in other areas. Transfer of training is based on the theory of transfer of learning.

Holding (1991) says that "transfer of training occurs whenever the effects of prior learning influence the performance of a later activity". The degree, to which trainees successfully apply in their jobs the skills gained in training situations, is considered "positive transfer of training" (Baldwin and Ford, 1980). Transfer of training holds somewhat different means in different disciplines of psychology. Holding's definition reflects a cognitive psychology perspective. A cognitive psychologist might be interested in how the semantic similarity of word pairs in one list affects time to learn on a second list (the transfer task). From this perspective, the original learning task and the "later activity" look very much alike.

This study focused on training conducted by cooperative societies, their effectiveness and relevance of such training. It was expected that training if any would improve performance of dairy cooperatives.

2.10 Conceptual Framework

The conceptual framework is shown in Figure 2.

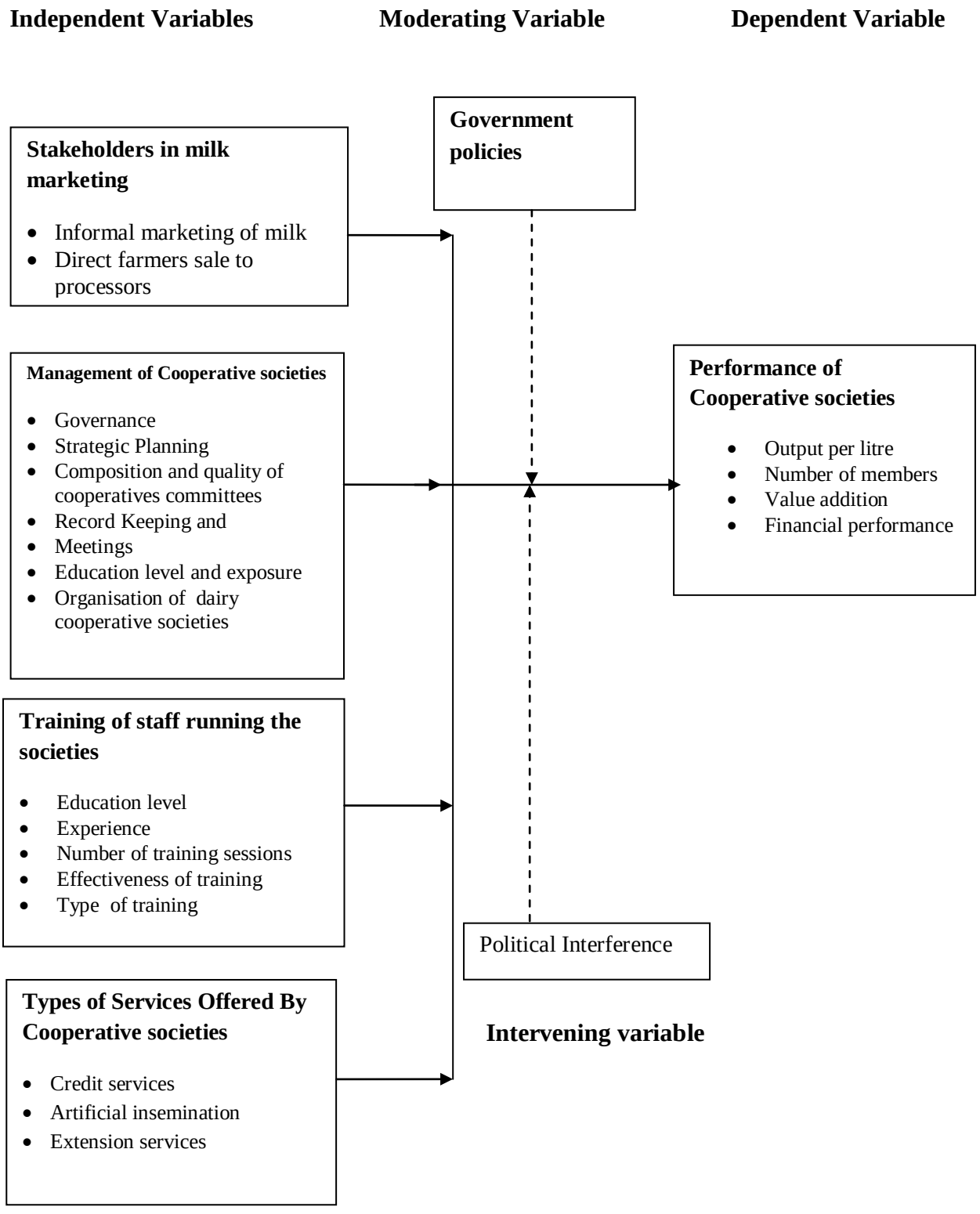

Figure 2: Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter contains research design, target population, sampling procedure and sample size, proposed data collection methods, procedures, and data analysis. The chapter also contains a summary of operationalisation of variables.

3.2 Research Design

The proposed study employed a Descriptive research design which in social science is referred to as an ex post facto research design as described by Kerlinger (1973).

Ex post facto research is systematic empirical inquiry in which the scientist does not have direct control of variables. Inferences about relationships among variables are made from any determined variations between the studied variables.

Descriptive research design includes surveys and fact finding enquires of different kinds. The major purpose of a descriptive research is to describe the state of affairs as it exists at present. (Kothari 2004)

Therefore, the study involved the gathering of information about stakeholders in milk marketing, management of the cooperative societies, level of formal and informal training of the staff running the cooperative societies and the types of services provided by the cooperative societies to their members and how these influenced performance of dairy cooperative societies.

3.3 Study area

The area of study was the former Nyeri North district, which was comprised of Mathira and Kieni constituencies, Nyeri County, Kenya. It was focused on small holder dairy farmers in this area.

3.4 Target Population

A population is defined as a complete set of individuals, cases or objects with some common observable characteristics and has some characteristics that differentiate it from other populations (Mugenda and Mugenda**)**. In this study the targeted population was comprised of 25,000 dairy farmers that were, 12,820 in Mathira and 12,180 in Kieni constituencies, 4 cooperative society managers and 4 officers from both the Ministry of Livestock Development and Ministry of Cooperative and Marketing as show in Table 3.1.

Table 3.1: Category of Respondents

	Population	**Sample size**
Staff running the cooperatives	12	4
Government officers	16	4
Dairy farmers	25,000	204
Total	**25028**	**212**

3.5 Sampling Procedure and Sample Size

3.5.1 Sampling Procedure

Sampling has been described by Cooper et al., (2003) as the procedure by which some elements of a given population are selected as representative of the entire population. The primary purpose of sampling is that by selecting some elements of a population conclusion on the entire population can be drawn.

Multi stage sampling design was employed in order to select the required sample size respondents. Multi stage is used when it is not possible to obtain a sampling frame because the sample frame is either very large or scattered over a large geographical area Fisher et.al (2003). It is one in which sampling is done sequentially across two or more hierarchical levels. The first stage was sampling the cooperatives and self help groups, the second stage the sampling of milk collection routes and third stages the farmers along these routes. The former Nyeri North had two constituencies Kieni and Mathira constituencies. These have different agro ecological zones and therefore they were treated as different clusters.

For the staff running the cooperative societies and the government officers in the Ministry of Agriculture, Livestock and Fisheries and Ministry of Cooperative and Marketing purposive sampling was employed as the researcher wanted to collect data from respondents who could give the required data.

3.5.2 Sample Size

A sample is a subject of a particular population according to Mugenda and Mugenda. According to Yamane (1967) the recommended formula for calculating the sample size was as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Where n = the desired sample size

N = the population size. In this case 25,000

e = level of precision. In this case 0.07

$$n = \frac{25000}{1 + 25000(0.07)^2}$$

= 203.25

The figure was rounded off to 204 respondents.

The population for the two constituencies was 25,000 since Mathira had 12,820 and Kieni had 12, 180 dairy farmers. The total sample size for Mathira was therefore 104 and for Kieni 100 respondents respectively.

3.6 Data Collection Tools

The researcher developed interview guide and questionnaire for data collection. The interview guide was used for gathering in depth data from the staff running the cooperative societies and government officers. Questionnaire was used to collect both quantitative and qualitative data from the farmers. The questionnaire used open ended questions or closed ended questions which were followed by an explanation. The researcher together with assistants physically administered the research instruments to the respondents. The language used in the instruments was simple and easy to understand and instructions on how to fill the questionnaire were given.

3.7 Validity of Research Instruments

3.7.1 Pilot Survey

Before administering the instruments to the sample representing the target population, a pilot study was conducted to Dairy farmers and cooperative society manager of Kerichu Dairy cooperative society as well as government officers in Nyeri Central district with the aim of testing the instruments. The pilot was carried out to 20 respondents who represented 10% of the sample size. This helped to alleviate usability issues.

3.7.2 Validity of Instruments

Validity is the accuracy and meaningfulness of inferences, which are based on the research results. Validity also shows the degree to which results obtained from the analysis of the data actually represent the phenomenon under study (Mugenda and Mugenda, (1999).

The researcher in consultation with the supervisor ensured that the research instruments measured what they were intended to measure. Internal validity was ensured by checking the questions and ascertaining that they provided the type of response expected, while external validity was ensured by ensuring the sample was a representative of the target population. The pilot test showed the extent to which the content of the instrument was appropriate and it measured accurately what the researcher wanted to find out.

3.8 Reliability of Instruments

According to Mugenda and Mugenda (1999), reliability is the measure of degree to which a research instrument yields consistent results or data after repeated trials. Reliability in research is influenced by random error which is the deviation from a true measurement due to factors that have not effectively been addressed by the researcher. According to Berg (1998), the use of consistent and systematic line of questions for even unanticipated responses is particularly important for reliability and for possible replication of the study. The researcher used the split half to test reliability of the instrument as it was simple; the instrument was designed having two parts and it was also time saving as it required one testing session. It had therefore the advantage of eliminating chance error due to differing test conditions. The responses were analysed using Statistical Package of Social Sciences (SPSS) software and the results were correlated to determine consistency. The results showed that the questionnaire had a reliability index of 0.804.Elifson, Runyon and Haber (1990) avers that a correlation of 0.71-0.99 as having a strong relationship. Thus the instrument was reliable enough to elicit data as required by the research questions.

3.9 Data Collection Methods

The researcher developed the research instruments; a structured interview guide and a questionnaire to collect data. Interviews were useful in collecting in depth information. The interview guide was used to collect data from the staff running the dairy cooperative societies and government officers while the questionnaire was used to collect data from the farmers. The instruments were administered by the researcher and her assistants physically.

3.10 Data Analysis

After data collection the researcher edited the raw data to ensure it was free from inconsistencies and incompleteness. This involved a scrutiny of the completed instruments in order to detect and reduce as much as possible errors, incompleteness, misclassifications and gaps in the information obtained from the respondents eliminating any unusable data. A coding scheme was then developed to create codes and categories from responses. A code was assigned to each likely answer and the data was then stored and analysed using Statistical Package for Social Sciences version 20.0, (Kombo et al, 2006). The results were presented using tables and percentages.

3.11 Ethical Considerations

The researcher ensured that the three principles of ethics are observed. These included respect, beneficence and justice. Respect and protection of autonomy, rights and dignity of participants was guaranteed throughout the research period. The conduct of research was fair; honest and in a transparent way and the researcher presented findings and interpretations honestly and objectively. Throughout the study the researcher ensured confidentiality of respondents was safeguarded**.** Informed consent was obtained from the respondents to ensure voluntary participation.

3.12 Operationalization of Variables

The operationalization of variables is given in Table 3.2

Table 3.2: Operationalization of Variables

Objectives	Variable	Indicators	Measurements	Measurement scale	Tools of data Analysis	Type of Statistics
To establish the extent to which players in milk marketing influence the performance of the dairy cooperatives societies in Nyeri County	**Independent** Stakeholders in milk marketing	Informal marketers Direct sales by farmers to processors and consumers	Number of different stake holders	Nominal Ratio	Mean Percentage	Descriptive statistics Inferential statistics
To assess how management of the dairy cooperative societies influences performance of the cooperative societies in Nyeri County	Management of cooperative societies	Number of meetings held Record keeping Strategic planning Yoghurt, pasteurised and mala	Minutes, List of participants Availability of records and strategic plan , Number of societies doing value addition	Nominal Ratio	Mean Percentage	Descriptive statistics Inferential statistics
To investigate how training of the staff running the dairy cooperative societies influence performance of the dairy cooperative societies in Nyeri County	Training of cooperative society managers	Education level number of trainings Type of training Experience Duration of trainings Capacity building tours	Certificates, Number of trainings Curriculum Number of years worked Number and type of traings	Norminal Ratio	Mean Percentage	Descriptive statistics Inferential statistics
To assess types of services provided by the dairy cooperative societies influence the performance in Nyeri County	Types of other services provided by the cooperative societies	Artificial Insemination services Credit services Extension services	Number of inseminations Number of beneficiaries	Ratio Norminal	Mean Percentage	Inferential
Factors influencing dairy cooperative societies performance	**Dependent** Performance of dairy cooperative societies	Output of milk Membership Yoghurt and mala Financial performance	Litres per day, Number of active members Liters processed per day Availability of financial records	Ratio Norminal	Mean Percentage	Descriptive statistics Inferential statistics

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter focused on data analysis, interpretation and presentation. The purpose of this study was to investigate the factors influencing dairy cooperative societies' performance in Mathira and Kieni Constituencies in Nyeri County. The objectives of the study were to establish the extent to which players in milk, assess how management of the dairy cooperative societies, investigate how training of the staff running the dairy cooperative societies and assess types of services provided by the dairy cooperative societies influence the performance in Nyeri County.

4.2 Response Rate

The response rate of the 3 categories of respondents is presented in Table 4.1

Table 4.1: Response Rate

Category	Sample Size	Response	Percentage
Farmers	204	200	98
Cooperative Society managers	4	4	100
Government officers	4	4	100

Table 4.1 illustrates the response rate of the respondents who were sampled and interviewed in the study. The study targeted 204 farmers, 4 government officials and 4 cooperative managers. The response was 98% for farmers and 100% meaning all the government officials and cooperative society managers sampled completely filled in and returned the questionnaire. This is attributed to the fact that the researcher employed 5 research assistants to personally administer the questionnaires and ensure they are filled in by the respondents.

4.3 Demographic Data of the Respondents

4.3.1 Demographic Data of the Dairy Farmers

In this section the researcher sought to establish the demographic data of the farmers and looked at their gender, age and education level. Their responses are highlighted in the Table 4.2.

Table 4.2: Demographic Data of the Dairy Farmers (n=200)

Category	Frequency	Percentage
Gender		
Male	130	65.0
Female	70	35.0
Age in years		
18 - 29	15	7.5
30 - 39	48	24.0
40 - 49	54	27.0
50 - 59	45	22.5
60 and above	38	19.0
Education Level		
Adult education	10	5.0
Primary	53	26.5
Secondary	98	49.0
Certificate	27	13.5
Diploma	11	5.5
Degree and above	1	.5

Majority of the dairy farmers (65.0%) were males while as 35.0% of the dairy farmers were females. This implies that there were more male respondents than females. This might be so because commercial farming is particularly dominated by males. This however will not affect the responses from the respondents thereby creating any form of biasness.

Majority of dairy farmers 27.0% were aged between 40 to 49 years, 22.5% of the dairy farmers were aged between 30 years to 39 years, 22.5% of the dairy farmers were aged between 50 years to 59 years, 19.0% of the dairy farmers were aged above 60 years and 7.5% of the dairy farmers were aged between 18 years to 29 years. This shows that the largest population of the respondents were old enough and had been farmers long enough to understand the issues facing them that rotate around the study. The low percentage in youth is probably because they have no land to do the farming.

As for the education level, 49.0% of the dairy farmers had secondary education, 26.5% of the dairy farmers has primary education, 13.5% of the dairy farmers had certificate education, 5.5% of the dairy farmers had a diploma, 5.0% of the dairy farmers only had adult education and 0.5% of the dairy farmers had a degree and above. Despite the fact that the respondents' education level is quite low; this did not compromise their ability to comprehend the questions asked in the questionnaire as they were assisted by well guided research assistants.

4.3.2 Demographic Data of Government Officers and Cooperative Managers

In this section the researcher sought to establish the demographic data of the government officials and cooperative managers and looked at their gender, age and education level. Their responses are highlighted in Table 4.3.

Table 4.3: Demographic Data of Government Officers and Cooperative Managers (n=8)

Category	Frequency	Percentage
Gender		
Male	5	62.5
Female	3	37.5
Age in years		
18 - 29	0	0
30 - 39	0	0
40 - 49	4	50.0
50 - 59	2	25.0
60 and above	2	25.0
Education Level		
Adult education	0	0
Primary	0	0
Secondary	2	25.0
Certificate	1	12.5
Diploma	2	25.0
Degree and above	3	37.5

Majority (62.5%) of the government officials and cooperative managers were males while as 37.5% of the respondents were females. This shows there is a wide disparity among the gender but given the small population of the respondents this disparity will not affect the responses thereby resulting in biasness.

Majority (50.0%) of the government officials and cooperative managers were aged between 40 years to 49 years, 25.0% of the respondents were aged between 50 years and 59 years, and 25 of the respondents were aged 60 years and above. This shows that the respondents had advanced in aged and were aware of the issues in this study.

Most (37.5%) of the government officials and cooperative managers had a degree and above, 25.0% of the respondents had a diploma, 25.0% of the respondents had a secondary education while as 12.5% of the respondents had a certificate. This shows that most of the respondents were educated and thus able to comprehend the factors influencing dairy cooperative societies performance.

4.4 Performance of Cooperatives

The researcher sought to establish the overall performance of cooperative societies from dairy farmers and looked at whether the cooperatives receive enough milk, has enough members, value addition to the milk, and its financial performance. The results are presented in Table 4.4.

Table 4.4: Performance of Cooperatives According to Dairy Farmers (n=200)

Category	Frequency	Percentage
If cooperative receives enough milk		
Yes	20	10.0
No	156	78.0
Don't know	24	12.0
If cooperative have enough members		
Yes	48	24.0
No	118	59.0
Don't know	34	17.0
Value addition to milk		
Yes	45	22.5
No	132	66.0
Don't know	23	11.5
Cooperatives' financial performance		
Strongly agree	13	6.5
Agree	35	17.5
Neutral	50	25.0
Disagree	83	41.5
Strongly disagree	19	9.5

To address the issue of performance of cooperatives, dairy farmers were asked if cooperative societies received enough milk and 78.0% of the respondents said no, 12.0% of the respondents said they did not know and 10.0% of the respondents said yes.

Dairy farmers were asked if the cooperative society has enough members, 59.0% of the respondents said no, 24.0% of the respondents said yes and 17.0% of the respondents said they did not know.

Dairy farmers were asked if the cooperative societies did any value addition to the milk and 66.0% of the respondents said no, 22.5% of the respondents said no and 11.5% of the respondents did not know.

Dairy farmers were also asked if they thought the cooperative was performing well financially and 51.0% of the respondents of the respondents disagreed, with 9.5% of them strongly disagreeing, 24.0% of the respondents agreed with 6.5% of them strongly agreeing and 25.0% of the respondents were neutral about the issue.

4.4.1 Performance of Cooperatives According to Government Officers and Cooperative

To establish the overall performance of cooperative societies from government officers and cooperative managers, the researcher and looked at whether the cooperatives receive enough milk, number of registered members in most cooperative societies, value addition to the milk, and cooperatives financial performance. The results are presented in Table 4.5.

Table 4.5: Performance of Cooperatives According to Government Officers and Cooperative Managers (n=8)

Category	Frequency	Percentage
If cooperative receives enough milk		
Yes	0	0
No	8	100.0
Don't know	0	0
Number of registered members in most Cooperative Societies		
Less than 500	6	75.0
Between 500 and 800	1	12.5
Above 800	1	12.5
Value addition to milk		
Yes	2	25.0
No	6	75.0
Cooperatives' financial performance		
Strongly agree	0	0
Agree	5	62.5
Neutral	0	0
Disagree	0	0
Strongly disagree	3	37.5

To further address the issue of performance, government officers and cooperative managers were asked if the cooperative society did receive enough milk and all the respondents said no and none of the respondents said yes. This is probably due to existing competition between the many stake holders in milk marketing.

Government officers and cooperative managers were also asked to indicate the number of registered members in the cooperative society and 75.0% of the respondents indicated there were less than 500 members, 12.5% of the respondents indicated there were between 500 to 800 members and 12.5% of the respondents indicated there were above 800 members. This demonstrates further the low milk collection by the cooperative societies.

Government officers and cooperative managers were asked if cooperative societies do any value addition to the milk and 75.0% of the respondents said no while 25.0% of the respondents said yes. This is a clear indication that the cooperative societies have not created a niche market and therefore not competitive in the market.

Finally on this section government officers and cooperative managers were asked if they thought cooperative societies were performing well financially and 62.5% of the respondents agreed that indeed the cooperative societies were performing well financially. 37.5% of the respondents strongly disagreed that the cooperatives societies were doing well financially. The high percentage of respondents agreeing that the cooperative societies were performing as expected could be for the reason that they were part of management.

4.5 Players in Milk Marketing

These are various stake holders both formal and informal involved in marketing of milk.

4.5.1 Players in Milk Marketing According to Dairy Farmers

In order to address the first objective that sought to establish the extent to which players in milk marketing influence the performance of the dairy cooperatives societies in Nyeri County, dairy farmers were asked questions on where they sold their milk, effect of milk players on the performance and influence of competition on the performance of cooperative societies. Their responses are shown in Table 4.6.

Table 4.6: Players in Milk Marketing According to Dairy Farmers (n=200)

Category	Frequency	Percentage
Channel for selling milk		
No response	18	9.0
Cooperatives societies	138	69.0
Direct to Customers	15	7.5
Milk vendors	29	14.5
Effect of above players on performance of Cooperative Societies		
Yes	169	84.5
No	31	15.5
Influence of competition on performance of dairy Cooperative Societies		
Strongly agree	79	39.5
Agree	72	36.0
Neutral	44	22.0
Disagree	3	1.5
Strongly disagree	2	1.0

Majority (69.0%) of the dairy farmers indicated that they sold their milk to cooperative societies, 14.5% of the respondents sold milk to vendors, 7.5% of the respondents sold their milk directly to customers and 9.0% of the respondents did not respond. There was multi response in this indicator where farmers indicated that they sold milk to more than one stakeholder.

Most (84.5%) of the dairy farmers said that indeed the players in milk marketing affect the performance of cooperative societies and 15.5% of the respondents said no.

A high percentage (75.5%) of the dairy farmers agreed that competition from other milk players influences the performance of dairy cooperative societies and 39.5% of the respondents strongly agreeing. 22.0% of the respondents were neutral while as 2.5% of the respondents disagreed with the statement.

4.5.2 Milk Market Stakeholders According to Government Officers and Cooperative Managers

To further address the first objective that sought to establish the extent to which players in milk marketing influence the performance of the dairy cooperatives societies in Nyeri County, government officials and cooperative managers were asked questions on the cooperative's biggest competitors and if competition affected performance of cooperative societies. Their responses are shown in Table 4.7.

Table 4.7: Milk Market Stakeholders According to Government Officers and Cooperative Managers (n=8)

Category	Frequency	Percentage
Cooperatives biggest competitors*		
Other cooperatives societies	2	14.3
Direct to Customers	1	7.1
Milk vendors	5	35.7
Milk brokers	6	42.9
If competition affects performance of Cooperative Societies		
Yes	8	100
No	0	.0

*Dichotomy group tabulated at value 1

Majority (42.9%) of government officials and cooperative managers indicated that it was the milk brokers were the biggest competitor followed by milk vendors (35.7%). 14.3% of the

respondents said it was other cooperative societies and 7.1% of the respondents said it was direct customers.

Government officials and cooperative managers were asked if they thought competition affects the performance of cooperative societies and all the respondents said indeed competition did affect the performance of cooperative societies and they did so by directly affecting the volume of milk collected and it affected the rate of payment due to high cost of production.

4.6 Management of Cooperative Societies

4.6.1 Management of Cooperative Societies According to Dairy Farmers

To address the objective, dairy farmers were asked questions on the performance of society managers, if managers are qualified to run the cooperative societies, if the cooperative society calls for meetings and if the meetings are adequate and the frequency at which they should be held. Their responses are shown in Table 4.8.

Table 4.8: Management of Cooperative Societies According to Dairy Farmers (n=200)

Category	Frequency	Percentage
Performance of cooperative society mangers		
Yes	69	34.5
No	88	44.0
Don't know	43	21.5
If managers are qualified to run Cooperative Societies		
Yes	106	53.0
No	52	26.0
Don't know	42	21.0
If cooperative society call for meetings		
Yes	155	77.5
No	23	11.5
Don't know	22	11.0
If meetings called by management are adequate		
Strongly agree	31	15.5
Agree	84	42.0
Neutral	39	19.5
Disagree	39	19.5
Strongly disagree	7	3.5
How often meetings should be called		
No response	14	7.0
Monthly	20	10.0
After 2 months	34	17.0
Quarterly	62	31.0
Biannually	24	12.0
Once per year	46	23.0

To assess how the management of dairy cooperative society performed, dairy farmers were asked if they thought dairy cooperative societies were performing as expected. 44.0% of the respondents said no, 34.5% of the respondents said yes and 21.5% of the respondents indicated they did not know. The poor financial performance of the dairy cooperative societies is probably due to the low milk intake due to the low number of active members.

Dairy farmers were also asked if they thought the managers qualifies to run cooperative societies and 53.0% of the respondents said yes, 26.0% of the respondents said no and 21.0% of the respondents indicated that they did not know. Most of the cooperative managers were diplomats and degree graduates and therefore qualified in managing the cooperative societies.

Dairy farmers were asked if the cooperative society calls for meetings and 77.5% of the respondents said yes, 11.5% of the respondents said no and 11.0% of the respondents indicated that they did not know if meetings used to be called. Most cooperative societies hold annual general meetings organized in collaboration with the department of cooperative and marketing to give the statement of expenditure. These are however too few for the farmers to have active interaction with the officials of their cooperative societies.

Dairy farmers were asked if they agreed to the statement that the number of meetings called by management are adequate and 57.5% of the respondents agreed to the statement with 15.5% of the respondents strongly agreeing, 23.0% of the respondents disagreed with the statement with 3.5% of the respondents strongly disagreeing and 19.5% of the respondents were neutral about the statement. Farmers require more meetings to have active interaction with the officials of their cooperative societies.

Dairy farmers were asked how often they thought the meetings should be called and 31.0% of the respondents said quarterly, 23.0% of the respondents said at least once per year, 17.0% of the respondents said after every two months, 12.0% of the respondents said biannually, 10.0% of the respondents said monthly and 7.0% of the respondents did not respond to the question. Most cooperative societies hold annual general meetings but quarterly meetings would keep the members informed regularly on the progress and create loyalty to the society.

4.6.2 Management of Cooperative Societies According to Government Officers and Cooperative Managers

In this objective that sought to assess how management of the dairy cooperative societies influences performance of the cooperative societies in Nyeri County, government officials and cooperative managers were asked questions on the performance of society managers, if managers are qualified to run the cooperative societies, if the cooperative society calls for meetings and if the meetings are adequate and the frequency at which they should be held. Their responses are shown in Table 4.9.

Table 4.9: Management of Cooperative Societies According to Government Officers and Cooperative Managers (n=8)

Category	Frequency	Percentage
Performance of cooperative society mangers		
Yes	5	62.5
No	3	37.5
Don't know	0	.0
If managers are qualified to run Cooperative Societies		
Yes	6	75.0
No	0	0.0
Don't know	2	25.0
If cooperative society call for meetings		
Yes	8	100.0
No	0	0.0
Don't know	0	0.0
If meetings called by management are adequate		
Strongly agree	2	25.0
Agree	3	37.5
Neutral	1	12.5
Disagree	2	25.0
Strongly disagree	0	0.0
How often meetings should be called		
No response	0	0.0
Monthly	2	25.0
After 2 months	0	0.0
Quarterly	6	75.0
Biannually	0	0.0
Once per year	0	0.0

Government officers and cooperative managers were asked if they thought if the managers of dairy cooperative societies were performing well and majority (62.5%) of the respondents said yes and 37.5% of the respondents said no. The fact that cooperative managers were part of management could have contributed to the majority indicating that cooperative societies were performing well which was contradicting the farmers' findings.

Government officers and cooperative managers were asked if they thought the managers are qualified to run cooperative societies and 75.0% of the respondents said yes and 25.0% of the respondents indicated they did not know. The results on education levels indicated that majority of them are degree holders and above and therefore professionally qualified.

Government officers and cooperative managers were asked if the cooperative societies called for meetings and all the respondents indicated that indeed cooperative societies did call for meetings. The meetings usually organized by most cooperative societies are the annual general meetings to give account of the expenditures.

Government officers and cooperative managers were asked if they agreed with the statement that the number of meetings called by management is adequate and 62.5% of the respondents agreed that indeed cooperative societies called for meetings with 25.0% of the respondents strongly agreeing, 25.0% of the respondents disagreed and 12.5% of the respondents were neutral about the statement.

Government officers and cooperative managers were asked how often they thought the meetings should be called, 75.0% of the respondents said quarterly and 25.0% of the respondents said monthly. This would allow for more interaction between the farmers and the management of the cooperative societies.

4.7 Training and Capacity Building

4.7.1 Training and Capacity Building According to Dairy Farmers

The third objective sought to investigate how training of the staff running the dairy cooperative societies influence performance of the dairy cooperative societies in Nyeri County. To address this objective, dairy farmers were asked if cooperative societies organized training for farmers, relevance of training, effectiveness of training, influence of

training on performance of cooperative societies and if training is required. Their responses are indicated in Table 4.10.

Table 4.10: Training and Capacity Building According to Dairy Farmers (n=200)

Category	Frequency	Percentage
Training by cooperative societies to dairy farmers		
Yes	115	57.5
No	68	34.0
Don't know	17	8.5
If training was relevant		
Yes	110	55.0
No	11	5.5
Don't know	79	39.5
Effectiveness of training		
Yes	82	41.0
No	18	9.0
Don't know	100	50.0
If training influences the performance of Cooperative Societies		
Strongly agree	11	5.5
Agree	100	50.0
Neutral	67	33.5
Disagree	21	10.5
Strongly disagree	1	.5
If training is required		
Yes	186	93.0
No	10	5.0
Don't know	4	2.0

Dairy farmers were asked if dairy cooperative society organized training for farmers and 57.5% of the respondents said yes, 34.0% of the respondents said no and 8.5% of the respondents did not know. Cooperative societies organize trainings in collaboration with other stakeholders in the dairy industry such as the department of livestock production.

Dairy farmers were asked if the training was relevant and 55.0% of the respondents said yes the training was relevant, 39.5% of the respondents did not know and 5.5% of the respondents said no the training was not relevant.

Dairy farmers were asked how effective the training was and 50.0% of the respondents they did not know, 41.0% of the respondents said it was effective and 9.0% of the respondents said the training is not effective. This could have been due to the low adoption rate of the technologies and therefore farmers would not know whether trainings were effective or not.

Dairy farmers were asked if the training influence the performance of cooperatives and 50.5% of the respondents agreed that indeed the training influenced the performance of cooperative societies, 33.5% of the respondents were neutral while as 11.0% of the respondents disagreed with the statement.

Dairy farmers were asked if the training is required and 93.0% of the respondents said yes, 5.0% of the respondents said no and 2.0% of the respondents did not know.

4.7.2 Training and Capacity Building Accord According to Government Officers and Cooperative Managers

Government officers and cooperative managers were also asked how training of the staff running the dairy cooperative societies influence performance of the dairy cooperative societies in Nyeri County. They were asked if the cooperatives organized training for farmers, relevance of the training, effectiveness of the training, influence of training on performance of cooperative societies and if the training was required. The responses are presented in Table 4.11.

Table 4.11: Training and Capacity Building Accord According to Government Officers and Cooperative Managers (n=8)

Category	Frequency	Percentage
Training by cooperative societies to dairy farmers		
Yes	6	75.0
No	2	25.0
Don't know	0	0.0
If training was relevant		
Yes	4	50.0
No	3	37.5
Don't know	1	12.5
Effectiveness of training		
Yes	4	50.0
No	3	37.5
Don't know	1	12.5
If training influences the performance of Cooperative Societies		
Strongly agree	7	87.5
Agree	1	12.5
Neutral	0	0.0
Disagree	0	0.0
Strongly disagree	0	0.0
If training is required		
Yes	2	25.0
No	5	62.5
Don't know	1	12.5

Government officers and cooperative managers were asked if dairy cooperative societies organized training for farmers and 75.0% of the respondents said yes training was organized by cooperative societies to dairy farmers and 25.0% of the respondents said no.

Government officers and cooperative managers were asked if the training was relevant and 50.0% of the respondents indicated that indeed the training was relevant, 37.5% of the respondents said no while 12.5% of the respondents did not know.

Government officers and cooperative managers were asked if the training was effective and 50.0% of the respondents indicated that indeed the training was effective, 37.5% of the

respondents indicated that the training was not effective while 12.5% of the respondents indicated they did not know.

Government officers and cooperative managers were asked if they agreed with the statement that training influences performance of cooperative societies and 87.5% of the respondents strongly agreed and 12.5% of the respondents just agreed with the statement.

Government officers and cooperative managers were asked if they required training and 62.5% of the respondents indicated they did not require training, 25.0% of the respondents indicated they did require training and 12.5% of the respondents did not know.

4.8 Types of Services Offered by Cooperative Societies

4.8.1 Types of Services Offered by Cooperative Societies According to Dairy Farmers

To address the last objective of the study that sought to assess types of services provided by the dairy cooperative societies influence the performance in Nyeri County, dairy farmers were asked questions related to whether credit facilities were offered and if they were adequate, if artificial insemination services were offered and as to whether they were satisfied with these services, if cooperatives offered extension services and if they were satisfied with these services and finally they were asked on the influence of services offered on performance of cooperative societies. Their responses are analyzed in Table 4.12.

Table 4.12: Types of Services Offered by Cooperative Societies According to Dairy Farmers (n=200)

Category	Frequency	Percentage
If cooperative societies offer credit facilities		
Yes	86	43.0
No	105	52.5
Don't know	9	4.5
If credit services were adequate		
Yes	47	23.5
No	48	24.0
Don't know	105	52.5
If cooperatives offers artificial insemination services		
Yes	53	26.5
No	131	65.5
Don't know	16	8.0
Satisfied with artificial insemination services		
Yes	29	14.5
No	53	26.5
Don't know	118	59.0
If cooperatives offer extension services		
Yes	24	2.0
No	157	78.5
Don't know	19	9.5
Satisfied with extension services		
Yes	23	11.5
No	26	13.0
Don't know	151	75.5
Influence of services offered on performance of Cooperative Societies		
Strongly agree	49	24.5
Agree	79	39.5
Neutral	57	28.5
Disagree	12	6.0
Strongly disagree	3	1.5

Dairy farmers were asked if cooperative societies offered them credit facilities and 52.5% of the respondents said no the cooperatives did not offer them credit facilities, 43.0% of the respondents said yes they were offered credit facilities and 4.5% of the respondents indicated they did not know.

Dairy farmers were asked if the credit facilities were adequate and 52.5% of the respondents indicated they did not know if the credit facilities were adequate, 24.0% of the respondents indicated that indeed the credit facilities were adequate and 23.5% of the respondents indicated that the credit facilities were not adequate.

Dairy farmers were asked if the cooperative offers artificial insemination services and 65.5% of the respondents said that artificial insemination services were not offered, 26.5% of the respondents indicated they were offered and 8.0%of the respondents did not know.

Dairy farmers were asked if they were satisfied with the artificial insemination services and 59.0% of the respondents indicated they did not know, 26.5% of the respondents indicated they were not satisfied with the artificial insemination services and 14.5% of the respondents were satisfied with the artificial insemination services.

Dairy farmers were asked if the cooperative societies offer extension services and 78.5% of the respondents said the extension services were not offered, 9.5% of the respondents indicated they did not know and 2.0% of the respondents said indeed the cooperative societies offered extension services.

Dairy farmers were asked if they were satisfied with the extension services and 75.5% of the respondents indicated they did not know, 13.0% of the respondents said no they were not satisfied and 11.5% of the respondents indeed were satisfied with the extension services,

Respondents were asked if they thought the services offered by dairy cooperative societies influence performance of cooperatives and 64.0% of the respondents agreed that indeed the services offered by cooperative societies influence its performance with 24.5% of the respondents strongly agreeing, 28.5% of the respondents were neutral and 7.5% of the respondents disagreed that services offered influence the performance of cooperative societies. Most of the cooperative societies had not taken up the provision of support services to their members and those which had started had not reached the levels that the farmers felt

they were satisfied with these services. This was probably due to the poor financial performance of the cooperative societies as these services need high capital investment.

4.8.2 Types of Services Offered by Cooperative Societies According to Government Officers and Cooperative Managers

Further on, to address this last objective of the study that sought to assess types of services provided by the dairy cooperative societies influence the performance in Nyeri County, government officers and cooperative managers were asked questions related to whether credit facilities were offered and if they were adequate, if artificial insemination services were offered and as to whether they were satisfied with these services, if cooperatives offered extension services and if they were satisfied with these services and finally they were asked on the influence of services offered on performance of cooperative societies. Their responses are highlighted in Table 4.13.

Table 4.13: Types of Services Offered by Cooperative Societies According to Government Officers and Cooperative Managers (n=8)

Category	Frequency	Percentage
If cooperative societies offer credit facilities		
Yes	3	37.5
No	3	37.5
Don't know	2	25.0
If credit services were adequate		
Yes	4	50.0
No	3	37.5
Don't know	1	12.5
If cooperatives offers artificial insemination services		
Yes	2	25.0
No	3	37.5
Don't know	3	37.5
Satisfied with artificial insemination services		
Yes	0	0.0
No	5	62.5
Don't know	3	37.5
If cooperatives offer extension services		
Yes	0	0.0
No	1	12.5
Don't know	7	87.5
Satisfied with extension services		
Yes	0	0.0
No	1	12.5
Don't know	7	87.5
Influence of services offered on performance of Cooperative Societies		
Strongly agree	5	62.5
Agree	2	25.0
Neutral	1	12.5
Disagree	0	0.0
Strongly disagree	0	0.0

Depending on the cooperative society, some government officers and cooperative managers (37.5%) indicated that indeed the cooperative societies offer credit facilities, while 37.5% of the respondents said that the cooperative societies do not offer credit facilities.25.0% of the respondents said they did not know if the cooperative societies offer credit facilities as in there are of operation they don't offer these facilities.

Government officers and cooperative managers were asked if the credit facilities were adequate and 50.0% of the respondents indicated the credit facilities were not adequate, 37.5% of the respondents indicated the credit facilities were adequate and 12.5% of the respondents indicated they did not know.

Government officers and cooperative managers were asked if cooperative societies offered artificial insemination services and 37.5% of the respondents indicated that the services were not offered, 25.0% of the respondents said the services were offered while 37.5% of the respondents did not know if artificial insemination services were offered.

Government officers and cooperative managers were further asked if they thought the services were satisfactory and 62.5% of the respondents said no while 37.5% of the respondents indicated they did not know if the services were satisfactory.

Government officers and cooperative managers were asked if the cooperatives offer extension services and 87.5% of the respondents indicated they did not know while 12.5% of the respondents said that extension services were not offered.

Government officers and cooperative managers were asked if the extension services were satisfactory and 87.5% of the respondents said they did not know while 12.5% of the respondents said the extension services were not satisfactory.

Finally in this section government officers and cooperative managers were asked if they thought the services offered by dairy cooperative societies influence performance of cooperative societies and 87.5% of the respondents agreed that indeed the services offered by dairy cooperative societies influence its performance while as 12.5% of the respondents indicated they were neutral.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings, discussion and conclusions drawn from the findings and recommendations made. The conclusions and recommendations drawn were focused on addressing the purpose of the study which was to investigate the factors influencing dairy cooperative societies' performance in Mathira and Kieni Constituencies in Nyeri County.

5.2 Summary of Findings

5.2.1 To establish the extent to which players in milk marketing influence the performance of the dairy cooperatives societies in Nyeri County

The results showed that majority of the dairy farmers (69.0%) sold their milk to cooperative societies, 14.5% of the respondents sold their milk to milk vendors, 7.5% of the respondents sold their milk directly to customers and 9.0% of the respondents did not respond. The preference of dairy cooperative societies by the farmers was probably because of their sustain ability nature and other expected benefits which were not offered by the other players. On the other hand, government officials and cooperative managers indicated that cooperatives biggest competitors were milk brokers (49.2) followed by milk vendors (35.7%). Other cooperatives had a share of 14.3% and direct customers 7.1%. Majority (84.5%) of the dairy farmers said that indeed the players in milk marketing affect the performance of cooperative societies and 15.5% of the respondents said no. 75.5% of the respondents agreed that milk players influence the performance of dairy cooperative societies, 22.0% of the respondents were neutral while as 2.5% of the respondents disagreed with the statement. All the government officials and cooperative managers said indeed competition did affect the performance of cooperative societies and they did so by directly affecting the volume of milk collected and it affected the rate of payment due to high cost of production.

5.2.2 To assess how management of the dairy cooperative societies influences performance of the cooperative societies in Nyeri County

Most dairy farmers (44.0%) indicated that dairy cooperative societies were not performing as expected while 34.5% of the respondents indicate they were performing well. 21.5% of the respondents indicated they did not know. In contrast, majority (62.5%) of the government officers and cooperative managers said that the cooperative societies were performing well and 37.5% of the respondents said no. This contrasting view could have been contributed by the fact that managers were part of management of cooperative societies. However, 53.0% of dairy farmers and 75.0% of government officers and cooperative managers thought the managers were qualified to run cooperative societies, 26.0% of dairy farmers and 25.0% of government officers and cooperative managers thought they were not qualifies. Majority(77.5%) of the dairy farmers and all government officers and cooperative managers said the cooperative societies call for meetings. Most (57.5%) of dairy farmers and of government officers and cooperative managers (62.5%) agreed that the number of meetings called by management were adequate, 23.0% of the dairy farmers and 25.0% of government officers and cooperative managers disagreed with the statement and 19.5% of the dairy farmers and 12.5% of government officers and cooperative managers were neutral about the statement. 31.0% of dairy farmers and 75.0% of government officers and cooperative managers said the meetings should be called quarterly, 23.0% of the dairy farmers said at least once per year, 17.0% of the dairy farmers said after every two months, 12.0% of the dairy farmers said biannually, 10.0% of the dairy farmers and 25.0% of government officers and cooperative managers said monthly and 7.0% of the dairy farmers did not respond to the question.

5.2.3 To investigate how training of the staff running the dairy cooperative societies influence performance of the dairy cooperative societies in Nyeri County.

The results showed that 57.5% of the dairy farmers and 75.0% of government officers and cooperative managers said the cooperative organized training for farmers, 34.0% of the farmers and 25.0% of government officers and cooperative managers said no and 8.5% of dairy farmers did not know. 55.0% of dairy farmers and 50.0% of government officers and cooperative managers said the training was relevant, 39.5% of dairy farmers and government officers and cooperative managers said they did not know and 5.5% of dairy farmers and 37.5% of government officers and cooperative managers said training was not relevant. 50.0% of dairy farmers and 12.5% of government officers and cooperative managers said

they did not know if the training was effective, 41.0% of dairy farmers and 50.0% of the respondents said the training was effective and 9.0% of dairy farmers and 37.5% of government officers and cooperative managers said the training is not effective. 50.5% of dairy farmers and all of the government officers and cooperative managers agreed that indeed the training influenced the performance of cooperative societies, 33.5% of dairy farmers were neutral while as 11.0% of the dairy farmers disagreed with the statement. 93.0% of the dairy farmers and 25.0% of government officers and cooperative managers indicated training was required, 5.0% of dairy farmers and 62.5% of government officers and cooperative managers said they did not require training and 2.0% of dairy farmers and 12.5% of government officers and cooperative managers said they did not know.

5.2.4 To assess how types of services provided by the dairy cooperative societies influence the performance in Nyeri County.

The findings showed that 52.5% of the dairy farmers said no the cooperatives did not offer them credit facilities, 43.0% of the dairy farmers said yes they were offered credit facilities while 37.5% of the government officers and cooperative managers said that indeed the cooperative societies offer credit facilities, 37.5% of the government officers and cooperative managers said that the cooperative societies do not offer credit facilities. 52.5% of the dairy farmers indicated they did not know if the credit facilities were adequate, 24.0% of the dairy farmers indicated that indeed the credit facilities were adequate and 23.5% of the dairy farmers indicated that the credit facilities were not adequate. On the other hand 50.0% of the respondents indicated the credit facilities were not adequate, 37.5% of the government officers and cooperative managers indicated the credit facilities were adequate and 12.5% of the respondents indicated they did not know. 65.5% of the dairy farmers said that artificial insemination services were not offered and 26.5% of the dairy farmers indicated they were offered while 37.5% of the government officers and cooperative managers indicated that artificial insemination services were not offered, 25.0% of the government officers and cooperative managers said the services were offered while 37.5% of the government officers and cooperative managers did not know if artificial insemination services were offered. 59.0% of the dairy farmers indicated they did not know if they were satisfied with the artificial insemination services, 26.5% of the dairy farmers indicated they were not satisfied with the artificial insemination services and 14.5% of the dairy farmers were satisfied with the artificial insemination services. 62.5% of the government officers and cooperative

managers on the other hand said they were not satisfied while 37.5% of the government officers and cooperative managers indicated they did not know if the services were satisfactory. 78.5% of the dairy farmers said the extension services were not offered, 9.5% of the dairy farmers indicated they did not know and 2.0% of the dairy farmers said indeed the cooperative societies offered extension services. 87.5% of the government officers and cooperative managers indicated they did not know if the extension services were offered while 12.5% of the government officers and cooperative managers said that extension services were not offered. 75.5% of the dairy farmers indicated they did not know if they were satisfied with the extension services, 13.0% of the dairy farmers said they were not satisfied and 11.5% of the dairy farmers indeed were satisfied with the extension services. 87.5% of the government officers and cooperative managers on the other hand said they did not know if they were satisfied with the extension services while 12.5% of the government officers and cooperative managers said the extension services were not satisfactory. 64.0% of the dairy farmers agreed that indeed the services offered by cooperative societies influence its performance, 28.5% of the dairy farmers were neutral and 7.5% of the dairy farmers disagreed that services offered influence the performance of cooperative societies. 87.5% of the government officers and cooperative managers agreed that indeed the services offered by dairy cooperative societies influences its performance while as 12.5% of the respondents indicated they were neutral.

5.3 Discussion

5.3.1 Performance of the Cooperative Societies

From the study, it was noted that cooperatives did not receive enough milk which could be partly attributed to the fact that they lacked enough members who could supply them with enough milk. Cooperatives also failed to do value addition to the milk to improve on its processing, packaging and distribution thus creating demand for the milk product which could also be seen to be as a result of the cooperative poor financial performance thus there was no adequate money to do all these processes. All these factors named could have a significant effect on the performance of cooperative societies. This agrees with Karanja (2003) who in his study on 'The dairy Industry in Kenya: The Post-Liberalization Agenda' indicated that factors that could influence poor performance of cooperative societies particularly in the liberation era include lack of training and unpreparedness by cooperative

societies to modernize and embrace change, poor marketing strategies and competition from other stakeholders, lack of essential services and poor management and leadership.

5.3.2 Stakeholders in Milk Marketing

The study confirmed that there were a number of milk players in the dairy industries who have cooperative societies' competition and included the milk vendors, direct customers and milk brokers all of whom influenced the performance of dairy cooperative societies.this is unlike before liberalization when the cooperative societies had the monopoly in marketing due to Government protection. This competition from the various milk players did affect the performance of cooperative societies by directly affecting the volume of milk collected and this affected the rate of payment due to high overhead costs. Therefore, the various stakeholders in the milk marketing did influence the performance of the dairy cooperative societies. Owango and Staal, (1998) affirms that the immediate impact of marketing liberalization in Kenya's dairy industry has been intensified market competition among the existing dairy firms, especially the KCC and the other cooperative dairy plants and businesses. This is due to new market entrants. According to Kenya Dairy Board (2009), the informal market controls 70% of the total milk marketed in Kenya. Karanja (2003) further asserts that the main challenge now facing the Kenyan dairy industry is the informal sector that deals in raw milk trade accounting for over 75% of the total marketed milk. Increased trader participation after liberalization was expected to usher in competition in the market, which in turn could improve marketing efficiency.

5. 3. 3 Management of the Cooperative Societies

There was a contradiction in the responses of the dairy farmers and government officers and cooperative managers where dairy farmers said the cooperatives were not performing as expected and the later said the vice versa. This could be due to the fact that cooperative managers were part of management. However, both dairy farmers and government officers and cooperative managers felt the managers put in the offices were qualified to run the cooperatives. Meetings were called by the cooperative societies to discuss varying issues and it was noted they were adequate. However, both sides felt it would be appropriate if the meetings would be held quarterly every year. This objective was not clearly able to bring out any failures in the management that could be directly linked with the success or failure in the performance of cooperative societies. According to Kumar and Kumar, (2006), future of

dairying will rely on continued adaptation of management techniques to suit markets, environment, and socio-economic conditions. Management is better left to professional managers who are employees of dairy cooperatives societies and hence accountable to their member milk producers.

5.3.4 Training of the Staff Running the Dairy Cooperative Societies

All the respondents agreed that indeed training was organized for farmers by the cooperative societies and training was found to be relevant and effective. Training was required to both the dairy farmers, government officers and cooperative managers. Indeed training of not only the staff running the dairy cooperative societies but also that of dairy farmers was important as it influenced the performance of cooperative societies. Considerable evidence suggests that investments in training produce beneficial organizational outcomes (Bartel, 1994; Knoke and Kalleberg, 1994; Russell, Terborg, and Powers, 1985). Competitive advantage is possible if a firm ensures that its people add value to its production processes and that its pool of human capital is a unique resource. This is demonstrated by Githunguri dairy cooperative society where liberalization afforded the management committee freedom and power to hire professional staff to steer the day to day management activates, (Wanyama, 2008).

5.3.5 Types of Services Provided By the Cooperative Societies

Finally, it was noted that both credit facilities and Artificial Insemination services were not offered to all and those that were offered were inadequate and to limited number of individual and just a few of them indicated they were satisfied with the services. Extension services were offered to a very small group of dairy farmers and again the services did not seem to be satisfactory at all. Services offered by the cooperative societies were noted to have a significant effect on their performance. In a survey done in Kiambu County, Wambugu (2000) exposed the deficiencies of the currents extension services in providing the necessary information to dairy farmers and suggested a participatory and interactive learning approaches. Further, Schreiber (2000) argued that lack of information is a major constraint to improved milk production in Kenya. According to Belavadi and Niyogi small holder farmers have taken a bold step in tropical countries towards creating their own infrastructure of milk marketing and provision of production support services. Omore, (1999), in his survey on dairy cooperative and policy reforms, acknowledged a dramatic increase of provision of these services by the dairy cooperative societies.

5.4 Conclusion

In conclusion, the two critical elements that were noted to have the most impact on the performance of cooperative societies were stakeholders in the milk marketing and the services provided by the cooperative societies as they seemed to perform poorly and this brought down the performance of cooperative societies while as management of cooperative societies and training of staff and dairy farmers was emphasized and they were noted to boost the performance of cooperative societies.

5.5 Recommendations

Based on the above findings the study recommends that:

1. As players in the milk market, dairy cooperative societies need to conduct aggressive marketing to attract more members by offering lucrative prices per liter of milk bought and this will result to increased volume of milk collected. They should also embark on value addition to the milk products so that they are competitive in the market. The cooperatives should also conduct training and meetings regularly where they invite researchers, veterinaries and other key speakers who will offer advice to farmers on how to improve dairy milk production and properly manage their dairy herds.
2. The researcher also recommends that cooperative societies should go out of their way to provide services such as artificial insemination services of the best dairy breeds and extension services if not for free and a reasonably low price that is affordable to dairy farmers. Most farmers were noted to have limited access to credit facilities which encompass loans and advances granted to borrowers to finance and service production activities related to milk production and distribution. The government should stream in money through cooperative societies and banks. This will encourage them to take up loans that will boast their business and be able to purchase better dairy farm machinery for example storage facilities, electrical milking machines, build modern cattle pen or buy better breeds of dairy cattle.
3. As for the management of cooperative societies, cooperative managers should embrace continued adaptation of management techniques that suit the market so that the cooperative societies become better competitors.

5.6 Contribution to Knowledge

In the objective that sought to find out the extent to which stakeholders in milk marketing influence performance of the dairy cooperative societies, the results confirmed that the milk brokers are the biggest competitors followed by milk vendors and these contribute significantly to the performance of dairy cooperative societies. The results also showed that most farmers prefer the cooperative societies probably due the sustainability nature of the cooperatives. In the objective that assessed the extent does management of the cooperative societies influence performance of dairy cooperative societies dairy farmers indicated that cooperative societies are not performing as expected. In the objective that sought to investigate how training influence the performance of cooperative societies, the results showed that relevant and effective trainings are organised by the cooperative societies. In the last objective that sought to assess at types of service provided by cooperative societies influence performance of cooperative societies, the results showed that inadequate credit facilities and A. I. services were provided while extension services are not provided. If these issues are addressed the performance of the cooperative societies would improve tremendously, the government could use the results of this study to benchmark other cooperative societies as it looks at their performance and consequently formulate favorable policies and develop support strategies for implementation of the various reforms regarding dairy cooperative societies.

5.7 Areas of Further Research

Further research should be conducted in the area of management to establish the likely issues in management that affect performance of cooperative societies.

The researcher also recommends more research should be done to evaluate the distribution channels used by dairy farmers and check if they could have an influence also on the performance of dairy cooperative societies.

REFERENCES

Banishree, D, (2006)**.** *XIV International Economic History Congress.* Session 72i, Utkal University, Bhubaneswar, India

Baird, L., and Meshoulam, I. (1988). *Managing two fits of strategic human resource management.* Academy of Management Review, 13: 116–128.

Barney, J. (1991). *Firm resources and sustained competitive advantage***.** Journal of Management, 17: 99–120.

Bartel, A. P. (1994). *Productivity gains from the implementation of employee training programs*. Industrial Relations, 33: 411–425.

Barton, D. and Reynolds, L. (1996). *The Generation, Assembly and Delivery of Information on Livestock Production: Kenya Case Study*. Report for ODA and World Bank.

Becker, B. E., and Huselid, M. A. (1992). *Direct estimates of SD and the implications for utility analysis.* Journal of Applied Psychology, 77:22 7–233.

Belavadi, N. V. and Niyogi M K, (1999) *Smallholder dairy cooperative. In Smallholder Dairying in the Tropics*. International Livestock Research Institute, Nairobi

Berg, B.L. (2001). *Qualitative research methodologies for social science*. A Lynn and Bacan, Boston

Coldevin, G (2000) *Participatory communication and adult learning for rural development*. FAO, Rome

Cooper, D.R. and Schindler P.S., (2003). *Business Research Methods*. Mc-Graw Hill, Network

Cropp, B, and Graf T., (2001). *The History and Role of Dairy Cooperatives.* Iowa State University Press, Iowa,

Conelly, W.T. (1998). *Colonial era livestock development policy: introduction of improved dairy cattle in high-potential farming areas of Kenya*. World Development, *26: 1733-1748.*

De Jong, R. (1996). *Dairy stock development and milk production with smallholders.* Doctoral thesis, Wageningen Agricultural University, the Netherlands.

De Leeuw, P.N. and Thorpe, W. (1996*). Low input cattle production systems in tropical Africa: An analysis of actual and potential cow-calf productivity. In: All African Conference on Annual Agriculture. Conference Handbook and Volume of Abstracts, South African Society of Animal Science*. Pretoria, South Africa.

Delgado, C. Rosegrant M, Steinfeld H, Ehui S, Courbois C. (1999). *Livestock to 2020: the next food revolution.* Food, Agriculture, and the Environment Discussion Paper 28.: IFPRI/FAO/ ILRI, Washington DC

Dunnette and Hough L (1990) (Eds.), *Handbook of industrial and organizational psychology*, vol. 3: 481–569. Consulting Psychologists Press, Palo Alto, CA

Elifson,K.W., Runyon, R.P. and Habor,A. (1990).Fundamentals of Statistics. New York: Mc Graw-Hill.

Eponou, T. (1996), '*Partners in technology generation and transfer: Linkages between research and farmers organizations in three selected African countries, 'ISNAR Research Report No.* 9, The Hague, Netherlands.

FAO, Rome, (1999). *Capital formation in Kenyan farmer owned cooperatives*. FAO, Rome

Farrington, J. (1994) '*Public sector agricultural extension: Is there life after structural adjustment*?'*Natural Resource Perspectives* No. 2. Overseas Development Institute, London.

Farrington, J., Christopolos, I., Kidd, A. and Beckman, M. (2002) '*Can extension contribute to rural poverty reduction? Synthesis of a six country study*'.*Agricultural Research and Extension Network Paper*No. 123. London, Overseas Development Institute.

Fisher R.A., (1970), *Methods for research workers Vol.*14 Edinburg. Oliver Boyd. (1999)

Franzel, S., Cooper, P. and Denning, G. L. (2001), '*Scaling up the benefits of agroforestry research: Lessons learned and research challenges,'Development in Practice*, vol.11, no. 4, 524-534.

Gautam, M. (2000), Agricultural *extension: The Kenya experience. An impact evaluation*, The World Bank, Washington, DC.

Gerhart, B., and Milkovich, G. T. 1992. *Employee compensation: Research and practice*, Cornell University.

Huselid, M. A. (1995). *The impact of human resource management practices on turnover, productivity, and corporate financial performance*. Academy of Management Journal**,** 38: 635–670.

Ichniowski, C. (1986). *The effects of grievance activity on productivity*. Industrial and Labor Relations Review, 40: 75–89.

Ichniowski, C., Shaw, K., and Prennushi, G. (1994). *The effects of human resource management practices on productivity.* Working paper, Columbia University, New York.

Karanja, A.M., *(2003). The Dairy Industry In Kenya: The Post-Liberalisation Agenda.* Paper presented at a dairy industry stakeholders workshop in Nairobi, (27th August 2002)

Kenya National Bureau of Statistics (2009) *Economic Survey 2009*, Government Printer, Nairobi

Kenya National Dairy Master Plan Volume I, (2012), *Situational Analysis of the Dairy Sub-sector,* Government Printers, Nairobi

Kerlinger, F., (1973), *Foundation of Behavioral Research*, Hort, Rinehart and Winston, New York

Knoke, D., and Kalleberg, A. L. (1994). *Job training in U.S. organizations.* American Sociological Review, 59: 537–546.

Kombo D., (2006), *Proposal and Thesis Writing*. Pauline's Publications, Nairobi

Kothari, C.R. (2004) *Research Methodology: Methods and Techniques* 2nd Ed, New Age International, New Delhi

Kumar N.P and Kumar D. (2006). *Problems and Prospects of the Cooperative Movement in India under Globalisation Regime.* Utkal University, Bhubaneswar, India.

Levine, D. I. (1995). *Reinventing the workplace: How business and employees can both win***.** Brookings Institution, Washington, DC

MacDuffie, J. P. (1995). *Human resource bundles and manufacturing performance: Flexible production systems in the world auto industry*. Industrial and Labor Relations Review, 48: 197–221.

Meru Central District Development Plan (2002), *Effective management for sustainable economic growth and poverty reduction,* 2002-2008. Republic of Kenya Ministry of Finance and Planning, Nairobi

Milgrom, P., and Roberts, J. (1995). *Complementarities and fit: Strategy, structure, and organizational change in manufacturing*. Journal of Accounting and Economics**,** 19: 179–208.

Misiko, M. (2000), *The potential of community institutions in dissemination and adoption of agricultural technologies in Emuhaya, Western Kenya,* Thesis draft, University of Nairobi, Nairobi

Ministry of Cooperative Development and Marketing (2008). *Cooperative Development Policy, (2008)*. Government Printers, Nairobi

Minjauw, B. and de Castro, J.J. (1999). *Host Resistance to Ticks and Tick-borne Diseases: Its Role in Integrated Control. Chapter 7 in: Breeding for Disease Resistance in Farm Animals*. CABI, Oxford, UK ISBN: 0 85199 325 7.

More and Staal (1998). *Development of smallholder dairying in Eastern Africa with particular reference to Kenya*. International Livestock Research Institute, Nairobi

Morton, J., Coulter, J., Miheso, V., Staal, S., Kenyanjui, M. and Tallontire, A. (1999). *Provision of agricultural services through Co-operatives and Self-help Groups in the dairy sector of Kenya. NRI Report OVI 3.1,* Natural Resources Institute, Chatham, UK

Mugenda, O.M., and Mugenda, A.G., (1999). *Research Methods Quantitative and Qualitative approaches.* Acts Press, Nairobi

Nachmias, C.F,and Nachmias D.*(2005).Research Methods In The Social Sciences 5th edition.* St Martins Press Inc, London NW1 3BH

Noordin, Q., Niang, A., Jama, B. and Nyasimi, M. (2001), '*Scaling up adoption and impact of agroforestry technologies: Experiences from western Kenya*. Development in Practice, vol. 11, no. 4..

Omiti, J. and Staal, S. (eds.). (1996). "*The Ugandan Dairy Sub-Sector: A Rapid Appraisal*." *ILRI/NARO/MAAIF Research Report (International Livestock Research Institute, the National Agricultural Research Organization* (Uganda*).* The Ministry of Agriculture, Animal Industry and Fisheries in Uganda, Nairobi

Omore, A. and Staal, S. (eds.) (1998). The Tanzania Dairy Sub-Sector: *A Rapid Appraisal. Vol. 3* – Main Report. ILRI (International Livestock Research Institute), Nairobi

Omore, A., Muriuki, H., Kenyanjui, M., Owango, M and Staal, S. (1999). *The Kenya Dairy SubSector: A Rapid Appraisal.* Smallholder Dairy (Research and Development) Project Report.

Osterman, P. (1987). *Choice of employment systems in internal labor markets*. Industrial Relations, 26: 46–57.

Owango, M.O., Staal, J.S., Kenyanjui, M., Lukuyu, B., Njubi, D. and Thorpe, W. (1998). Dairy *cooperatives and policy reform in Kenya: effects of livestock service and milk market liberalisation*. Food Policy. 23: *173-185.*

Rajendran, K. and Mohanty S. (2004). *Dairy Co-operatives and Milk Marketing in India: Constraints and Opportunities.* Journal of Food Distribution Research 35(2) July *2004*

Republic of Kenya. (2001), *Poverty Reduction Strategy Paper for the Period 2001-2004. Volume 1,* Ministry of Finance and Planning, Nairobi

Republic of Kenya (2008a) *Economic Survey 2008,* Nairobi, Central Bureau Statistics, Ministry of Planning and National Development, Nairobi

Roling, N. (1995) '*What to think of extension? A comparison of three models of extension practice*'. *AERDD Bulletin.* University of Reading, UK

Russell, J. S., Terborg, J. R., and Powers, M. L. (1985). *Organizational performance and organizational level training and support.* Personnel Psychology**,** 38:849-863.

Schmidt, F. L., Hunter, J. E., McKenzie, R. C., and Muldrow, T. W. (1979*). Impact of valid selection procedures on work-force productivity*. Journal of Applied Psychology, 64: 609-626.

Schreiber, C. (2002). *Sources of Innovation in Dairy Production in Kenya,* ISNAR Briefing Paper.

Staal S.J., Owango M., Muriuki, H., Lukuyu, B. Musembi, F., Bwana, O., Muriuki, K., Gichungu, G., Omore, A., Kenyanjui, M., Njubi, D., Baltenweck, I. and Thorpe, W. 1999. *Dairy systems characterisation of the Nairobi milk shed: Application of spatial and household analysis.* KARI/MoA/ILRI Draft Collaborative Research Project Report

Staal, S., Chege, L., Kenyanjui, M., Kimari, A., Lukuyu, B., Njubi., Owango, M., Tanner, J., Thorpe, W. and Wambugu, M. (1997a). *Characterization of dairy systems supplying the Nairobi milk market.* KARI/ILRI/MALDM Collaborative Dairy Research Programme, ILRI.

Tiffen, M., Mortimore, M. and Gichuki, F. (1994). *More people, less erosion; environmental recovery in Kenya.* ACTS Press, Nairobi

Walshe, M. J., Grindle, J., Nell, A. and Bachmann, M. (1991). *Dairy development in sub-Saharan Africa: a study of issues and options.* World Bank Technical Paper Number 135. Africa Technical Department Series.

Wambugu, M. N. (1999). *Extension and its effect on dairy cattle nutrition and productivity in smallholder dairy cattle enterprise in Kiambu District*. MSc Thesis, University of Nairobi

Wanyama, F. O. (2008). *The Qualitative and Quantitative Growth of the Cooperative Movement in Kenya*. International Labour Office, Geneva,

P. Develtere, I. Pollet and F. Wanyama (2008). *Cooperating Out of Poverty: The Renaissance of the African Cooperative Movement*. International Labour Office, Geneva,

Wagner, J. A. (1994). *Participation's effect on performance and satisfaction*: *A reconsideration of research evidence*. Academy of Management Review, 19: 3 12–330.

Wren, Daniel A. (2005). *The History of Management Thought*. John Wiley. ISBN 0-471-66922-9, Oklahoma

Wright, P. M., McMahan, G. C., and McWilliams, A. (1994). *Human resources and sustained competitive advantage: A resource-based perspective*. International Journal of Human Resource Management, 5: 301–326.

Yamane, L. (1967). *Statistics: An Introductory Analysis*, 2nd Ed. Harper and Row, New York

APPENDICES

APPENDIX1: LETTER OF TRANSMITTAL

Ruth W. Mwangi

P.O. Box

298-10105

Narumoru

Date……

To:……

……

Dear respondent,

RE: Data collection

I wish to inform that I am undertaking research for my Masters of Arts Degree in Project Planning and Management in the University of Nairobi. The study deals with the factors influencing performance of dairy cooperative societies in Mathira and Kieni constituencies, Nyeri County.

Your assistance on data collection will be appreciated as the study will benefit dairy farmers and other stake holders. The information will be treated with confidentiality and I therefore request you to answer the questions honestly.

Attached please find the questionnaires which you are required to fill and provide information by answering the questions.

Please treat this as urgent and important.

Kind regards.

Yours faithfully,

Ruth W. Mwangi

Reg. No. L/50/74552/2012

APPENDIX 2: QUESTIONNAIRE FOR DAIRY FARMERS

Instructions

Kindly tick (√) inside the relevant box to indicate the correct answer where choices are given. Write your answer in the spaces provided where choices are not given.

SECTION A Demographic Data

1. Gender

Male ☐

Female ☐

2. What is your age in years?

18 – 29 ☐

30 - 39 ☐

40 - 49 ☐

50 - 59 ☐

60 and above ☐

3. Indicate the highest educational level attained

Adult Education ☐

Primary ☐

Secondary ☐

Certificate ☐

Diploma ☐

Degree and above ☐

Section B Performance of Cooperatives

4. In your opinion, does your cooperative society receive enough milk?

Yes	☐
No	☐
I don't know	☐

5. Does your cooperative society have enough members?

Yes	☐
No	☐
I don't know	☐

6. Does your cooperative society do any value addition to the milk?

Yes	☐
No	☐
I don't know	☐

7. Do you agree that the cooperative society is performing well financially?

Strongly Agree	☐
Agree	☐
Neutral	☐
Disagree	☐
Strongly Disagree	☐

Section C Stakeholders in milk marketing

8. Where do you sell your milk?

Cooperative society	☐
Direct to customers	☐

Milk vendors ☐

Others (please specify)……

9. a) Do the stakeholders above affect performance of Cooperative societies?

Yes ☐

No ☐

b) If yes, do you agree that competition from others influence performance of dairy cooperative societies?

Strongly Agree ☐

Agree ☐

Neutral ☐

Disagree ☐

Strongly Disagree ☐

c) How do they affect the dairy cooperative societies?

Positively ☐

Negatively ☐

10. Give two suggestions on what you think societies should do to overcome competition.

……

……..

Section D Management of Cooperative societies

11. Do you think managers of dairy cooperative societies are performing as expected?

Yes ☐

No ☐

I don't know ☐

12. Do you think the managers are qualified to run cooperative societies?

Yes ☐

No ☐

I don't know ☐

13. A) Does your cooperative society call for meetings?

Yes ☐

No ☐

I don't know ☐

b) What is your opinion on this statement, "the number of meetings called by management are adequate."

Strongly Agree ☐

Agree ☐

Neutral ☐

Disagree ☐

Strongly Disagree ☐

c) How often do you think meetings should be called?

Monthly ☐

After two months ☐

Quarterly ☐

Bi-annually ☐

Ones per year ☐

14. The managers are qualified to lead Cooperative society, do you agree?

Strongly Agree	☐
Agree	☐
Neutral	☐
Disagree	☐
Strongly Disagree	☐

15. What should be done to improve their competence?

Section D Training/Capacity Building

16. Has the dairy Cooperative society organized training for farmers?

Yes	☐
No	☐
I don't know	☐

17. Was the training relevant?

Yes	☐
No	☐
I don't know	☐
	☐

18. How effective was the training?

Yes	☐
No	☐
I don't know	☐
	☐

19. What is your opinion, training influence performance of cooperative society?

Strongly Agree	☐
Agree	☐
Neutral	☐
Disagree	☐

Strongly Disagree ☐

20. Do you require training?

Yes ☐

No ☐

I don't know ☐

Section E Types of services Offered by Cooperative societies

21. Does cooperative society offer you credit services?

Yes ☐

No ☐

I don't know ☐

22. If yes, are the credit services adequate?

Yes ☐

No ☐

I don't know ☐

23. Does cooperative society offer artificial insemination services?

Yes ☐

No ☐

I don't know ☐

24. If yes, are you satisfied?

Yes ☐

No ☐

I don't know ☐

25. Does cooperative society offer extension services?

Yes ☐

No ☐

I don't know ☐

26. If yes, are you satisfied with the services?

Yes ☐

No ☐

I don't know ☐

27. Do you think the above services offered by dairy cooperative societies influence performance of cooperative society?

Strongly Agree ☐

Agree ☐

Neutral ☐

Disagree ☐

Strongly Disagree ☐

28. Give 2 reasons for poor performance of dairy cooperative societies

i)……

ii)……

APPENDIX 3: INTERVIEW GUIDE FOR DAIRY COOPERATIVE MANAGERS

Instructions

Kindly use tick (√) inside the relevant box to indicate the correct answer where choices are given. Write your answer in the spaces provided where choices are not given.

SECTION A Demographic Data

1. Gender

Male	☐
Female	☐

2. What is your age in years?

18 – 29	☐
30 - 39	☐
40 - 49	☐
50 - 59	☐
60 and above	☐

3. Indicate the highest educational level attained

Adult Education	☐
Primary	☐
Secondary	☐
Certificate	☐
Diploma	☐
Degree and above	☐

Section B: Performance of Cooperative societies.

4. In your opinion, does your cooperative society receive enough milk?

   Yes ☐

   No ☐

   I don't know ☐

5. Please explain your answer above……..

   ……

……

6. How many registered members are in your cooperative society?

   Less than 500 ☐

   500 - 800 ☐

   Above 800 ☐

7. Does your cooperative society do any value addition to the milk?

   Yes ☐

   No ☐

8. If yes give the product(s) processed in your answer above……..

   ……

   ……

9. Do you think the cooperative society is performing well financially?

   Strongly Agree ☐

   Agree ☐

   Neutral ☐

   Disagree ☐

   Strongly Disagree ☐

Section C Milk market stakeholders

10. Who are your biggest competitors?

Other Cooperative societies ☐

Direct sales to customers ☐

Milk vendors ☐

Others (please specify)……

11. A) Do you think competition affect performance of Cooperative societies?

Yes ☐

No ☐

b) If yes, explain how other stakeholders in milk marketing influence performance of dairy cooperative societies?

……

……

12. Give two suggestions on what should cooperative societies do to overcome completion.

……

……

Section D Management of Cooperative societies

13. Do you think managers of dairy cooperative societies are performing well?

Yes ☐

No ☐

I don't know ☐

14. Do you think the managers are qualified to run cooperative societies?

Yes ☐

No ☐

I don't know ☐

15. A) Does your cooperative society call for meetings?

Yes ☐

No ☐

I don't know ☐

b) What is your opinion on this statement, "the number of meetings called by management are adequate."

Strongly Agree ☐

Agree ☐

Neutral ☐

Disagree ☐

Strongly Disagree ☐

c) How often do you think meetings should be called?

Monthly ☐

After two months ☐

Quarterly ☐

Bi-annually ☐

Ones per year ☐

16. The managers are qualified to lead Cooperative society, do you agree?

Strongly Agree ☐

Agree ☐

Neutral ☐

Disagree ☐

Strongly Disagree ☐

17. What should be done to improve their competence?

……

……

Section D Training/Capacity Building

18. Has the dairy Cooperative society organized training for farmers?

Yes ☐

No ☐

I don't know ☐

19. Was the training relevant?

Yes ☐

No ☐

I don't know ☐

20. How effective was the training?

Yes ☐

No ☐

I don't know ☐

21. What is your opinion in this statement, 'training influence performance of cooperative society'.

Strongly Agree ☐

Agree ☐

Neutral ☐

Disagree ☐

Strongly Disagree ☐

22. Do you require training?

Yes ☐

No ☐

I don't know ☐

Section E Types of Services Offered By Cooperative societies

23. Do cooperative societies offer credit services?

Yes ☐

No ☐

I don't know ☐

24. If yes, are the credit services adequate?

Yes ☐

No ☐

I don't know ☐

25. Does cooperative society offer artificial insemination services?

Yes ☐

No ☐

I don't know ☐

26. If yes, are you satisfied?

Yes ☐

No ☐

I don't know ☐

27. Does cooperative society offer extension services?

Yes ☐

No ☐

I don't know ☐

28. If yes, are you satisfied with the services?

Yes ☐

No ☐

I know ☐

29. Do you think the above services offered by dairy cooperative societies influence performance of cooperatives?

Strongly Agree ☐

Agree ☐

Neutral ☐

Disagree ☐

Strongly Disagree ☐

30. What is the certificate of your highest training level?

Certificate ☐

Diploma ☐

Degree ☐

Masters ☐

Others ☐

If others, explain……

31. Give 2 reasons for poor performance of dairy cooperative societies

i)……

ii)…….

APPENDIX 4: INTERVIEW GUIDE FOR GOVERNMENT OFFICERS

Instructions

Kindly use tick (√) inside the relevant box to indicate the correct answer where choices are given. Write your answer in the spaces provided where choices are not given.

SECTION A Demographic Data

1. Gender

Male	☐
Female	☐

2. What is your age in years?

18 – 29	☐
30 - 39	☐
40 - 49	☐
50 - 59	☐
60 and above	☐

3. Indicate the highest educational level attained

Adult Education	☐
Primary	☐
Secondary	☐
Certificate	☐
Diploma	☐
Degree and above	☐

Section B Performance of Cooperative societies

4. In your opinion, do dairy cooperative societies receive enough milk?

Yes	☐
No	☐
I don't know	☐

5. Please explain your answer above……..

……

……

6. How many registered members are in most cooperative societies?

Less than 500	☐
500 - 800	☐
Above 800	☐

7. Do cooperative societies do any value addition to the milk?

Yes	☐
No	☐

8. If yes, explain your answer above and indicating the amount and the product produced……..

……

……

9. Cooperative societies are performing well financially. Do you agree with this statement?

Strongly Agree	☐
Agree	☐
Neutral	☐
Disagree	☐
Strongly Disagree	☐

Section C Milk market stakeholders

10. Who are the main milk marketing stakeholders in order of priority?

Cooperative societies ☐

Direct sales to customers ☐

Milk vendors ☐

Others (please specify)……

11. A) Do you think competition affect performance of Cooperative societies?

Yes ☐

No ☐

b) If yes, explain how competition from other stakeholders influences performance of dairy cooperative societies.

……

……

12. Give two suggestions on what cooperative societies should do to overcome completion.

……

……

Section D Management of Cooperative societies

13. Do you think dairy cooperative societies are performing well?

Yes ☐

No ☐

I don't know ☐

Explain the above answer……

……

14. Do you think the managers are qualified to run cooperative societies?

Yes	☐
No	☐
I don't know	☐

Explain the above answer……

……

15. a) Do cooperative societies call for meetings?

Yes	☐
No	☐
I don't know	☐

b) What is your opinion on this statement, "the number of meetings called by management are adequate."

Strongly Agree	☐
Agree	☐
Neutral	☐
Disagree	☐
Strongly Disagree	☐

c) How often do you think meetings should be called?

Monthly	☐
After two months	☐
Quarterly	☐
Twice per year	☐
Once per year	☐

16. The managers are qualified to lead Cooperative society, do you agree?

Strongly Agree ☐

Agree ☐

Neutral ☐

Disagree ☐

Strongly Disagree ☐

17. What should be done to improve their competence?

Section D Training/Capacity Building

18. Were you involved in trainings organized by cooperative societies?

Yes ☐

No ☐

I don't know ☐

Explain……
……..

19. Was the training relevant?

Yes ☐

No ☐

I don't know ☐

20. Was the training effective?

Yes ☐

No ☐

I don't know ☐

21. What is your opinion, training influence performance of cooperative society.

Strongly Agree ☐

Agree ☐

Neutral ☐

Disagree ☐

Strongly Disagree ☐

22. Do cooperative managers require trainings?

Yes ☐

No ☐

I don't know ☐

Section E Types of Services Offered By Cooperative societies

23. Do cooperative societies offer credit services to the members?

Yes ☐

No ☐

I don't know ☐

24. If yes, are the credit services adequate?

Yes ☐

No ☐

I don't know ☐

25. Do cooperative societies offer artificial insemination services?

Yes ☐

No ☐

I don't know ☐

26. If yes, are the farmers satisfied?

Yes ☐

No ☐

I don't know ☐

27. Do cooperative societies offer extension services?

Yes ☐

No ☐

I don't know ☐

28. If yes, are the farmers satisfied with the services?

Yes ☐

No ☐

I don't know ☐

29. Do you think the above services offered by dairy cooperative societies influence performance of cooperatives?

Strongly Agree ☐

Agree ☐

Neutral ☐

Disagree ☐

Strongly Disagree ☐

60. Give 2 reasons for poor performance of dairy cooperative societies

i)……

ii)……..