

**THE ROLE OF SOCIAL CAPITAL ON THE OPERATIONAL PERFORMANCE OF
SMALLHOLDER DAIRY PRODUCER GROUPS IN KAJIADO AND GITHUNGURI
COOPERATIVE SOCIETY**

NKOIDILA NAYIANOI ANNE

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENT FOR THE AWARD OF THE MASTER OF BUSINESS
ADMINISTRATION DEGREE, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI**

NOVEMBER, 2015

DECLARATION

I declare that this is my original work and has not been presented for a degree in any other university.

Signature Date

NKOIDILA NAYIANOI ANNE

D61/60532/2013

This project has been submitted for presentation with my approval as the University Supervisor:

Signature Date

PROF. ISAAC MBECHÉ

Professor of Operations Management

Department of Management Science

ACKNOWLEDGEMENT

I wish to thank most sincerely all those whose contributions have made this project a success. To my supervisor Prof. Isaack Mbeche for his assistance and advice all through making this project a success. To my wonderful family, for both their moral and financial support. Most of all I thank God for the gift of wisdom and strength to complete this project.

I feel indebted to the management of Githunguri Cooperative Society, Ngatataek, Ibisil, Kumpa Miali Tisa and Kajiado town dairy groups for making this project a success more so to my colleagues Bore Kipkorir, Jane Wairimu and Paul Ouma who were of great encouragement and motivation in my studies. .

To my workmate Faith, thanks for holding forth for me the many times I was away pursuing this noble course. To all of you may the Almighty God bless you abundantly.

DEDICATION

I dedicate this project to my family for unfailing encouragement and love.

TABLE OF CONTENTS

DECLARATION.....	ii
ACKNOWLEDGEMENT.....	iii
DEDICATION.....	iv
LIST OF TABLES.....	ix
LIST OF FIGURES.....	x
ABBREVIATIONS AND ACRONYMS.....	xi
ABSTRACT.....	xii
CHAPTER ONE.....	1
INTRODUCTION.....	1
1.1 Background of the Study.....	1
1.1.1 Introduction of Social Capital Concept.....	1
1.1.2 Operational Performance.....	2
1.1.3 Concept of Social Capital and Operational Performance.....	4
1.1.4 Context of Study.....	5
1.2 Research Problem.....	6
1.3 Research Objectives.....	8
1.4 Value of the Study.....	9
CHAPTER TWO.....	10
LITERATURE REVIEW.....	10
2.1 Introduction.....	10

2.2 Theoretical Underpinnings of the Study	10
2.2.1 Social Capital	11
2.2.2 Dimensions of Social Capital.....	13
2.3 Smallholder Producer Organizations	14
2.4 Social Capital and the Performance of Rural Producer Organizations	16
2.5 Conceptual Framework	18
CHAPTER THREE	21
RESEARCH METHODOLOGY	21
3.1 Introduction	21
3.2 Research Design	21
3.3 Population and Sampling	21
3.4 Sampling Design	21
3.4 Data Collection.....	22
3.5 Data Analysis	22
CHAPTER FOUR.....	24
DATA ANALYSIS, RESULTS AND DISCUSSION.....	24
4.1 Introduction	24
4.2 Demographic profile	24
4.2.1 Ages of the respondents	24
4.2.2 Level of Education.....	25
4.2.3 Formal employment set-up outside the districts	26

4.2.4 Operational period of the Small holder Dairy producer	27
4.2.5 Length of Continuous dealing with the Producer Dairy Firm	27
4.2.6 Size of Land	28
4.2.7 Income usage of the land per annum	29
4.3 Features of Social Capital	29
4.3.1 Membership Diversity Characteristics.....	30
4.3.2 Level of democracy in the meetings of the Producer groups.....	32
4.3.3 Cognitive Social Capital	34
4.4 Effect of Social Capital on the Performance of Dairy Producer Organizations.....	35
4.5 Regression Equation.....	36
4.5.1 Model Summary.....	37
4.5.2 Analysis of variance.....	38
4.5.3 Coefficients	38
CHAPTER FIVE	40
SUMMARY, CONCLUSION AND RECOMMENDATIONS	40
5.1 Introduction	40
5.2 Summary	40
5.3 Conclusion.....	41
5.4 Recommendation for Policy Implication	42
5.5 Limitation of the Study	42
5.6 Recommendation for Future Studies.....	43

REFERENCES..... 44

APPENDICES..... 47

Appendix I : Questionnaire For Study 47

Appendix II: List of Smallholder Producer Groups in Kajiado District 52

LIST OF TABLES

Table 4.1: Level of Education.....	26
Table 4.2: Formal employment status.....	26
Table 4.3 : Duration of the Institution	27
Table 4.4: Length of Continuous Service	28
Table 4.5: Size of land	28
Table 4.6: Income level from dairy farming.....	29
Table 4.7 : Membership diversity characteristics	31
Table 4.8: Level of democracy in the meetings of the Producer groups	33
Table 4.9: Cognitive Social Capital.....	34
Table 4.10: Effect of social capital on the performance of Dairy Producer Organizations.....	36
Table 4.11: Model Summary	37
Table 4.12: Analysis of Variance.....	38
Table 4.13: Table of Coefficients	38

LIST OF FIGURES

Figure 2. 1: Conceptual framework	19
Figure 4.1 : Ages of the respondents	25

ABBREVIATIONS AND ACRONYMS

- GDP - Gross Domestic Product
- NIE - Institutional Economics theory
- PWC - Price Water House Coopers

ABSTRACT

Improvement of the operational performance of smallholder dairy farmers remains one of the major challenges in Africa. With high perishability of the dairy products, there is need to improve the commercialization of these products through adoptions of mechanism that will hasten the marketability of the products and at the same time improve their operational performance. Operational aspects such as improved level of efficiency, capacity management and effective commercialization process can be enhanced better through the members coming together and pooling together their internal resources. Past efforts to improve smallholder farmers' access to markets through market reforms have largely been ineffective. Consequently, the study sought to determine the effect of social capital on the operational performance of smallholder producer dairy farmers in Kajiado and Githunguri. A descriptive research design was adopted whereby all the 6 registered producer organizations were sampled. The primary data was collected using the questionnaire as the primary research instrument. The study found that for effective realization of the social capital among the members, there is need to have a common social and cultural thread that binds the members together that includes, social and cultural commonality as well as family ties. The trust given to members of the same church and leadership was also evident and this was found to improve the level of togetherness among the group members. The study finds that social capital positively affects the operational performance of smallholder dairy producer organizations. With the producer organizations having the capacity to reduce the level of poverty, governments, non-governmental organizations and other development partners should take a pro-active role in organizing and facilitating the formation of smallholder rural producer organizations and linking them to markets. The study recommends that longitudinal data be used to add greater confidence to the results and allow for stronger causal inferences regarding the nature of the relationships between the social capital dimensions and the operational performance of the smallholder producer organizations in the rural areas.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

It concerns the conversion of inputs into output so as to provide desired utilities i.e. form, place and possession to the customer while meeting other objectives of effectiveness, adaptability and efficiency. Current policies as well as the need for development have forced the Small holder dairy groups in the rural areas undertake different operations management activities in a more structured manner for example, milking, feeding, records management structures and equipment management and sales management. Therefore there is an upsurge in organized dairy groups not just in the highland areas that are mostly dominated by dairy cooperatives but also in the arid and semi-arid areas, where dairy farming is slowly being embraced.

However this group's aim is to achieve efficiency and effectiveness, through utilization of the resources they have to achieve greater benefit. The question of how best can this be achieved comes into play. The different resources need to be well utilized, and the major resource that our study seeks to look deeper into is social capital, basically the value that is accrued based on the networks available within this smallholder groups.

Operation's management is key in dairy farming therefore there is need for scholars to further access how we can utilize other forms of capital such as social capital to improve it. We therefore seek to find out whether the social networks can boost the operational performance of these groups and in turn reducing poverty in society and further propagating economic development in society as a whole.

1.1.1 Introduction of Social Capital Concept

According to Bourdieu (1986) social capital is defined as 'the aggregate of the actual potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition'. It is related to the size of network and the

volume of past-accumulated social capital. He sees clear profit as being the main reason that actors engage in and maintain links in a network. However profit means the benefit accrued and does not necessarily mean economic value. These actors who form the network operate in a social space, which is mostly defined by their different characteristics and positions.

Actors are mostly unequal and thus the interdependency creates the synergy. Meaning that the actors inequality is rooted in the differential in the distribution of economic, social, and cultural capital. These predispositions act to legitimate the structure of differential awards and provide the means to perceive the structure. According to Bourdieu (1986), all forms of capital, by being organically-related to positions in social space, act in two ways simultaneously: they reproduce all forms of capital and they use these resources to embed the actor's position further. So, positions of actors are both the cause and the effect of all forms of past accumulations of capital, particularly social capital.

In today's business world, the greatest firm value is based on intangible assets. The capability to identify and estimate the source of this value is critical. A social network is formed by social relationships and link between individuals in a firm and society. They will benefit from bilateral relations through exchange of information and cooperation in solving problems

Social resources capital is energy or power that forms the structure of economic factors and focuses on a specific goal in a social context. From an organizational perspective, social capital is the sum of actual and potential benefits contained within, available through, and derived from the network of relationships of an individual or a social unit. This means that social capital is one of the major organizational capabilities and assets that can greatly help to create and share knowledge and to provide them with "sustainable organizational advantage" compared to agencies and organizations, this value could be created through improving the organization efficiency and effectiveness.

1.1.2 Operational Performance

Operational performance is described as the extent to which the organization is able to meet the needs of its stakeholders and its own needs for survival (Griffin, 2003). According to Swanson

(2000), operational performance is the valued productive output of a system in the form of goods or services. The measures of operational performance differ from company to company and from industry to industry. In the current research, the measures of performance include quality of the products, cost efficiency, delivery time, flexibility, reliability and the speed of service delivery. Private sector organizations strive for good financial results whereas public organizations are aimed at non-financial results like delivering good public services to citizens.

Magutu (2013) opine that operational performance refers to the measurable aspects of the outcomes of an organization's processes, such as reliability, production cycle time, and inventory turns and it will affect a firm's performance measures such as market share and customer satisfaction. The measurement of operational performance entails gauging the quality of service. On their part Magutu, Mbeche and Nyamwange (2010) are of the opinion that many management teams invest a lot of time and effort into analyzing their environment capabilities and services to develop their strategy but fail to scan the changing trends in their operations. They attribute this to a lack of a regular strategic review process so that the organization is not only unaware of "how it is doing" in implementing its Operations strategy.

To achieve operational performance through its members, smallholder dairy farmers must consider them as assets and they must be treated with great attention so that the members become productive (Johannessen, and Olsen, 2010). In order to improve the performance of the entire dairy products value chain, it is necessary to cross the boundaries of individual firms and consolidate the entire chain, in order to come up with a cohesive and integrated system to increase the dairy products market. The dairy companies that can supply their products to customers faster and more efficiently will probably be in better conditions to create a sustainable competitive advantage gained from knowledge and innovation in order to create new products as the main source of economic income.

The knowledge-based view of the firm differs from the Resource-Based View in that the latter views knowledge as a generic resource, rather than having special characteristics (Barney 1986). This limits the resource-based view, since the theory cannot distinguish between different types of knowledge capabilities in an organization. In contrast, the knowledge-based view suggests

that knowledge can have different characteristics, such as a degree of expertise or innovativeness. Research shows that collecting and sharing either expert or innovative knowledge among group members can produce long-term competitive advantage for a group (Lee and Choi, 2003). Also, building upon the knowledge-based view, Gold *et al.* (2001) proposes that the formal structure, culture, and technologies of an organization influences operational performance of a group with common objectives.

1.1.3 Concept of Social Capital and Operational Performance

The term social capital has received different definitions, as there are authors in the field of social science. A recently introduced framework of social capital is that of Carpiano (2008) who defined social capital as the amount and type of resources that reside in social networks. Thus the framework focuses on neighborhood social capital and applies the social capital theory of Bourdieu (1986). This view acknowledges the importance of neighborhood social processes such as trust and reciprocity required to enable the exchange of social capital to enhance operational performance of village level groups. On their part, Kawachi, Subramanian, and Kim, (2008) define social capital as access to material and personal resources through social networks and institutions that may be employed to achieve desired outcomes. In summary therefore, social capital was introduced to suggest that greater community involvement could improve educational outcomes and has often been viewed as having a potentially positive influence on the economic well-being of a society.

The presence of social capital in a community reinforces the position of people to be in a social order that is synergized and integrated by all elements of society and thus considers social capital as a basic potential, which could be used to realize other capitals in the facet of entrepreneurship (Moore, Daniel, Gauvin & Dubé, 2009). In addition, they noted that social capital owned by a community can become a basis in solving social problems that face the community. In Kajiado county, social capital can be employed to find solutions to problems that face dairy farmers during production such as disease control and use of appropriate breeds that are resistant to various forms of diseases as well as sourcing markets directly for their produce and managing the influence of middlemen who have in most of the cases been found to exploit farmers. The

strength of relationships and connections held by social capital can optimize another capital, such as human capital, natural capital, financial capital, and physical capital (Sørensen, 2012). The farmers can use their social capital capacities in order to manage by building institutional synergies at the corporate level with the farmer in the form of organized farmer groups coordinated through the inter-group coordination. Institutional cooperation that exists at the structural level is a company that protects the interests of farmers such as land mapping, cleaning, preparing seeds, planting, harvesting, transporting, and purchasing commodities.

Githunguri dairy was formed in 1961 by 31 dairy farmers keen to improve their dairying and marketing possibilities. Today, the cooperative has about 17,000 members, and its collection centres have expanded from one when it was started to the present 68. Commissioning its own milk processing facility in 2004 led to an increase in profitability and size, and two years later Githunguri was awarded the ‘most improved company’ at the national Company Of the Year Awards. The society plays a key role in the marketing of its members’ milk which is processed and packed as fresh milk, yoghurt, maziwa lala (fermented milk) butter, ghee and cream under the flagship of “Fresha” brand. The growth of the farmer’s society to what it is now can be attributed to the recognition of the importance of different attributes that the cooperative society members and management team have.

1.1.4 Context of Study

The Kenyan economy has, up to date, depended on the dairy sector as both a source of foreign earnings as well as a means of employment. The dairy sector in Kenya contributes about 8 per cent of the Gross Domestic Product (GDP) while providing for most of the country's food requirements (PWC, 2013). In addition, the sector is estimated to play an important role through linkages with other sectors such as manufacturing, distribution and related industries. In cognizance of the important role that the sector plays in the Kenyan economy, the government in the development of its Vision 2030 blueprint- which aims to maintain the economic growth of at least 10% p.a from 2012 and beyond – has pinpointed the dairy sector as one of the important sectors to be focused on under the economic pillar and identifies the need for reforms to be undertaken in the sector to capture its full potential (GoK, 2012). The Vision 2030 blueprint

points to the need for the sector to undergo consolidated agricultural reforms which will among others involve the establishment of producer business groups (PBGs) that will eventually turn into large wholesale hubs especially in the rural areas.

According to Odendo *et al.*, (2006), citing findings from previous research in Africa, the problems specific to rural advancement, where majority of the dairy activity occurs, are not necessarily bound to incentives but the real world constraints created by the social, political, physical environment and the lack of synergy in the production process value chain of the rural farmers. In addition, capacity building of the relevant trade support institutions is required along the value chain of various commodities, from production to export. As one of the ways to address the rural farming capacity challenges, management scholars have started paying attention to the role that social capital can play in enhancing the ability of the rural farmers and by extension their associations in the furtherance of their objectives (Coleman, 2005). Putnam (2008) pointed out that social networks based on trust, reciprocity and cooperation are key factors in reducing poverty and in increasing the wellbeing and social improvements of the population.

1.2 Research Problem

The development of poor communities and more so rural populace that are agriculturally based, depend on how development programs initiated in these regions promote empowerment of the locals and improving the efficiency and effectiveness of their operation. Empowerment of these groups can be achieved if the strategies developed allow actors at the local level to assume an active and critical position in their own development (Strawn, 2003). Rural farmers, for example, engaged in the dairy farming need to develop some level of dependence with other actors across the value chain since their level of competence is unique to a particular activity in the production process and they will require services and support of other actors to realize their potential. This dependence by farmers will lead to growth in synergy along the value chain and also increased net income to the farmers due to elimination of unnecessary middlemen in the production process, to which more often than not, take a huge proportion of the profits (Wanguru, 2012). Consequently, as Marmot (2005) opined, it has become necessary for policy makers to move

away from an interpretation of successful agriculture that is based on merely physical output to provide more room for social aspects, based on the belief that social operational determinants have a major impact on smallholder firm performance (Marmot, 2005). Social capital, generally defined as the actual and potential resources embedded in relationships among actors, is increasingly seen as an important predictor of group operational performance.

The operational interactions of farmers in the dairy sector could be considered a key strategy to improve the economic standing of the farmers and more so women, who are recognized as the most vulnerable group of the society. The vast area of Kajiado is characterized with insufficient and mostly unpredictable rainfall patterns and consequently, dairy farming that is mostly dependent on the traditional breeds is a major activity. Since the area is semi-arid, a few crops such as millet, sorghum and maize is grown in this region since they are well adapted to the temperatures and rainfall patterns but the same is majorly produced for subsistence purposes and even for the few instances where commercialization of the produce is done, the same is done in a disjointed manner with individual farmers finding their own markets which in most cases leads to sub-optimal results. Under such circumstances, there is need for these farmers to streamline their operation through the utilization of their social capital that is found amongst them to improve their level of livelihoods. Indeed as Narayan and Pritchett (1999) in their study of the role of social capital in rural development, showed, villages with more operational social capital are more likely to enjoy better public services, use advanced agricultural practices, and join in communal activities, and that these in turn increase individual income.

Several studies have been undertaken on the influence of social capital on the communal activities. Such studies include how social capital describes significant regional differences in social capital (Beugelsdijk & Van Schaik, 2009) and how social capital differ between rural and urban areas Lannoo, *et al.*, (2012) and between neighborhoods within the same city Lindstrom, Merlo & Ostergren (2002). While these studies can be insightful, most of these studies have been undertaken in developed countries and have not attempted to explain the role of social capital in the producer organizations in third world countries. In addition, the studies have concentrated in evaluating the hard systems approach for operation and have tended to research on big manufacturing firms and little research has looked at the service sector and more so in dairy

producer groups. For example, in Kajiado County, the small volumes traded by the farmers coupled with high seasonal variability of demand and supply, limit market gains for most farmers in the rural areas. Further, the marketing chain tends to be long and fragmented with many intermediaries involved which results in small transactions, and ineffective marketing structures. Consequently, such farmers operate under high transaction costs that prevent them from taking advantage of the market opportunities. To overcome the high transaction cost that smallholders in such a rural area face, formation of producer organizations have been advocated which in turn encourage commercialization of sector produce. Within the context of this background, the research question to be answered will: what is the role of social capital on the operations performance of smallholder dairy producer groups in Kajiado and Githunguri cooperative societies?

This study further seeks to shed light on the role that social capital plays in improving the operational performances of the dairy producer groups, by further digging deeper into the variables that is the attributes of the groups' participants, the cognitive and structural dimensions of social capital. The study will seek to answer the following research questions. Can the socio-economic attributes of the participants of the dairy groups in Kajiado and Githunguri cooperative society determine its operational performance?: How does structural social capital influence the operational performance of smallholder dairy groups in Kajiado County and Githunguri dairy?: How does cognitive social capital influence the operational performance of smallholder dairy groups in Kajiado County and Githunguri dairy?

1.3 Research Objectives

To get the answers to the above research questions the study will seek to achieve the following specific objectives

- i. To characterise the socio-economic attributes inherent among the participants and non-participants of business groups in Kajiado County and Githunguri dairy;
- ii. To establish how the structural social capital among members influence the performance of smallholder dairy groups in Kajiado County and Githunguri dairy ;

- iii. To establish how cognitive social capital among the members of a group influence the operational performance of smallholder dairy groups in Kajiado County and Githunguri dairy.

1.4 Value of the Study

This study may be valuable to any person interested in empowerment of the rural populations through the agricultural initiatives. It is hoped that its findings will specifically benefit the following groups:

The policy makers will be able to know whether the adoption of various intervention strategies is effective in empowering farmers in the grassroots level and what role can the dairy sector play in this process. The devolved government units will from the study be able to direct resources to those initiatives that have a greater impact on poverty alleviation programs and since the climatic conditions in the county vary from region to region, there is going to be specific policy decision directed to these regions and this will minimize sub-optimal usage of the funds. This will in turn contribute significantly to enhance the efficiency of the local government in terms of service delivery; the benefits of which are enjoyed by citizens, businesses and the government alike. From the literature gathered the government departments will be enabled to identify the existing and emerging strategies in other developed and developing countries that have yielded positive results at the local level.

The study is expected to contribute to the existing literature in social capital, especially social contract aspect and effective implementation of socio- strategies in the agricultural sub-sector. Since most of the studies are always based on developed countries the findings will greatly add on to the literature for developing countries, and it will enable further and future researches to be identified in this field of social contract.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter summarizes the information from other researchers who have carried out their research in the same field of study. The specific areas covered here are theoretical underpinnings, concept of social capital, social capital dimensions and the effect of social capital on the operational performance of the smallholder dairy groups.

2.2 Theoretical Underpinnings of the Study

The debates on the concept of social capital and its effect of the operational performance of producer groups can be addressed in light of the New Institutional Economics theory. The New Institutional Economics theory (NIE) came into being as a result of the limitations of the assumptions that neo-classical economics was based (Doward *et al.*, 2005). NIE incorporates a theory of institutions. It acknowledges the important role of institutions and organized groups, and posits that one can analyze institutions within the framework of neoclassical economics by relaxing some of the assumptions of neo-classical economics, such as perfect information, zero transaction costs and full rationality, but maintains the assumption of scarcity and competition. Hence in the context of NIE, smallholder producers groups will adopt strategies such as collective action to overcome the constraints of costly exchange and hence maximize profits (Coase, 2008).

This theory considers that the cost of transacting as the key to economic performance and consequently, the institutions of a country, such as its legal, political, and social systems, determine its operational performance and it is this, according to Coase (2008) that gives the new institutional economics its importance for economists. Institutions whether formal or informal that evolve to reduce transaction cost are key to performance of economies. The purpose of the NIE is both to explain the determinants of institutions and their evolution over time, and to

evaluate their impact on economic performance, efficiency, and distribution (Nabli & Nugent, 2009). There is also a sort of two-way causality between institutions and economic growth. On the one hand, organized groups such as the smallholder producer groups have a profound influence on economic growth, and on the other hand, economic growth and development often result in a change in institutions. This can be said of the case of dairy farmers in Kajiado County who over time, they realized that by combining their social capital resources that is imbedded within the members, and then they are able to grow their potential and improve the quality of products that they supply. However, not all institutional changes are beneficial. In fact, by influencing transaction costs and co-ordination possibilities, institutions can have the effect of either facilitating or retarding economic growth. This explains, for example, why different institutions develop in different countries and why paths of economic development differ. NIE is key to this study as it helps analyze type of institutional innovation needed to integrate small scale farmers and the poor in agricultural economy to lower transaction cost and thin markets.

2.2.1 Social Capital

The first contemporary definition of social capital was provided by Bourdieu (1985), that it is the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition. From this definition, the social relationship in a group provides people the right to claim access to the resources of their network and the amount and quality of those resources. Thus it can be pointed out that while the outcomes of social capital are economic, the process that brings about this economic outcome is not economic, but social. Social processes are complex, possessing their own dynamics and occurring with much less certainty than pure economic exchange (Putnam, 2007). On their part, Kawachi, Subramanian, and Kim (2008) define social capital as access to material and personal resources through social networks and institutions that may be employed to achieve desired outcomes.

From the above definitions, it can be discerned that the concept of social capital was introduced to suggest that greater community involvement could improve operational outcomes of the group as a whole than at the individual levels of the members (Putnam, Leonardi, and Nanetti, 2003)

and health. There is a creation of synergy from combining of the skills that each member of the group possesses and whenever an agricultural based group wishes to gain better performance, then it is important to recognize that each member of the group has a unique knowledge and capacity to which if during their operation is combined, then the performance will be expected to improve. Thus, like other forms of capital, social capital can be understood as an asset that has the potential to yield streams of benefit that make future dairy production processes more efficient, effective, innovative, or simply expanded, just like physical and natural capital. However, as Coleman (2008) observes, unlike physical or human capital, social capital is not embodied in one person; rather it is in the relations a person has with other individuals and with the socioeconomic institutions within which that individual operates. Scholars like Burt (2002) considered social capital as friends, colleagues, and more general contacts through which one receives opportunities to use their financial and human capital.

For effective realization of the benefits of social capital within a group, the concept of trust must exist. Trust has been identified as both a precondition for and product of social capital (Fu, 2004). Trustworthy virtue among the group members is encouraged because of possible sanctions for actions that flout social norms or failure to meet up to social responsibilities which explains why individuals with more social capital, measured by involvement in community organizations, are often more trustworthy when it comes to paying back producer group loans (Cassar *et al.*, 2007). Putnam (2000) distinguishes between the concept of thick and thin trust. Thick trust is a property of intimate social networks and caused by social capital in the form of personal trust between individuals and social homogeneity within groups and results in a positive effect on trustworthy behavior for group members.

Conversely however, thin trust is the generalized trust in other community members with whom individuals have more casual relationships. This idea was further expanded by Fukuyama (1995) who identified a "radius of trust," referring to the more intimate relationships where co-operative norms operate. Fukuyama suggests that in producer groups where there is a narrow radius of trust, two-tier moral system results, as individuals are likely to act differently based on the intimacy of their relationships. Trustworthy behavior is thus reserved for close relationships, while there is a lower standard of behavior in the public sphere.

Requena (2003) suggested that the importance of social capital lies in that it brings together several important sociological concepts such as social support, integration and social cohesion. Social capital is charged with a range of potential beneficial effects including: facilitation of higher levels of, and growth in, gross domestic product (GDP); facilitation of more efficient functioning of labor markets; lower levels of crime; and improvements in the effectiveness of institutions of government (Aldridge *et al.*, 2002). They observe that economic and business performance at both the national and sub-national level is also affected by social capital.

2.2.2 Dimensions of Social Capital

It consists of the following dimensions Cognitive and structural (Nahapiet & Ghoshal, 1998).

The structural dimension encompasses: network properties including personal ties & the global pattern of connections, refers to how and with whom a particular actor relates, the presence or not of relationships between the actors, the configuration or morphology of the network, describing the standards of connections, through variables as density, connectivity network configuration, stability and ties (Coleman, 1990).

Network Ties: The fundamental proposition of social capital theory is that network ties provides access to resources, social capital provides valuable source of information benefits, Coleman 1988 notes that is important in providing a basis for action but is mostly costly to get. Sometimes social relations often established for other purposes, constitute information channels that reduce the amount of time and investment required to gather information. Burt (1992) suggests that this information benefit occurs in three forms: Access, timing and referral, meaning receiving valuable information before it gets to other people.

Network Configuration: Provides the channel of information transmission referring to: density, connectivity and hierarchy of the network structure, the three are associated with the ease of resource exchange. According to Granovetter (1973) this aspect is very important as it determines the width and depth of knowledge that is available in the network.

Appropriable Organization: Social capital developed in one context can be transferred to another e.g. transfer of trust from family or religious affiliations into work situation or development of

personal relationships to business exchanges. Meaning networks provided based on one purpose can provide a source of valuable resources for another.

The cognitive dimension includes: Shared codes, shared language, and shared representation, shared interpretations and representations (Tsai and Ghoshal, 1998), as well as to the systems of meaning among parts. This dimension also relates to representations, interpretations and meaning system shared among actors and that enables or constrains their social exchange (Nahapiet and Ghoshal, 1998).

Shared language and codes: Language has a direct and important function in social relations, for it is the means by which people discuss and exchange information in a group. For example it is the shared language that this same people are able to pass information in the group. The fact that most of the people in the group are able to communicate in the same language makes interaction easy as it facilitates discussions.

Shared Narratives: Beyond the use of language, myths, stories and metaphors also provide a powerful means of exchanging information. Bruner 1990 proposed that there are two different modes of recognition

First is information of paradigm mode: based on a process of knowledge creation rooted in rational analysis and good argument. Second is narrative mode: Synthetic narratives such as fairy tales, myths, legends and good stories. Both of them facilitate exchanging of practice and experience between group members thus enabling the discovery and development of good, since it allows the creation and transfer of new interpretation of events.

2.3 Smallholder Producer Organizations

The term 'smallholder' does have a certain degree of descriptive power, when it is qualified by adjectives such as 'semi-subsistence', 'semi-commercial', or 'commercially oriented'. These sub-categories indicate at least some key differences in how land, labor and capital are combined within different households and production units and their associated farming systems, if somewhat imprecisely. The key indicators implicit in these sub-categories are scale of

production and extent of marketed surplus. But this typology is much less useful when seeking explanations of differences and their underlying dynamics.

Kherallah and Kirsten (2001) argue that overcoming the problem of high transaction costs requires that smallholder producers rely on external rather than internal economies of scale through collective action. (Hollaway *et al.*, 1999) suggests participatory, farmer led producer organizations that handle output marketing, usually after some form of bulking to address the problem of market access. Rural producer organizations are the various forms of organizations that perform production and marketing for members (Stockbridge *et al.*, 2003).

Rural producer organizations enable farmers to have improved access to market for their products at a fairer price (Hollaway *et al.*, 1999). This is achieved by aggregating the volume of produce over the number of producers, finding a trader interested in buying, negotiating the price and quality specifications, assembling the product for the delivery date and quantity agreed, collecting payment, paying farmers and retaining a small margin for the organization to cover its expenses. The way rural producer organizations perform their useful role is centered on three mechanisms: the sharing of information among members, the reduction of opportunistic behavior, and the facilitation of collective decision-making (Collier, 1998).

Various studies for instance Darr (2005) and Hellin *et al.*, (2007) have highlighted the importance of collective action in improving the welfare of rural small-scale producers and suggested that collective action facilitates easier access to commodity markets, technical skills and market information. They further argued that rural smallholder producer organizations can facilitate low cost access to information, thereby stimulating technology adoption and enhancing contract enforcement. These producer organizations are also important in organizing market access, input supply, savings and credit, and informal insurance. Rural producer organizations lower the transaction costs of marketing produce by eliminating some of the intermediaries and also enable farmers to capture the economies of scale of joint marketing. By sharing information on bad players in a decentralized manner, rural producer organizations help the members to lower screening costs. Sharing information also reduces the cost of searching for market information, which entails transaction costs.

2.4 Social Capital and the Performance of Rural Producer Organizations

A number of studies have highlighted the importance of collective action in improving the welfare of rural small-scale producers (Hellin *et al*, 2007). Hellion *et al* (2007) in particular suggest that collective action facilitates easier access to commodity markets, technical skills and market information. Rural producer organizations can facilitate low cost access to information, thereby stimulating technology adoption and enhancing contract enforcement. They are also important in organizing market access, input supply, savings and credit, and informal insurance. Rural producer organizations enable farmers to have improved access to market for their products at a fairer price (Holloway *et al*, 1999). This is achieved since the producer groups help members by aggregating the volume of produce over the number of producers, finding a trader interested in buying, negotiating the price and quality specifications, assembling the product for the delivery date and quantity agreed, collecting payment, paying farmers and retaining a small margin for the organization to cover its expenses. The way rural producer organizations perform their useful role is centered on three mechanisms: the sharing of information among members, the reduction of opportunistic behavior, and the facilitation of collective decision-making (Collier, 1998).

Fafchamps (1998) points that, by sharing information on bad players in a decentralized manner, rural producer organizations help the members to lower screening costs. Sharing information also reduces the cost of searching for market information, which entails transaction costs. Cooperation amongst farmers in negotiating prices with traders increases their bargaining power and empowers them to have greater control over the setting of prices and also reduces the time and the cost of marketing. Therefore, rural producer organizations can have an impact on poverty through increasing local incomes and money flows in the rural economy, opening networks and opportunities outside the community, increasing rural employment and reducing migration to urban areas (Lyon, 2003).

In this regard, the success of a rural producer organizations and collective action in reducing transaction costs depends on social capital (i.e. the level of cooperation or networking between its members) among other factors. Serageldin and Grootaert (2000) argue that the capacity to

fulfill the producer organizations' interests depends on the social structures internal to the organization, structures that organize the formulation and enforcement of rules, making and implementation of collective decisions and actions. These internal structures constitute social capital. Consequently, the recognition that social capital is an input in a household's production function has major implications for any development policy. It implies that the acquisition of human capital and the establishment of a physical infrastructure needs to be complemented by institutional development (i.e. social networks), in order to reap the full benefits of these investments.

Requena (2003) suggested that the importance of social capital lies in that it brings together several important sociological concepts such as social support, integration and social cohesion. Social capital is charged with a range of potential beneficial effects including: facilitation of higher levels of, and growth in, gross domestic product (GDP); facilitation of more efficient functioning of labor markets; lower levels of crime; and improvements in the effectiveness of institutions of government (Aldridge *et al.* 2002). Access to information and resources from informal and formal networks is mediated by norms of reciprocity and mutual trust and solidarity at both household and community levels. It is also important to examine the mechanisms under which various forms of social capital facilitate food security at both household and community levels (Serageldin and Grootaert, 2000). For instance, some individuals or households may be more vulnerable to food insecurity than other community members if denied access to information or resources such as land, credit and technologies.

Household social capital can affect food security indirectly, in two possible ways: by increasing the dependency ratio, which is the number of individuals in the household relying on working household members, or increasing the resource base of the household (Lyon, 2003). A large dependency ratio can exacerbate food insecurity directly by creating more mouths to feed and putting more pressure on available resources. Alternatively, it can ameliorate food insecurity indirectly by increasing the resource base of the household, as family labor is the most common source of labor in much rural farm subsistence, or increasing the number of household members who are earning incomes for households with other resources. Some of these relationships may also differ by the family structure of the household.

The literature on social capital in most parts of Africa is dominated by studies that define social capital as membership in formal or informal organizations or associations or by the access of individuals or associations to formal and informal sources of credit. In Nigeria for instance, studies that focus on membership of associations often examine the impact of these associations on improving some index of social welfare like improved livelihoods, spiritual upliftment, access to technology, or enhanced income (Anisude, 2010). For example, Okunmadewa *et al.* (2007), in a study that covered 6 Nigerian States, documented the role of social capital in reducing rural poverty in Nigeria. Social capital was specified as indices of membership and participation in community associations and was found to be instrumental in reducing rural poverty. Using similar measures, Balogun and Yusuf (2011) and Yusuf (2008) also documented the mitigatory impact of social capital on household welfare. A study carried out in Kwara State (Yusuf 2008), also resulted in similar findings. In Niger state, cooperative societies were found to improve the standard of living by encouraging community projects including the construction of roads, building places of worship, rehabilitation of schools, and other similar activities (Abubakar *et al.* 2009). Also a women's cooperative society in Enugu, established to tackle the deep rooted cultural and economic gender based constraints faced by these women, reported a steady rise in clients, a steady increase in the amount of funds disbursed, as well as a significant increase in savings, thus leading to economic success for members (Opata, 2008).

2.5 Conceptual Framework

This study adopts a conceptual framework of strategic importance to identify some underlying forces behind different aspects of the social capital. Since the research will be concerned with dairy products, the operational performance of producer groups will be proxied as the mean level of commercialization of the Kajiado and Githunguri dairy cooperative groups membership. This will involve inclusion of social capital indicators variables, which are going to be averaged among the group members as presented in figure 2.1.

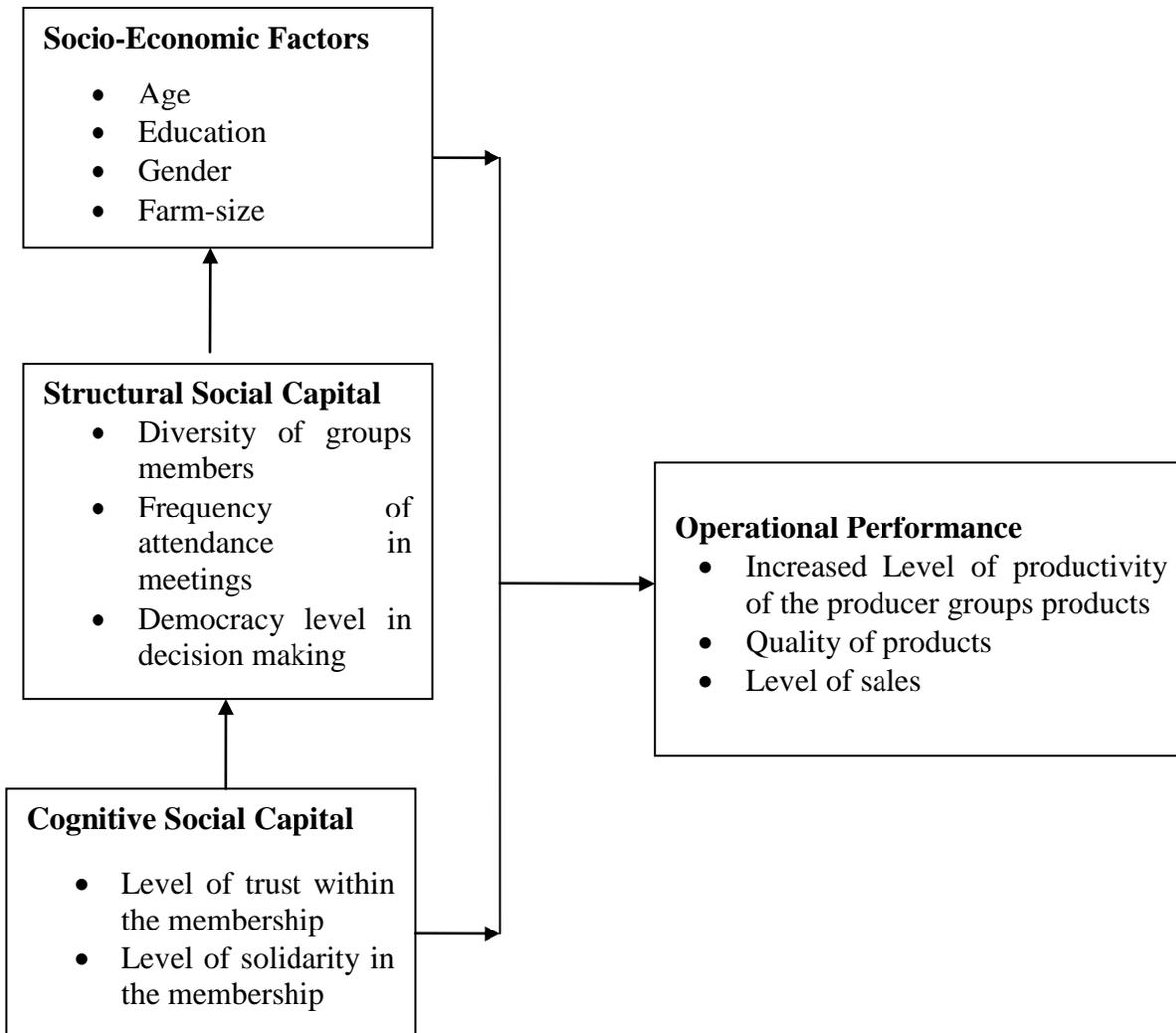


Figure 2. 1: Conceptual Framework

Source: *Researcher, 2015*

Six indicators of both structural will be used namely; density of membership to local associations, diversity in the rural producer organizations, frequency of attendance to rural producer organization’s meeting and level of democracy in decision making. For the cognitive social capital, trust and solidarity among members in the rural producer organizations will be used. The key assumption to be made is that networks built through social interactions have

measurable benefits to the participating individuals and lead directly or indirectly to a higher level of commercialization of the smallholder producer groups.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter describes the proposed research design, the target population, data collection instruments and the techniques for data analysis.

3.2 Research Design

It is a statistical research design with a descriptive-qualitative approach. According to Cooper and Schindler (2000), a descriptive research design is concerned with finding out the; who, what, where, when and how much. The design was deemed appropriate because the main interest was to explore the role of social capital in the operational performance of dairy groups in Kajiado district (Ngatataek, Kumpa, ilbisil, Maili Tisa and Kajiado town dairy groups) as well as in Githunguri dairy society. The descriptive design provided quantitative data from cross section of the chosen population. This design provided further insight into research problem by describing the variables of interest.

3.3 Population and Sampling

This consisted of all the dairy producer groups in Kajiado district and Githunguri dairy. According to the district cooperatives officer in the district, there are five smallholder producer groups in the district (Appendix II). Each of the five groups comprised of 10 respondents, hence bring the total population to 50 respondents.

3.4 Sampling Design

Purposive sampling enables the researcher to use judgment to select cases that best answered the research questions and objectives. The district was purposively selected from among all the

districts in which the five had facilitated formation of rural producer organizations. Purposive sampling was used to identify the 50 respondents to participate in the study.

3.4 Data Collection

Both primary and secondary data was collected. Primary data was collected at both household and producer organizations' level using pre-tested questionnaires to elicit information. The rural producer organization level questionnaire was administered in the focus groups consisting of more than ten members, while personal individual interviews were conducted at household level. Since producer marketing organization was the focal activity in such organizations, performance of rural producer organizations was proxied as the mean level of commercialization of the organizations' membership.

The producer organization's mean level of commercialization was calculated as the mean value of produce sold in Kenya Shillings (Kshs) by the sampled organization's members, divided by the mean value, in Kshs, of crops produced by the organization's members in the years 2012 - 2014. Given that social capital is measured by multi-dimensionality of factors, six indicators of both structural (i.e. density of membership to local associations, diversity in the rural producer organizations, frequency of attendance to rural producer organization's meeting and level of democracy in decision making) and cognitive social capital (trust and solidarity among members in the rural producer organizations), borrowed from previous studies was estimated using proxies and were used to construct social capital indices. The key assumption is that networks built through social interactions have measurable benefits to the participating individuals and lead directly or indirectly to a higher level of well-being.

3.5 Data Analysis

The data collected was analyzed using both descriptive statistics in part A and least squares regression fitted to test the effect of social capital on the performance of rural producer organizations in part B.

More specifically, the regression will be of the form;

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \alpha$$

Where Y = Producer organizational performance

β_0 = Constant

x_1 = Membership diversity characteristics

x_2 = Level of democracy in the meetings of the Producer groups

x_3 = Level of democracy in the meetings of the Producer groups

α = Error term

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The research objective was to establish the role of social capital on the operational performance of smallholder dairy producer groups in Kajiado and Githunguri cooperatives societies. This chapter presents the analysis, findings and the discussion with regard to the objective. The analysis is presented in mean and standard deviations while the findings are presented in frequency distributions and tables.

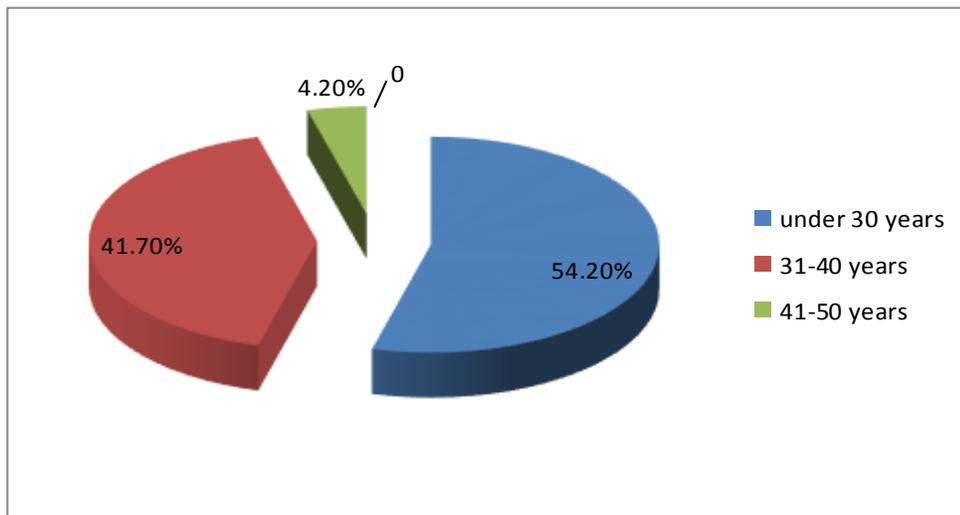
4.2 Demographic profile

The demographic information considered in this study included the name of the smallholder dairy producer organization, age of the respondent, level of education, working experience in the formal system, length of doing business with the dairy cooperative society, size of land and income usage in land. The completed questionnaires were edited for completeness and consistency. Of the 24 questionnaires distributed, 20 were successfully filled and returned. The returned questionnaires' represented a response rate of 83.3% and this was deemed to be adequate in the realization of the research objectives.

4.2.1 Ages of the respondents

This section of the questionnaire sought to establish the ages of the respondents. The results are presented in Figure 4.1.

Figure 4.1 : Ages of the respondents



The results indicate that majority of the respondents were under 30 years (54.20%), 41.7% of the respondents were aged under 30 years, 41.70% were aged between 31-40 years and only 4.2% of the respondents were aged 41-50 years. These findings show that the dairy farming has been embraced by the younger generation and this can be attributed to the low absorption of the youth to the white collar jobs.

4.2.2 Level of Education

The respondents were asked to indicate their highest level of education. The competence of a respondent is assumed to have a direct relationship with one's education level, *ceteris paribus*, and it will be expected that those respondents that will have attained higher education level and worked in the organization for more years will be in a better position to give the correct answers to the questions asked. The results are provided in Table 4.1.

Table 4.1: Level of Education

Years	Frequency	Percent	Cumulative Percent
Primary Education	3	30	30
Secondary education	5	50	80
Tertiary College	1	10	90
University education	1	10	100
Total	10	100.0	

The findings above show that majority of the respondents (50%) had attained secondary education level while there was each a respondent that had university and tertiary education. This findings implies that most of the dairy farming activity was being undertaken by those farmers who had attained secondary education and below. This might be due to the fact that most of the farming was being done in the villages and with the majority of the farmers still moving with their animals from one region to another, then it follows that those who have left the regions will not get involve majorly with the dairy farming.

4.2.3 Formal employment set-up outside the districts

The respondents were asked to indicate whether they had been employed in formal employment before taking up dairy farming. The results are presented in Table 4.2.

Table 4.2: Formal employment status

	Percentage	Cumulative Percentage
No	66.7	66.7
Yes	33.3	100.0
Total	100.0	

From Table 4.2 above, two-thirds (66.7%) of the respondents indicated that they hadn't worked in a formal employment set-up outside the districts before while 33.3% indicated that, yes indeed they had been engaged in a formal employment before.

4.2.4 Operational period of the Small holder Dairy producer

This is the duration in which the smallholder dairy producer organization had been in operation. The result is represented in Table 4.3.

Table 4.3 : Duration of the Institution

Years	Percent	Cumulative percent
Under 5 years	5.9	5.9
6-10 years	5.9	11.8
11-15 years	76.5	88.2
Over 16 years	11.8	100.0
Total	100.0	

The results indicate that majority (76.5%) of the smallholder dairy firms had been in operation for between 11-15 and only one of the organizations had operated for less than 5 years. Generally over 9 of the smallholder dairy farms had been in operation years for over 10 years and this indicates that they will have appreciated the role of social capital in influencing the performance of their business.

4.2.5 Length of Continuous dealing with the Producer Dairy Firm

This section sought to find out the length of time that the respondents had established with the producer firms. The result is represented in table 4.4.

Table 4.4: Length of Continuous Service

Years	Percent	Cumulative percent
Under 5	35.3	35.3
5-10	41.2	76.5
11-15	11.8	88.2
Over 15	11.8	100.0
Total	100.0	

The findings above indicates that majority of the respondents (41.2%) had been dealing with the producer organizations. Indeed over 65% of the respondents had developed relationship with the producer organization for more than five years and this will have affected their level of relationship among themselves and also with the dairy firms.

4.2.6 Size of Land

The respondents were requested to indicate the size of their land under the dairy farming. This will give an indication of the level of extensiveness that the farmers have been engaged with the dairy farming. The results are presented in Table 4.5.

Table 4.5: Size of land

Acreage	Percentage	Cumulative Percent
Less than 5 Acres	19.0	19.0
5 - 10 Acres	33.3	52.4
10 – 20 Acres	35.7	88.1
Over 20 Acres	11.9	100.0
Total	100.0	

The results indicate that majority of the respondents (35.7%) had put between 10 – 20 acres to dairy farming and generally most of the farmers had 20 acres under dairy farming. This qualifies

the respondents dealing with the dairy producer organizations to be small holders by virtue of the acreage under this type of venture.

4.2.7 Income usage of the land per annum

This section of the questionnaire sought to establish the income level that the farmers generated from the dairy farming that they are engaged in. The results are presented in Table 4.6.

Table 4.6: Income level from dairy farming

Amounts	Percentage	Cumulative Percent
Less than Ksh 50,000	10.5	10.5
Between Ksh 50,001 – 100,000	10.5	21.1
Between Ksh 100,000 – 200,000	68.4	89.5
Over Ksh 200,000	5.3	100.0
Total	100.0	

The results indicate that most of the respondents were generating over Ksh 100,000 from the dairy farming while only less than 20% of them were earning less than Ksh 100,000 p.a from the business venture. Consequently, it can be deduced that indeed dairy farming is being taken as an income generating activity among the farmers.

4.3 Features of Social Capital

The social relationship in a group such a producer dairy farmers provides the members with the right to claim access to the resources of their network and the amount and quality of those resources. Thus while the outcome of social capital is economic, the input of the same is social. This section sought to establish the existence of different forms of social capital that include membership diversity, level of democracy in the groups and cognitive social capital. The range

was 'Low extent'(1) to 'Very great extent' (5). The scores of disagreeing have been taken to represent a variable which had a mean score of 0 to 2.5 on the continuous Likert scale ;($0 \leq S.D < 2.4$). The scores of 'Neutral' have been taken to represent a variable with a mean score of 2.5 to 3.4 on the continuous Likert scale: ($2.5 \leq M.E. < 3.4$) and the score of both agree and strongly agree have been taken to represent a variable which had a mean score of 3.5 to 5.0 on a continuous likert scale; ($3.5 \leq S.A. < 5.0$). A standard deviation of > 1.0 implies a significant difference on the impact of the variable among respondents.

4.3.1 Membership Diversity Characteristics

This section of the questionnaire sought to get from the respondents on whether their producer dairy organization exhibits internal diversity in terms of membership or the groupings invited anybody engaged in the same line of business. The internal diversity of the groupings is measured by such measures as diversity in neighborhood, family/kinship group, age, denomination, income group, gender and tribe. The results are presented in Table 4.7.

Table 4.7 : Membership diversity characteristics

Statement	Mean	Std. Deviation
The producer groups that we have established is in most cases formed with persons with close family ties and this binds the groups together and the drive to succeed becomes even stronger.	4.250	.707
The dairy producer groups gets its membership from different neighborhoods which increases the level of ownership in a large geographical area	4.152	1.065
All genders and tribes in the locality are represented in the dairy producer groups and it does not segregate among the members and this improves the performance of the producer group	3.954	0.865
The membership of the dairy producer groups cuts across religious boundary and this brings into the group greater tolerance of opinions and understanding	3.326	0.926
The membership of each household to more than one dairy producer group association has improved the performance of the groups since they are able to share more expertise amongst the groups	3.318	.707
Overall Mean	3.795	

The results in Table 4.7 indicate that the common form of membership diversity that is being practiced in the smallholder dairy producer groups at Kajiado district is that the groupings are majorly formed with persons with close family ties and this binds the groups together and the drive to succeed becomes even stronger (M=4.250) as well as that most of its membership is comes from different neighborhoods in the same locality and this increases the level of ownership in a large geographical area (M=4.152, SD=1.065). However, the high standard deviation shows that there was higher level of dispersion in the answers provided by the respondents. The results also indicate that to a moderate extent, membership of each household to more than one dairy producer group association was less common among the producer dairy organization in Githunguri dairies as opposed to the ones in Kajiado district (M=3.3.18). Similarly, there was a less agreement among the respondents that the membership of the dairy

producer groups' cuts across religious boundary and this brings into the group greater tolerance of opinions and understanding. This result could be attributed to the fact that most of the dairy organization is set up in the neighborhoods that share to a large extent the same religious beliefs and this increases their operational bonds. This finding corroborates those of Nagarajan et al (1999) who find that homogenous groups perform better. They argue that membership homogeneity reduces information problems and ensures members have common interest. However, the same finding contradicts those of rootaert (2001) who find that among social capital dimensions, heterogeneity of a group has a positive impact on household welfare. Similarly, Serageldin and Grootaert (2000) argue that the capacity to fulfill the producer organizations' operational interests depends on the social structures internal to the organization, structures that organize the formulation and enforcement of rules, making and implementation of collective decisions and actions.

4.3.2 Level of democracy in the meetings of the Producer groups

The level of democracy in the Smallholder dairy producer groups was also considered to be a measure of structural social capital. The level of democratic decision making in the organizations is measured by asking organization's members to state how decisions are made in their respective groups. In addition, the respondents were requested to indicate their views concerning the frequency of attendance on meetings and also the level of democracy exercised in the same meetings. The results are presented in Table 4.8.

Table 4.8: Level of democracy in the meetings of the Producer groups

Statement	Mean	Std. Deviation
My attendance frequently on the producer groups meeting has enhanced my participation and performance of the group	4.316	.749
Election of the producer group officials is done on a fixed timeline and is carried out in a transparent and an whole inclusive manner	4.158	.958
The need of a meeting to deliberate on issues affecting the dairy producer groups can be requested by a member and the same request is acted upon promptly.	4.115	1.067
The views of the minority members is also considered in the deliberations in the producer group and the meetings are conducted in a manner that will not excluded them in decision making	3.405	.936
The decisions made by the groups incorporates the views of members and any suggestions made	3.153	.970
Majority of the members in the producer groups attend meetings when called upon and this gives the officials adequate support source markets for our produce	3.142	.898
Overall Mean	3.715	

The results indicate that members attendance to the producer groups meeting has enhanced their participation and performance on the group affairs (M=4.316) and also the common practice is where election of the producer group officials is done on a fixed timeline and is carried out in a transparent and an whole inclusive manner. The other common characteristic of the level of democracy practiced in the organizations is where the need of a meeting to deliberate on issues affecting the dairy producer groups can be requested by a member and the same request is acted upon promptly. However, when the officials were asked on their opinions concerning the

members' participation on meetings when called upon to source new markets for their products, the results were agreeable to a moderate extent among the respondents.

This finding suggests that seeking members' consensus in decision making allows members to make decisions that suit them best thus making their organization perform better. This finding corroborates the findings of Grootaert (1999), who finds that farmer-associations that follow a democratic pattern of decision-making perform better (in terms general household welfare) than others. Similar findings was found by Shiferaw et al (2006) which suggest that the effectiveness of collective action is affected by the extent of participatory decision-making in a group.

4.3.3 Cognitive Social Capital

The cognitive social capital among the members of the smallholder dairy producer groups was measured by such measures as the level of trust and solidarity among the members. The results on the degree to which various cognitive variables was practiced is provided in Table 4.9.

Table 4.9: Cognitive Social Capital

Statement	Mean	Std. Deviation
The membership of the producer group has brought about more togetherness between ourselves and this has improved the level of trust	3.895	.994
Most of my friends are members of the producer groups and with this set up there is increased understanding and support within the groups	3.632	1.011
Participation of church leaders in the producer group day-to-day decision making provides increased level of trust in the decision process	3.579	1.170
Representation of fellow farmers in the decision making process in the group has increased my level of trust in the decision making process	3.526	.964
During times of natural calamities such as famine and drought, I will be willing to donate some of the foodstuff that I have to any member of the group affected.	3.526	1.073
I trust mostly the leadership of the producer group because one of my family member is represented	3.158	.898
Overall Mean	3.553	

From the results, it was found that the membership of the producer group had brought about more togetherness between members and this had improved the level of trust in the group (M=3.895). Further, the increased level of trust had increased the level of understanding and willingness to support other members in the group. The level of trust among the members was further reinforced by the participation of church leaders in the dairy producer group day-to-day decision making process. In addition the representation of fellow farmers in the decision making process in the group was found to have increased the level of trust in the decision making process during times of natural calamities such as famine and drought.

Ordinarily, most forms of economic exchange require trust, despite the fact that there appears to be a weak legal protection in trust-based transactions (Fafchamps 2004). As Knack (1999) pointed out, the type of trust that is unambiguously beneficial to economic performance is that between strangers and that in societies where strangers can trust each other to act in the collective interest, people can contract with a wide range of parties without extended written agreements. However, in the current findings, trust was mainly reported for family members and church leaders. Hence this type of trust had a significant negative influence on the performance of the dairy producer organizations suggesting that it limits the number of actors the smallholder farmers can comfortably transact with without fear of being cheated.

4.4 Effect of Social Capital on the Performance of Dairy Producer Organizations

The extent to which social capital had affected the organizational performance of dairy producer organization was also investigated. The key assumption is that networks built through social interactions have measurable benefits to the participating individuals and lead directly or indirectly to a higher level of wellbeing. The results are presented in Table 4.10.

Table 4.10: Effect of social capital on the performance of Dairy Producer Organizations

Statement	Mean	Std. Deviation
Cooperation in negotiating prices with traders increases their bargaining power and gain greater control over the setting of prices and also reduces the time and the cost of marketing.	3.526	1.073
Collective action among the members has facilitated easier access to commodity markets, technical skills and market information.	3.428	.961
By sharing information on bad players in a decentralized manner, a rural producer organization has helped the members to lower screening costs.	3.421	.961
Access to a low cost information_within the groups has stimulated technology adoption and contract enhancement	3.368	1.011
Rural producer organizations has enable farmers in the region to have improved access to market for their products at a fairer price	3.211	1.084
Overall Mean	3.391	

The results on the effect of social capital on the performance of dairy producer organizations indicate that the cooperation in negotiating prices with traders increases their bargaining power and gain greater control over the setting of prices and also reduces the time and the cost of marketing (M=3.526). In addition, the collective action among the members has facilitated easier access to commodity markets, technical skills and market information as well as sharing information on bad players in a decentralized manner. The other benefit that was derived from the social integration among the producer dairy organizations was that the producer organizations had enabled farmers in the region to have improved access to market for their products at a fairer price.

4.5 Regression Equation

For quantitative analysis the study used regression analysis to establish the relationship between the operational performance of the producer dairy organizations and the implementation of the various social constructs as presented in the conceptual framework. To determine the same, the

various dimensions of social capital was used and this included membership diversity, level of democracy in meetings and cognitive social capital. From their overall means of each factor, as Gill and Beger (2012) noted, when using multiple regression analysis, there is a possibility of endogeneity occurring whereby when certain variables are omitted, it leads to measurement errors. To minimize endogeneity issues, the most important variables that constitute social capital dimensions were used.

The following model was adopted for the study.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \alpha$$

Y = Operational Performance

β_i = (i = 0 – 3) = Regression coefficient

X_1 = Membership diversity characteristics

X_2 = Level of democracy in the meetings of the Producer groups

X_3 = Cognitive social capital

4.5.1 Model Summary

The study used coefficient of determination to evaluate the model fit. The model summary is presented in the Table 4.11

Table 4.11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.652 ^a	.425	.357	.281

Source: Research data, 2015

The adjusted R^2 , also called the coefficient of multiple determinations, is the percent of the variance in the dependent explained uniquely or jointly by the independent variables. The model had an average coefficient of determination (R^2) of 0.425 and which implied that 42.5% of the variations in operational performance of the producer dairy organizations were caused by the independent variables under study (Social capital dimensions).

4.5.2 Analysis of variance

Table 4.12: Analysis of Variance

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.971	3	0.3285	4.8806	.002 ^b
1 Residual	0.875	17	0.06730769		
Total	2.846	20			

Critical value =2.797

From the ANOVA statics, the study established the regression model had a significance level of 0.2% which is an indication that the data was ideal for making a conclusion on the population parameters as the value of significance (p-value) was less than 5%. The calculated F-value was greater than the critical value (4.8806>2.797) an indication that the social capital dimensions used in the study, all have a significant effects on operational performance of the producer dairy organizations in Kajiado and Githunguri dairy. The significance value was less than 0.05 indicating that the model was significant.

4.5.3 Coefficients

The following tables gives the coefficients which helps in establishing the regression line

Table 4.13: Table of Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.177	0.229		0.773	.000
	Membership diversity	0.910	0.143	0.459	4.266	.003
	Level of democracy	1.399	0.142	0.076	0.673	.048
	Cognitive social capital	0.605	0.142	0.565	4.261	.002

The established regression equation was

$$Y = 0.177 + 0.910X_1 + 1.399X_2 + 0.605X_3$$

The analysis was undertaken at 5% significance level. The criteria for comparing whether the predictor variables were significant in the model was through comparing the obtained probability value and $\alpha=0.05$. If the probability value was less than α , then the predictor variable was significant otherwise it wasn't. From the regression model, it can be deduced that seeking members' consensus in decision making allows members to make decisions that suit them best thus making their organization perform better. It corroborates the findings of Grootaert (1999), who finds that farmer-associations that follow a democratic pattern of decision-making perform better (in terms general household welfare) than others. The findings also corroborate those of Shiferaw et al (2006) which suggest that the effectiveness of collective action is affected by the extent of participatory decision-making in a group.

The results further indicate that frequency of attendance to organizations' meetings positively affected its performance. All things constant, a unit increase in the dairy organizations' level of democracy index increased its performance by 1.399. As expected, these results indicate that organizations whose members were more diligent in attending meetings perform better. This is probably because farmers who regularly attended their organizations' meetings acquired better animal production skills and marketing strategies leading to higher productivity and hence crop sales.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In this chapter, an attempt is made to give a summary of the research findings, conclusion, recommendation and suggestion for further research. The main purpose of this study was to establish the role of social capital on the operational performance of smallholder dairy producer groups in Kajiado and Githunguri cooperatives societies.

5.2 Summary

The results show that the respondents were mostly young farmers with the majority being less than 40 years with their level of education being up to secondary level. The smallholder dairy farmers were found to have taken up the activity after school and therefore had not been engaged in any formal job before. The majority of the smallholder dairy farms had been in existence for less than 15 years and on average the members earn over Ksh. 200,000 per annum from the business venture. Generally the respondents were found to be versed with the concept of social capital.

For effective realization of the social capital among the members, the study found that there need to be a common social and cultural thread that binds the members. The study found that in the case of the dairy groupings in Kajiado and Githunguri, the groupings were majorly formed with persons with close family ties and this binds the groups together and the drive to succeed becomes even stronger. In addition, since the members come from the same neighborhoods, this bond increased the level of ownership of the dairy group and this position was reinforced also through the findings that all households were members to only one dairy group. The trust given to members of the same church and leadership was also evident and because the group members have a high level of trust to their church leaders and pastors to guide the activities of the group. The membership homogeneity was found to reduce information problems and ensure members

have common interest. This position enhanced the group's operations since decision making and support from the members was increased and consequently their performance. The collective action among the members facilitated easier access to commodity markets, technical skills and market information. Indeed the capacity of the producer organizations' operational interests was found to depend on the social structures internal to the organization that are used to formulate and enforce rules.

This finding suggests that seeking members' consensus in decision making allows members to make decisions that suit them best thus making their organization perform better. Further, the frequency of attendance to organizations' meetings positively affected its performance. The level of trust among the members was found to have increased the level of understanding and willingness to support other members in the group. The participation of church leaders in the dairy producer group day-to-day decision making process as well as the members of the same clan was found to have increased the level of mutual trust among the group members and consequently hasten decision making process in the organizations and therefore operational performance. The type of trust that is unambiguously beneficial to economic performance is that between strangers and that in societies where strangers can trust each other to act in the collective interest, people can contract with a wide range of parties without extended written agreements. In summary therefore, the study found that the level of social-cultural bond, cognitive dimensions of social capital and structural social capital was found to have enhanced the operation performance of the smallholder dairy farmers in Kajiado and the Githunguri dairy. This reinforces the soft aspect of operational activities of the firms to influence their performance.

5.3 Conclusion

The development literature is currently promoting producer organizations as means for achieving commercialization of smallholder dairy farming in the Africa. This study finds that social capital (measured in terms of group diversity, participatory/democratic decision-making and solidarity) affects how well the operational performance of producer organization performs. Based on the results of this study it is conclude that social capital increases the level of commercialization for smallholder farmers as indicated by the improved performance of their respective rural producer

organizations. The analysis of the dairy farmers' organizations in Kajiado revealed that their operational performance was improved as a result of harnessing their social capital. This implies that even though producer organizations may be accorded the same services, internal factors within the producer organizations will influence the way these organizations perform their roles and the degree of achieving their objectives. Attention must therefore be given to these internal factors, in the design of development strategies that target the operational performance of the smallholder dairy agriculture through producer organizations.

5.4 Recommendation for Policy Implication

Smallholder dairy farming is an important source of livelihood and household income. However, there are a number of challenges that threaten this livelihood source. This study finds that social capital increases rural producer organizations' level of commercialization and operational performance. Hence a policy implication of these findings is that rural producer organizations have the capacity to reduce rural poverty by enhancing increased commercialization of the smallholders' production. The findings further imply that governments, non-governmental organizations and other development partners should take a pro-active role in organizing and facilitating the formation of smallholder rural producer organizations and linking them to markets. In addition, governments should encourage their formation eliminating or reducing some of the legislation requirements that are often prohibitive in the formation of such organizations.

5.5 Limitation of the Study

These findings must be interpreted against the backdrop of the methodological limitations of this research, which offer additional future research opportunities. First, the cross-sectional research design limits the extent to which cause-effect relations can be inferred. Longitudinal data would add greater confidence to the results and allow for stronger causal inferences regarding the nature of the relationships between the social capital dimensions and the operational performance of the smallholder producer organizations in the rural areas. The limitations of survey design adopted might not have allowed for the capture of potentially important control variables that facilitate the interactions and influence of actions and

performance by other functions in the organization. A second limitation is the lack of mutual data on trust and shared values. The challenge in doing so is that it requires much greater access to and disclosure by members of the organization. Finally, the response rate was limited by the number of registered producer organizations and there is need to increase the response rate by expanding the area of the research. However, despite the above limitations, the findings presented in this study have important policy implications.

5.6 Recommendation for Future Studies

As the limitations suggest, researchers may collect longitudinal data with which to examine the strength of the results during differing economic environments. Additionally, as it was noted, the data do not include mutual data on shared values and trust. Thus, future research might help in understanding how the producer organizations shared values with their customers, or the level of trust they have in their customers, might affect the outcomes of those relationships. Second, while the research focused on the positive aspects of social capital within the context of the smallholder producer operations, social capital has potential downsides, for example the potential for over commitment or loss of objectivity about partners in deeply embedded relationships. This could yet be another area for further research.

REFERENCES

- Bourdieu, P. & Richardson J. G., (1986). The forms of capital. *Handbook of Theory and Research for the Sociology of Education*. Greenwood, New York, 241-258.
- Coase R. (2000). The New Institutional Economics: Menard C, *Institutions, contracts and organizations: Perspectives from New Institutional Economics*. Cheltenham, UK
- Coleman, J. S. (2005). *Foundations of Social Theory*. Harvard University Press, Cambridge, MA
- Collier, P. (1998). Social Capital and Poverty. Social Capital Initiative Working Paper No. 4, Social Development Department. Washington, DC: World Bank.
- Dorward A, Kydd J & Poulton C. (2005). *Smallholder cash crop production under market liberalization: A New Institutional Economics perspective*. CAB International, Wallingford, UK.
- Durston, D. & Duhart, G., (2003). The Contribution of Individual and Group Social Networks to Knowledge Diffusion among Farmers in semi-arid Kenya, *Conference on International Agricultural Research for Development*. Stuttgart-Hohenheim, Germany.
- Fafchamps, M. (1998). *Market Institutions in Sub-Saharan Africa: Theory and Evidence*. Massachusetts Institute of Technology Press, Cambridge, England
- Friedman, M. (1953). *The methodology of positive economics, Essays in Positive Economics* Chicago: University of Chicago Press
- Fukuyama, F. (1995). Social Capital and Civil Society. Paper presented at the IMF Conference on Second Generation Reforms, November 8-9, IMF Institute and the Fiscal Affairs Department, Washington, D.C
- Fu, F. (2004). *Trust : The Social Virtue and The Creation of Prosperity*. New York: Free Press.
- GoK (2014). *Kenyas' Vision 2030*, Retrieved January 2015 from www.vision2030.go.ke – home page
- Hellin, J., Lundy, M. and Meijer, M. (2007). Farmer Organization, Collective Action and Market Access in Meso America. CAPRi Working Paper No.67

- Hollaway, G., Nicholson, C., & Delgado, C. (1999). Agro-industrialization through Institutional Innovation: Transactions Costs, Cooperatives and Milk-Market Development in the Ethiopian Highlands. MSSD Discussion Paper No. 35
- Kawachi, I., & Sapag, J. (2007). Capital social y promoción de la salud en América Latina. *Revista de Saúde Pública*, 41(1), pp.139–149
- Kawachi, I., S.V. Subramanian, & Kim D. (2008). “Social Capital and Health: A Decade of Progress and Beyond”, in I. Kawachi, S.V. Subramanian, and Kim D. *Social Capital and Health* Springer, New York. (pp. 1-26),
- Kherallah, M. & Kirsten, J. (2001). The new institutional economics: Applications for agricultural policy research in developing countries. *MSSD discussion paper*, 41. Washington D.C.: International Food and Policy Research Institute.
- Lin, N. (2000). “Inequality in social capital”, *Contemporary Sociology*, 29(6): 785–795.
- Lyon, F. (2003). Community Groups and Livelihoods in Remote Rural Areas of Ghana: How Small Scale Farmers Sustain Collective Action. *Community Development Journal* Vol 38 (4), pp. 323–331
- Magutu P. O., Mbeche, I.M, Nyamwange O., Monica N. M., Ndubai R. E., & Nyaanga R. O. (2010). Formulation and Implementation of Operation Strategies Used in Solid Waste Management: Case Study of City Council of Nairobi, *Journal of African Research in Business & Technology*, Vol. 2010 (2010).
- Milagrosa, A. & Slangen H.G. (2006). Measuring Social Capital among Indigenous Agricultural People of the Cordilleras in Northern Philippines. Wageningen University and research Centre, Netherlands
- Okwiri O. A. (2013). *Quality Management as an Outcome of Management Field Evolution: A Review*, *Journal of Social Sciences Research*; Volume 3, Issue 1, pp. 1-9
- Pricewater House Coopers (2010). *Agricultural Sector in Kenya*, Retrieved January 2015 from www.pwc.co/ke
- Putnam, R.D. (2007). “E Pluribus Unum: diversity and community in the twenty-first century, the 2006 Johan Skytte Prize Lecture”, *Scandinavian Political Studies*, 30(2): 137–174.
- Putnam, R.D. (2008). Bowling Alone: America’s Declining Social Capital. *Issues of Democracy*, Vol.1, No.8
- Requena, J. (2003). Does Social Capital Help the Poor? A Synthesis of Findings from

the Local Level Institutions Studies in Bolivia, Burkina Faso, and Indonesia. Local Level Institutions Working Paper 10. World Bank, Social Development Department, Washington D.C

Saegert, M., Thompson, A., & Warren, K. (2001). Farmer organizations for market access: Briefing paper presented at Stakeholders Meeting on Farmer Organizations in Malawi.

Serageldin, I. & Grootaert, C. (2000). Defining social capital: an integrating view. In P. Dasgupta & I. Serageldin *Social Capital: A Multifaceted Perspective*. Washington, DC: The World Bank, 40-58.

Shiferaw, B., Obare, G. & Muricho, G. (2006). Rural Institutions and Producer Organizations in Imperfect Markets: Experiences from Producer Marketing Groups in Semi-Arid Eastern Kenya. CAPRI Working paper No.60.

APPENDICES

Appendix I : Questionnaire For Study

This questionnaire has been set in order to achieve the objectives of the study. The questions relate to role of social capital on the performance of smallholder dairy producer groups in Kajiado and Githunguri Cooperative societies, Kenya. Please answer all questions. Your response will be treated with outmost confidentiality.

Please tick the appropriate answer.

SECTION A: DEMOGRAPHIC AND RESPONDENTS PROFILE

1) Name of the smallholder dairy producer organization (optional)

2) What is your age bracket? (Tick as applicable)

a) Under 30 years () b) 31 – 40 years ()

c) 41 – 50 years () d) Over 50 years ()

4) What is your highest level of education qualification? (Tick as applicable)

a) Primary Education () b) Secondary education ()

c) Tertiary College () d) University education ()

5) Have you ever worked in a formal employment set-up outside the districts?

a) Yes () b) No ()

6) For how long has your smallholder producer group been in existence?

a) Under 5 years () b) 6 – 10 years ()

c) 11 – 15 years () d) Over 16 years ()

7) Length of continuous dealings with the smallholder producer organization?

- a) Less than five years () b) 5 - 10 years ()
 c) 11 – 15 years () d) Over 15 years ()

8) What is the current size of your land?

- a) Less than five Acres () b) 5 - 10 Acres ()
 c) 10 – 20 Acres () d) Over 20 Acres ()

9) What is your approximate income from the usage of the land per annum?

- a) Less than Ksh 50,000 () b) Between Ksh 50,001 – 100,000 ()
 c) Between Ksh 100,000 – 200,000() d) Over Ksh 200,000 ()

SECTION B: Features of Social Capital

a) Structural Social Capital

10. To what extent does the membership density and diversity in your producer group influence its performance?

Use 1-Not at all, 2-Small extent, 3-Moderate extent, 4-Great extent and 5-Very great extent.

Membership diversity characteristics	1	2	3	4	5
The membership of each household to more than one dairy producer group association has improved the performance of the groups since they are able to share more expertise amongst the groups					
The dairy producer groups gets its membership from different neighborhoods which increases the level of ownership in a large geographical area					
The membership of the dairy producer groups cuts across religious boundary and this brings into the group greater tolerance of opinions and understanding					
All genders and tribes in the locality are represented in the dairy producer groups and it does not segregate among the members and this improves the					

performance of the producer group					
The producer groups that we have established is in most cases formed with persons with close family ties and this binds the groups together and the drive to succeed becomes even stronger.					

11. Kindly indicate the extent to which you agree with the following statements concerning the frequency of attendance on meetings and also the level of democracy exercised in the same meetings.

1 – No extent 2 – Little extent 3 - Moderate 4 – Great extent 5 – Very great extent

Level of democracy in the meetings of the Producer groups	1	2	3	4	5
The need of a meeting to deliberate on issues affecting the dairy producer groups can be requested by a member and the same request is acted upon promptly.					
My attendance frequently on the producer groups meeting has enhanced my participation and performance of the group					
Majority of the members in the producer groups attend meetings when called upon and this gives the officials adequate support source markets for our produce					
The decisions made by the groups incorporates the views of members and any suggestions made					
The views of the minority members is also considered in the deliberations in the producer group and the meetings are conducted in a manner that will not excluded them in decision making					
Election of the producer group officials is done on a fixed timeline and is carried out in a transparent and an whole inclusive manner					

b) Cognitive Social Capital

12. Please tick appropriately the extent to which your producer group has been practicing the following cognitive social capital practices and the effect it has had on the group’s performance (use the scale below to tick the most appropriate response.)

Level of democracy in the meetings of the Producer groups	True	False
I trust mostly the leadership of the producer group because one of my family member is represented		
Representation of fellow farmers in the decision making process in the group has increased my level of trust in the decision making process		
Participation of church leaders in the producer group day-to-day decision making provides increased level of trust in the decision process		
The membership of the producer group has brought about more togetherness between ourselves and this has improved the level of trust		
Most of my friends are members of the producer groups and with this set up there is increased understanding and support within the groups		
During times of natural calamities such as famine and drought, I will be willing to donate some of the foodstuff that I have to any member of the group affected.		

Section C: Effect of social capital on the performance of dairy producer Organizations

13. The following measures give an indication of the performance of the producer groups as a result of the social capital networks in your locality. In a scale of 1-5 please indicate the extent of the group’s performance.

5) Greater extent; 4) Great extent; 3) Moderate extent; 2) Low extent; 1) Very low extent

	Producer group performance	5	4	3	2	1
1	Collective action among the members has facilitated easier access to commodity markets, technical skills and market information.					
2	Access to a low cost information_within the groups has stimulated technology adoption and contract enhancement					
3	Rural producer organizations has enable farmers in the region to have improved access to market for their products at a fairer price					
4	By sharing information on bad players in a decentralized manner, a rural producer organization has helped the members to lower screening costs.					
5	Cooperation in negotiating prices with traders increases their bargaining power and gain greater control over the setting of prices and also reduces the time and the cost of marketing.					

THANK YOU SO MUCH FOR YOUR TIME

Appendix II: List of Smallholder Producer Groups in Kajiado District

1. Ngatataek dairy group
2. Ilbisil dairy group
3. Kumpa Dairy Group
4. Maili Tisa Dairy Group
5. Kajiado Town dairy group