INFORMATION NEEDS AND SEEKING BEHAVIOUR OF MAASAI PASTORALISTS OF KAJIADO COUNTY

BY

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DECLARATION

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DEDICATION

I dedicate this thesis to my family and the Maasai community.

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I take this opportunity to give thanks to the Almighty God for giving me the strength and the patience and ability to do this work. I would like to thank Mrs. Dean Mokler for giving me the partial sponsorship to undertake the programme.

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ABSTRACT

The Maasai like any other people in Kenya need adequate, current and accurate information to be able to exploit their economic potential. Despite the importance of information, the Maasai may not have benefited much from it on account of lack of knowledge by information providers about their information needs. This study therefore sought to investigate the information needs and seeking behaviour of the Maasai pastoralists of Kajiado with a view to develop appropriate strategies to address their needs. Specifically, the study attempted to achieve the following objectives: Establish different socio-economic activities the Maasai are involved in, determine their information needs, investigate factors influencing their information seeking behaviour, describe information sources and channels they consult when seeking information, identify barriers to information access; and finally propose strategies to improve information access. The study used Wilson model of information seeking behaviour. The study used ethnographic qualitative research design. Cluster sampling, simple random sampling, snow ball and judgmental sampling were employed to select the samples. The study used interview schedule, focus group discussions and participant observation as data collection instruments. The major findings were presented using basic statistical tools such as frequency distribution tables and percentages. The study established that the Maasai are involved in a number of economic activities which include: livestock keeping; livestock trade and other emerging forms of occupations. They have information needs which are influenced by a number of factors such as decision making; survival; livestock keeping and business; rain and weather patterns. Some of the information sought by Maasai pastoralists includes: information on animal husbandry; health, education; land and governance. There also exist different channels and sources of information, which are classified as: personal conducts; organizations and mass media. Several factors were identified as barriers to information access, namely: illiteracy; language; lack of government support and unavailability of information centres. The study recommended the following: repackaging of information in Maa language, establishment of community radios; establishing information desks in government departments; e-government, information outreach programmes; and use of the internet and social networks.

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CHAPTER ONE

INTRODUCTION

1.1 Background Information

Every individual or group is perceived to have a desire to locate and obtain information to satisfy a conscious or unconscious need. It is this individual needs state, which triggers the search behavior characteristics of information seeking in a given context.

Information seeking is referred to be a way in which people search for information and utilize that information. Wilson (2000) describes information seeking behaviors as the totality of human behaviors in relation to sources and channels of information, including both active and passive information seeking and information use. He describes purposive seeking of information as a consequence of a need to satisfy some goals.

It has been noted that, information is the most basic need of all the human needs. Pradervand (1980, 56) states that people from all walks of life's irrespective of their race, culture and any other affiliations need different kinds of information. For any society to thrive, information finds its position as the essential resource to enable them function effectively and productively.

Mchombu (2003) has gone further to insist that every society need to acquire, store and exchange the basic stock of information to allow it to survive. It will be hard to forget that information is central to the solution of any society's economic, social, and political

problems, and should be regarded as a factor of production as it is now widely acknowledged. People need information about their health, the economic and social aspects of their lives. Pastoral communities need essential information to support their livelihoods.

Kamba (2006) Mentioned that the emergence of information and knowledge society is a significant intervention with the potential to ensure that knowledge and information are very important for achieving meaningful development. The relevance of this revolution is supported by Balit (1996) who pointed out that the least expensive input for rural development is knowledge. Knowledge and information are basic ingredients of making one to be self-reliant and are essential for facilitating rural development and bringing about social and economic change.

Over the years channels and sources of information used by societies to share information have evolved. Though indigenous sources are still important, the emergence of Information and Communication Technology has made the world a global village and has necessitated the process of globalization, which has pulled down the walls of physical boundaries and time that affected creation, storage, distribution, exchange and utilization of information. ICT has increasingly changed the way people carry out their day to day activities. Among the notable advantages brought by the convergence of these technologies, is introduction of several channels and media such as mobile telephones, the internet and social networks, which has enabled many people including rural population to access information.

Gundu (2006) eludes that technological literacy, economic adequacy and literacy skills are preconditions for effective ICT use. Lack of skills is a challenge many developing countries, Kenya included are facing. This has resulted in to what is referred as digital divide between developed and developing countries. This trend is prominently featuring in the information gap between rural and urban areas.

We are also living at a time when human virtually depend on information and knowledge, what is called information age. This revolution has made many governments to encourage their nationals to embrace the use of ICTs for information access, these has made many governments to develop policies and enact legislation to allow an in depth exploitation of ICTs. These possibilities will make many marginalized communities in developing world such as the Maasai Pastoralist to access and contribute to the global information system.

Information needs of the Maasai Pastoralist are closely tied to their nomadic way of living. Their ability to access information that is pertinent to the decisions they make on day to day basis through several channels, media and through technology is worth examination. Their information seeking behaviour needs to be investigated and described so that the right information in the right format can be availed.

1.1.1 The Maasai

The Maasai are a Nilotic ethnic group of semi-nomadic people located in Kenya and northern Tanzania. They are among the most well-known of African ethnic groups, due

to their distinctive customs and dress and residence near the many game parks of East Africa. They speak Maa(ol Maa), a member of the Nilo-Saharan language family that is related to Dinka and Nuer, and are also educated in the official languages of Kenya and Tanzania: Swahili and English. The 2009 Kenya census report puts the population of the Kenya to be 40 million. The Maasai community constitute 2.1% of the country's population, their population stands at 840,000 people whose majority are pastoralists.

1.1.2 Pastoralism

Holes (1996) defines pastoralism or pastoral farming is the branch of agriculture concerned with the raising of livestock. It is encompasses animal husbandry: the care, tending and use of animals such as camels, goats, cattle, yaks, Llamas, and sheep. It may have a mobile aspect, moving the herds in search of fresh pasture and water. Bates (1998) defines pastoralism as an extensive animal production system under traditional livestock sector.

Pastoralism is found in many variations throughout the world. Composition of herds, management practices, social organization and all other aspects of pastoralism vary between areas and between social groups. Many of them have discarded traditional practices and adapt to the changing circumstances of the modern world. For instance, ranches of the United States and sheep stations and cattle stations of Australia are seen by some of modern variations.

Pyne (1997) the theory of pastoralism was derived directly from hunting and gathering. In this view, hunters of wild goats and sheep already had knowledge of herd dynamics and the ecological needs of the herd animals. These groups were already mobile, and followed wild herds on their seasonal rotations. The process of domestication began before the first wild goat or sheep was tamed as a result of the selective pressure of hunter prey-choice acting upon the herd. In this way, wild herds were selected to become more manageable for the proto-pastoral nomadic hunter and gather groups.

Pastoralism takes place mainly in marginal areas, where cultivation (and the higher energy achieved per area) is not possible. Animals feed on the forage of these lands; an energy source which humans cannot directly utilize. Bates (1998:105) asserts that the herds convert the energy into sources available for human consumption: milk, blood and sometimes meat.

Bates (1998:105) moreover found that there is a common conception that pastoralists exist at basic subsistence. This assumption is not true; groups often accumulate wealth and can be involved in international trade. Complex exchange relationships exist with horticulturalists, agriculturalist and other groups; pastoralists rarely exist exclusively on the products of their herd.

Pastoralism is well adapted to the environments where it exists; it is a successful strategy to support a population with the limited resources of the land. Important components of the pastoralist adaptation include low population density, mobility, and dynamism, and

complex information systems. Mobility allows pastoralists to simultaneously exploit more than one environment, thus creating the possibility for arid regions to support human life. (Bates 1998:104) asserts that rather than adapting the environment to suit the "food production system" the system is moved to fit the environment. Pastoralists often have an area with a radius of 100-500km.

1.1.3 Nomadic Pastoralists

It is a generalized food-producing strategy with its main base relying on the intensive management of 1) herd animals for their primary products of meat and skin, and for their secondary products such as wool or hair, milk, blood, dung, traction, and transport; 2) because of the different climates and environments of the areas where nomadic pastoralism is practiced and because of the ecology of their herd animals, this management includes daily movement and seasonal migration of herds; 3) because a majority of the members of the group are in some way directly involved with herd management, the household moves with these seasonal migrations; and 4) while the products of the herd animals are the most important resources, use of other resources, such as domesticated and wild plants, hunted animals, goods available in a market economy, is not excluded.

The actions of herders are carefully planned, but also constantly adjusted, to match changing conditions. The system is dynamic, to suit the unpredictable landscape. All pastoralist strategies exemplify effective adaptation to the environment. Because the pastoralists were constantly moving, it put them at odds with sedentary people of towns

and cities. There has been recurring conflicts over land, limited natural resources such as water and vegetation. These disputes are common in Kenya among; Pokot, Turkana, Samburu Somali and Borana.

1.1.4 Social Organization of the Maasai

Maasai is a strong patriarchal society; they are organized into sub-tribes, clans with the 'household' (often including extended family) as a basic unit for organization of labour and expenses. Age set is a strong force in governance, within the age group they anoint leader among them, a traditional chief *Olaigenani* and *the Olaibon* the spiritual leader play a central role in providing leadership, providing solution to calamities that might befall the community. Justice is administered through a council of elders *Ilpayiani*, who are also important in decision making and providing direction to the community on several issues. Lineages can be the basis for property rights. Mobility allows groups of pastoralists to split and regroup as resources permit or as desired with changes in social relations.

1.1.5 Marginalization of the Maasai

The issue of marginalization of the Maasai cannot be overemphasized. As mentioned earlier the Maasai are traditionally a semi-nomadic pastoralist population concentrated in the Rift Valley of southern Kenya and northern Tanzania. Demille (2012) mentioned that since independence, in 1963, the central issue for Kenya's Maasai has been economic, political and social marginalization. Constituting roughly two percent of the population KNBS (2009), their positioning on the periphery of Kenya's political economy has

several implications. In many regions tensions between the Maasai and the Kenyan government have been exacerbated by factors such as poor infrastructure, meager funding for education and public health, growing poverty and illiteracy, unemployment, environmental degradation and acute water shortages National Coordinating Agency for Population and Development (2005).

The most pervasive issue for the Maasai relates to the distribution of land and violations of what the Maasai consider are their indigenous land rights. Many of their contemporary land issues stem from the original dispossession of vast land holdings by the British colonial authorities under the enactment of the Anglo-Maasai treaties of 1904 and 1911 that resulted in the forceful removal of Maasai from the Laikipia region in central Kenya to the semi-arid southern Rift Valley Ole Ndaskoi, (2006); Olol Dapash (2001); Southall (2005) ; Hughes (2005). In the post-independence period, the lack of clearly defined and codified land policies protecting the rights of minorities have continued to fuel a strong undercurrent of agitation within Maasai communities Kantai, (2007); Olol Dapash, (2001) ; Southall (2005) and Kahura (2004).

While historically the Maasai have not engaged in direct ‘rebellion’ or been involved in violence against the state Minorities at Risk Project (2006), the year 2004 marked a precipitous change in the Maasai social movement. Widespread demonstrations tied to the 100th anniversary of the Anglo-Maasai treaties led to mass arrests of Maasai protestors, claims of state intimidation and suppression of Maasai leaders and organizations, and the killing of two Maasai herders by government police forces Kantai,

(2007); Ole Ndaskoi, (2006); Gachingiri, (2004); Kamau, (2004); Kihuria, (2004); Mathangani 2004; Mugo (2004) as quoted by Demille (2012). During this volatile period, Maasai communities across Kenya railed against the government's treatment of Maasai protestors and united in calls for comprehensive land reform. The discourse in the Maasai community underscored deep feelings of economic, political and social marginalization, and growing discontent with the lack of action by the government to resolve their grievances.

1.1.6 Kajiado County

The Kajiado County is located south of Kenya. It has an area of 21,903 km² (approximately the size of Israel). The district borders Nairobi city to the north and extends to the Kenya-Tanzania border further south. It also borders the districts of Taita Taveta (to the south east), Machakos (to the east), Kiambu (to the north) and Narok (to the west). The county capital is Kajiado. The Kajiado County is divided into seven administrative divisions - Central, Isinya, Loitokitok, Magadi, Mashuru, Namanga, and Ngong and currently it has three constituencies, Kajiado Central, Kajiado North and Kajiado South.

It has a population of over 406,000 with nearly 50% being in the age range 0 to 14 years. The indigenous peoples of the area are the Maasai but there is an increasing influx of peoples from other tribal groups. The landscape consists of plains plus some volcanic hills and valleys. The region is dry with no continually flowing rivers and is officially designated as semi-arid. The annual rainfall varies between 500 and 1,250mm. There

are two wet seasons, the ‘short rains’ between October and December and the ‘long rains’ between March and May. In recent years there have been long periods of drought when there has been little or no rain.

1.2 Statement of the Problem

The Maasai pastoral communities have a strong urge for information. Among the possible information needs are, information about livestock keeping which is a major source of their livelihood, how to manage natural resources like water, minerals, vegetation. Information on health, education and probably information on proper land use to enhance productivity but the capacity to get information and harness it for proper use in decisions that affect their lives has not been addressed.

In Kenya, libraries were introduced by the European colonialists for their exclusive use. This meant that the location, format of information and the language all worked to their advantage. After independence libraries and other important information services were distributed based on considerations such as population distribution, geographic location and availability of funding. This notwithstanding, the vice of ethnicity was also imminent, robbing marginalized ethnic groups their constitutional right of access to information. Chester and Neelamenghan (2006) believe that equity and justice requires that any programme for socio-economic development, whether general or in a specific sector, should cover and benefit all sections of the society, irrespective of race, caste, colour, religion , culture and other social, economic or political differences.

Mommoh (2002) observed that lack of information in the right quantity and format is the cause for rural dwellers to live in crushing poverty. Maasai pastoralists represent rural population in Kenya. It is evident that this factor incapacitates communities. It has also been noted that lack of information creates a vicious cycle of poverty and underdevelopment. This cycle of poverty is at large in scenarios whereby people cannot catalyze their children to go to school and support their learning process and in turn discourages achievement of higher education. It is also visible when communities are blessed with a pool of endless natural resources but lack knowledge on how to exploit them to their advantage. Inadequate information in its own nature has negative effects to the society. Among them are antisocial behaviors, and risky behaviors that may result to crime, cattle rustling, lion killing, alcoholism, HIV/AIDs and conflicts of ethnic nature. All these added together excludes the Maasai from active participation in the social, economic and political processes in Kenya.

The right of access to information is provided under the Bill of Rights in our new constitution. Many countries both developed and developing countries have increasingly emphasized the need for their nationals to access and utilize information to build their economies and catalyze the process of development. It is common in Africa to find rural populations lacking information to support their livelihoods. This situation is evident in cases where libraries and other information centres are concentrated in urban areas. For instance, the county of Kajiado does not have any public library. Despite this, their information needs can still be satisfied if the needs are studied and strategies are developed to provide access to information.

Kamba (2006) states that, the emergence of information and knowledge society is a significant intervention with the potential to ensure that knowledge and information are very important for achieving meaningful development. The relevance of this revolution is supported by Balit (1996) who pointed out that the least expensive input for rural development is knowledge. Knowledge and information are basic ingredients of making one to be self-reliant and are essential for facilitating rural development and bringing about social and economic change

It is important therefore to note that failure to assess information needs and seeking behaviour of Maasai pastoralists of Kajiado so as to provide them with the right information will result into underdevelopment and poverty. This statement is further supported by Okiy (2003). He observes that, "Rural development is a basis for economic development and information is an important ingredient in development process. People in rural areas whether literate or not should have access to any kind of information which will help them to become capable and productive in their social and political obligations, to become better informed citizens generally."

Athulang., et.al. (2009) in their study of information behaviors of non-users of libraries in Botswana noted that libraries and information providers need to be creative in putting in place attractive information programmes and services which takes into consideration the information behaviour of the communities they serve. This element of creativity has been lacking in several attempts to provide non-users of libraries such as pastoral communities with information. Though libraries are not the sole providers of information, there was

need as well to identify the channels and media through which pastoralists can viably use to access information.

This research was based on the postulation that pastoral communities contribute greatly to the Kenyan economy through livestock keeping ventures and tourism and they have information needs. It was therefore imperative that their information needs and seeking behavior be investigated.

1.3 Aim of the Study

The aim of this study was to investigate information needs and seeking behaviour of the Maasai pastoralists of Kajiado County with a view of developing appropriate strategies to address their needs.

1.4 Objectives

The specific objectives of the study were to:

i. Establish socio-economic activities the Maasai communities are engaged in.
ii. Determine information needs of the pastoral Maasai community.
iii. Establish factors influencing information seeking behavior of Maasai pastoralists
iv. Establish information sources and channels used by the pastoral Maasai community.
v. Identify barriers inhibiting information access by the Maasai pastoral community Propose strategies to improve access to information by the Maasai pastoral communities.

1.5 Research Questions

The study was guided by the following questions:

i. What socio-economic activities do the Maasai pastoralists of Kajiado County carry out?
ii. What kind of information do they need to satisfy their needs?
iii. How do the Maasai pastoralists seek information?
iv. What information sources and channels do the Maasai pastoralists of Kajiado County use to access information?
v. What obstacles do the Maasai pastoralists face in accessing information?
vi. What should be done to improve access to information by the Maasai pastoralists?

1.6 Assumptions of the Study

This study was based on the following assumptions:

Although the Maasai pastoralists have information needs, their needs are not met due to inadequate access to information.

It was assumed that Maasai pastoralists through their livestock keeping activities, tourism and subsistence farming contribute greatly to the economy of the country. However, lack of information impedes them from realizing their socio- economic and political development.

The information services such as KNLS do not address the specific needs of the Maasai pastoral communities.

1.7 Significance of the Study

This study was a significant endeavor in promoting access to information to Maasai pastoralists and other marginalized groups in Kenya. The study also brought to light the information needs of Maasai pastoralists and this helped in finding modalities of satisfying their needs effectively. This study analyzed the existing channels and media used to access information. In this case, viable channels and media were recommended to improve information access.

The study will also be helpful to institutions based in marginal counties in Kenya such as learning institutions, government agencies, NGOs and especially those which are charged with roles of providing information services such as libraries and other information centres, in the sense that it will provide a roadmap for provision of information services. In so doing pastoral communities will enhance their socio- political and economic development.

This study will also be significant to future researches. In that, it will add to the existing literature on information seeking behavior and it will be used as a point of reference for future studies.

The study will be of help to the Maasai pastoralists in the sense that it will assess the existing channels and media of information and recommend appropriate action to improve the current situation so as to provide information to spur the economy of the Maasai.

1.8 Scope and Limitation of the Study

Marilyn and Goes (2013), defines the scope of the study as the parameters under which the study will be operating. They stated that the problem you seek to resolve will fit within certain parameters. The study covers all aspects of information seeking behaviour of Maasai pastoralists of Kajiado County. Burns and Grove (2003, 46) define study limitations as, restrictions in a study that may decrease the generalizability of findings.

a) Illiteracy

Majority of pastoralist in Kajiado county were illiterate and therefore it was very difficult for the respondents to interact with the written text therefore it consumed the researchers time to interpret the question which are written in English.

1.9 Delimitation of the Study

The fact that the researcher was a local Maasai and he understood the language, customs and their way of life enabled him conduct the study effective.

1.10 Definition of Terms

1.11 Information

Information can be defined as any difference you perceive, in your environment or within yourself. Wilson (2000)

1.12 Information Needs

It is recognition that your knowledge is inadequate to satisfy a goal that you have. Case (2000)

1.13 Information Seeking

It is a conscious effort to acquire information in response to a need or a gap in your knowledge. Case (2007)

1.14 Information Behaviour

Information behaviour encompasses information seeking as well as the totality of other intentional or passive behaviour (such as glimpsing or encountering information) as well as purposive behaviors that do not involve seeking such as avoiding information.

Wilson (2000) expounds further states that information behavior is the totality of human behavior in relation to sources and channels of, including both active and passive information seeking and information use.

This includes face to face communication with others, as well as the passive reception of information as in watching advertisements without any intention to act on the information given.

1.15 Information Seeking Behaviour

This is the purposive seeking for information as a sequence or need to satisfy some goal. In the course of seeking, the individual may interact with manual information system, or with computer based systems, Wilson (2005).

1.16 Pastoralism

Bates (1998) defines pastoralism as an extensive animal production system under traditional livestock sector.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Literature review plays a very important role in research activities, as it forms the very first step of research pursuit. It provides a basis for conceptual framework, insights into methods and procedures, suggests operational definitions of major concepts and also provides a basis for interpretations of findings. The study of related literature implies locating, reading, and evaluating reports and empirical studies that are related to the planned research.

Best and Kahn (2003) states “Since effective research is based upon past knowledge, review of related literature helps to eliminate the duplication of what has been done providing useful hypothesis and helpful suggestions for significant investigations”. It is valuable guide to defining problem, recognizing the significance, suggesting and premising data gathering devices, appropriate study of design and source of data. This also helps to sharpen the understanding of the existing knowledge in the problem and provide background for research.

This study focused on the information seeking behavior of the Maasai pastoralists covering all facets of their information seeking behavior. For the purpose of a clear understanding the various concepts related to information seeking behavior of Maasai pastoralists of Kajiado County. The review of literature has been organized in the

following categories but in the preliminary an understanding of the model of information behaviour and the conceptual framework was drowned. The concept of information in relation to the Maasai Community was also discussed.

2.2 Theoretical Framework

Kombo and Tromp (2006) define a theoretical framework as a collection of interrelated ideas based on theories. It is a set of prepositions, which are derived from evidence that accounts for, or explains a phenomenon and attempts to clarify why things are the way they are.

2.2.1 Models of Information Seeking Behaviour

The researcher consulted several models of information seeking behaviour, but for the purpose of this study, the researcher chose to discuss four of them. These are:

2.2.2 Information Search Process (ISP) Model

Information Search processing model, commonly referred to as ISP, was developed by Carol Kuhlthau. It is a holistic framework based initially on research into high school students, but extended over time to include a diverse range of people, including those in the workplace (Kuhlthau, 1991). The model examined the role of emotions, specifically uncertainty, in the information seeking process, concluding that many searches are abandoned due to an overwhelmingly high level of uncertainty. Information Search Process is a 6 stage process; with each stage encompassing 4 aspects;

- Cognitive (thoughts) - what is to be accomplished

- Affective (feelings) - what the searcher was feeling
- Actions (physical) - what the searcher did
- Strategies (physical) - what the searcher was trying to achieve.

2.2.3 Ellis's Model

This model was initiated by David Ellis in 1989. Elis's work on information seeking identifies eight stages in information seeking process. These include: starting, chaining, browsing, differentiating, monitoring, extracting, verifying, and ending. Ellis investigated the behaviour of researchers in the physical and social sciences, engineers and research scientists through semi-structured interviews using grounded theory approach and focused on describing the activities rather than a process, (Ellis,1989).

These initial investigations produced six key activities within the information seeking process:

- Starting (activities that form the information search)
- Chaining (backwards or forwards - following references in initial information sources)
- Browsing (semi-directed search)
- Differentiating (filtering and selecting sources based on judgements of quality and relevance)
- Monitoring (keeping track of developments in an area)
- Extracting (systematic extraction of material of interest from sources)

Later studies by Ellis (focusing on academic researchers in other disciplines) resulted in the addition of two more activities;

- Verifying (checking accuracy)
- Ending (a final search, checking all material covered).

2.2.4 Episodic Model

The episodic model was developed by Nicholas J. Belkin. This model is based largely on intuition and insight and concentrates on interactions with information. There are 4 dimensions which characterize search behaviour. These dimensions can be combined in 16 different ways.

- Method of interaction (scanning/searching)
- Goal of interaction (learning/selecting)
- Mode of retrieval (recognition/specification)
- Resource considered (information/meta-information)

2.2.5 Wilson's 1994 Integrative Model of Information Needs and Information Seeking Behaviour

The researcher used Wilson's 1994 integrative model of information needs and information seeking behaviour. The researcher chose to use this model because it covers all aspects of human information behaviour, whether active or passive, making it suitable for this study. The term information-seeking behavior was first presented by Wilson (1981). He states, that information-seeking results from user's perceived information

needs and information seeking itself is the search process and strategy that meets information needs.

Wilson (1981) created a model of information behavior, integrating information need, information seeking, information exchange, and information use in a flow diagram. The flow goes in the way that first information needs triggers information-seeking. Then during information seeking, users will either turn to personal contact for information exchange, or go to information systems to seek help. Success and failure exist in both sources. Based on the information they receive and the use of information, users information needs will be either satisfied or not. If not, a next circle of information seeking will start.

In the same article, Wilson also proposed a model of circumstances that brought about information-seeking behavior. The main elements of this model are the context of information need and barriers in either information-seeking or in information processing. In this model person is located in an environment including work environment, as well as person's social role and person itself. The social role includes work role and performance level. Under such circumstance, person's need is divided into physiological needs, affective needs and cognitive needs. The barriers include personal or individual barriers, interpersonal barriers and environmental barriers. Wilson (1994) later amended this model to incorporate Ellis's (1989) work on information seeking, which indentifies eight stages in information seeking starting, chaining, browsing, differentiating, monitoring, extracting, verifying, and ending.

Based on these two models, Wilson (1997) expanded the old models to incorporate activating mechanisms, including risk/ reward theory (Aaker, et al .1992; Murray, 1991), social learning and self-efficacy theory (Rosenstock et al, 1977), and stress / coping theory (Folkman, 1984; Folkman & Lazarus, 1985). In addition, this model also elaborates the concept of barriers, and specifies that characteristics of the information sources can also be a barrier. Altogether, instead of three types of barriers in the old model, the barriers variables in this model include; psychological, demographic, role-related or interpersonal, environmental, and sources characteristics. Barriers affect both information –seeking behavior and information processing and finally, affect the evaluation to information search results. Again, instead of using Ellis's (1989) model of information seeking, Wilson used his own framework of information seeking styles, including passive attention, passive search, active search, and ongoing search.

Based on the above three models, in contracting the model for information seeking behavior of Maasai pastoralist related information, the researcher included the concepts of individual in context, barriers, information seeking and information processing and use. However, the content of each concept is adapted to fit this specific situation. The outcome of the whole model was set as decision-making. The activating mechanisms of the 1994 model are also simplified and skipped in order to make the research easier to implement.

2.2.6 Relevance of Wilson's 1994 Integrative Model of Information Needs and Information Seeking Behaviour

The researcher opted for the above model in Figure 1 on page 20, the model pictures the cycle of information activities, from the rise of the need (context needs or individual in context) to the phase when information is being used (information processing and use). The model includes seven constructs as follows: a) "Individual in context" comprised of age, sex, age set, clan, economic activities, educational level, language skills, technological skills, years of experience, marital status, and social network. This variable helped in deeply understanding the characteristics of Maasai pastoralists. b) The model indentified "Information needs" encompassing specific information about animal husbandry, environmental information, health information, education information, development information, land information and information on politics and governance. c) Figure 1. Also shows "Media and sources" which entails (personal contact, mass media and organizations). d) There are also several intervening variables which represents "Barriers to information seeking" includes illiteracy, psychological, language, environmental, technological, sources characteristics, lack of government support, poor network coverage and cost of information materials. The model suggests that the impact of these barriers may support or prevent information use.

As indicated in the figure below on page 20. The "barriers" variable was isolated out, and two different styles of dashes are used to represent where barriers come from and what barriers influence. As the barriers affect both information seeking behavior and

information processing, it was not appropriate to arrange it between two constructs of persons in context and information seeking behavior as in the Wilson's (1994) model.

In a nutshell, the model seems to suggest that information needs are to be satisfied, if information processing and use becomes an essential part of the feedback loop as shown in figure 1. Finally, the model shows "information confidence, processing and accessibility and availability" which facilitate decision making which is the outcome of the whole model.

Figure 1: Integrative Model of Information Needs and Information Seeking Behaviour.

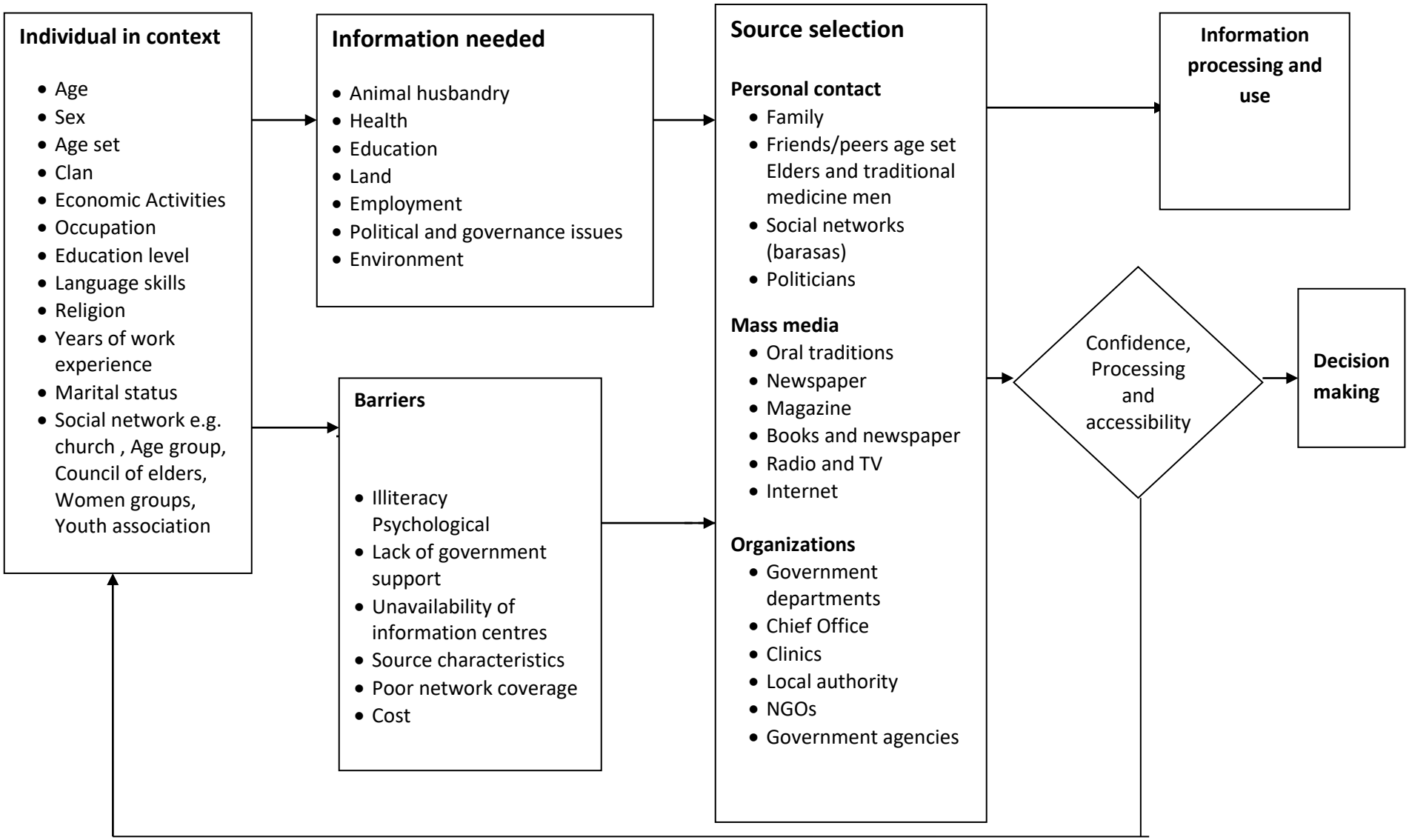

Fig.1. Theoretical model involving individual characteristics, information needs, sources and media of information, barriers and decision making adopted from Wilson's 1994 integrative model of information needs and information seeking behaviour.

2.3 Review of Previous Studies

Studies in information behavior in Africa are generally fewer than in the developed world despite the high level of interest generated in the field in the last decade. The available few with the exception of Aboyode (1984), Momodu (2002), Njoku (2004), Gundu (2006) and Ng'ang'a (1998), have concentrated on professional groups mostly within institutions and in urban settlements. In a recent review of studies on the information needs and seeking behavior of indigenous people of several developing countries, Dutta (2009) reported that "there is relatively small number of studies done on the information behavior of the citizens of developing countries", and that, "the few concentrated on the educated individuals and the urban population located in the large cities than on citizens who live in the rural areas." This study was therefore not only an attempt to bridge this gap but to also answer such questions as what are the information needs and seeking behavior of pastoralists of Kajiado County. These reviews majorly concentrated on studies about rural communities because Pastoralists live in rural areas. It is important foremost to make a review on the concept of information.

2.3.1 The Concept of Information

The concept of information is very complex and difficult than ordinarily meet the eye. This is evident in the various definitions and attributes of the concept. Notwithstanding the fact that information is as old as man, and that it affects and is affected by all aspects of human activities, no consensual redefinition of the word exists in the literature. Available definitions reflect the emphasis and perhaps prejudice of their proponents. Information is a multi-disciplinary concept. It is against this background that Cliss (1986)

observes that the data processing manager might conceive it in terms of data, the records manager in terms of records and reports, the librarian or information scientist in terms of document or materials and the rural communities in terms of message. Thus, Yuexiao (1988) opines that when it comes to defining information, it is really an elusive and controversial concept.

Ajewole (2001) has led to the categorization of information definition into three (3) strands. The firsts is the scientific and technical information (STI). This is within the domain of scientific and technological communities. The second strand is social-cultural. In this context, information is viewed as knowledge, which is transferable in the conduct of various activities. In the final strand, information is perceived as a basic resource and an indispensable and irreplaceable link between a variety of activities, intellectual and materials, in the services of society, institutions and individuals. However, within each of these strands, there is no consensual definition of the concept. Thus Gilchrist (1982) lamented that one of the difficulties information professionals have always grappled with, in their profession and with which scholars are still trying to cope with, is that of the definition of information. For the course of this study, Ajewole (2002) information definitions in the last two strands are accepted. However, there seems to be agreement on the capabilities of information and these are well documented in the literature. Information is capable of provoking actions and inaction in the recipient. This may have informed Gordon's (1994) description of information as referring primarily to the human understanding that steers human action and consequently control signals in any living organism.

Similarly Shera (1972) has defined information as that which is transmitted by the act or process of communication. According to him, it may be a message, signal or stimulus. It assumes a response in the receiving organism and therefore, possessed a response potential. However, Davies (1976) gave a broader definition. He defined information as data that has been processed into a form that is meaningful to the recipient and is of real or perceived value in current or future decisions. Hamrefors (1996) opines that information serve as a base for competent development. According to Ginzberg (1980), information reduces uncertainty while giving opportunities, and government policies. Machlup and Masfields (1983) also defined it as all published and unpublished knowledge about any given subject. Information is the resource, which allows us to change and improve the society we live-in. It liberates man physically and spiritually. It is a resource for the acquisition of power. It can be used in making rational decisions by individuals, group of individual, organization as well as getting the rural Maasai community informed and mobilizing them into action.

To make information useful in development, it was important to take a closer look on information seeking behavior of rural people. They may have their own particular way of handling information that is closely related to their social and cultural background Meyer (2003). Meyer (2000) discusses research on information use by rural people. In a study of a group of traditional farmers producing food for their own consumption, incoming information was better understood and accepted when the messages were communicated in a way which they could identify. They exchanged information using “indigenous communication mechanisms,” and most members had little exposure to ways of

communication that are based primarily on literacy. The situation described by Meyer (2000) is typical of the Maasai Pastoralist of Kajiado County.

2.3.2 Maasai Traditional Occupation and Livelihoods

2.3.2.1 The Maasai Traditional Economic Activities

The Maa-speaking people can be categorized into about 17 sub-groups in some literature these are reduced to only two groups, the pastoralists Maasai or Iloikop or people of the hard teeth who eat roots and grains or Iloogolala. Each Maa group lives in its own area, but they resemble one another in many ways. Perhaps a distinctive factor is their economic base, whereas four groups out of these are sedentary pastoralists the remaining thirteen are pure nomads who depend on livestock only for their living.

The Maasai people herded their cattle freely across the great rift valley of east Africa prior to European colonization of Africa. It is said that by 1800, the Maasai people occupied a large territory that ran from central Kenya to Lake Turkana in northern Kenya. They first encountered Europeans in the 1840s during the 1880 and 1890s. The Maasai experienced severe drought and they were decimated by rinderpest, a highly infectious febrile disease. The colonization of East Africa by the Europeans imposed boundaries that separated the Maasai land right through the middle into Kenya and Tanzania respectively.

The pastoral peoples such as the Maasai are among the indigenous tribal people that practice indigenous livelihoods in Kenya. The Maasai people as pointed out earlier

depend significantly on livestock. They move from one place to another in search of pastures and water for their cattle. Cattle are the center of the Maasai life. Providing their food (milk, blood, and meat) their by-products (skin for clothes and dung to plaster their houses) and their only recognized form of wealth. Each family marks its own cattle with a unique brand and ear slit to identify them.

The Maasai are predominantly traditional livestock keepers. They keep cattle (traditional short-horned zebu) goats, sheep and donkeys (for transport). Livestock to the pastoral communities have great value in terms of economic cultural and social aspects. Pastoralists use livestock for subsistence, cash income, store of wealth and security. Livestock are also important assets in marriage and rituals as well as for paying fines. All these cement social ties. Of great importance, livestock are used as a prestige, for instance one commands high respect in the community if he owns many cattle than anyone in the area. The Maasai are regarded as poor when they own below 100 cattle or medium when one owns between 100-500 cattle. Those owning more than 500 cattle are regarded as rich.

Traditionally, Maasai had a tradition of supporting each other. The livelihood of the poor household is supported through a culturally determined coping base for the pastoralists resulting into land use conflicts. On the other hand there were deliberate government development programs and policies that had far recurring effects on the pastoral rangelands. For instance, the establishment of wildlife protected areas such Amboseli, Tsavo, Maasai Mara conservation areas denied pastoralists traditional grazing rights.

Today, pastoral communities occupy arid and semi-arid rangelands that receive poor rainfall (in most cases below 400mm), as a result water and forage are insufficient for gazing areas resulting into pastoralists' migration from one place to another. Reduction in resource base has increasingly brought about vulnerability and poverty among the pastoral communities. With the ongoing resource shrinkage and further marginalization, pastoralist ability to manage ecological uncertainty and the spread of risks have been reduced significantly. There is a decrease in the mobility of herds and change in patterns of resource utilization. This has in turn increased livestock loses and intensified food insecurity.

Apart from loss of natural resource base the Maasai have also lost their indigenous knowledge, cultural values as well as pride. Most of the young men have migrated to urban and growth centers to seek for alternative employment opportunities. ILO /INDISCO study contacted in Tanzania Concluded that the traditional occupation of the pastoral peoples is not sustainable under the current economic, political, social and institutional set-ups. It is affected by a number of factors as summarized below:

i. Loss of control over the traditional resource base the land, which make it difficult for the pastoral people to continue relying on livestock as they are used to. In addition livestock population has also declined due to diseases, inadequate grazing land, forced de-stocking and prolonged drought.
ii. Loss of the traditional governance systems and customary laws as a result of introduction of modern state administration associated repressive organs of police,

army and courts. This implies that there is also loss of control over the means and context of traditional education for the reproduction of their cultures.

iii. Loss of participation in decision making that affects their lives which is associated with a loss of traditional knowledge of how to manage specific eco-system and skills and social institutions required for protecting and preserving natural resources.

2.3.2.2 Emerging Forms of Employment

International Labour Organization (2000 :55) found that there are emerging forms of employment among the Maasai people include farming, business (selling of traditional medicine, running of restaurants/shops, buying and selling of minerals, selling milk and milk products by women, embroideries), and wage employment (as security guards/ watchmen, waiters, tourist guides), others who are engaged in the public and private sectors and tourism, the county of Kajiado boasts of the presence of Amboseli National Park and parts of the Tsavo East national park. Other occupations include land brokerage and selling of traditional herbs.

2.4 Information Seeking Behavior

Kuhlthau (1991) asserts that information seeking behavior incorporates a series of encounters with information within a space of time and not a single incident for an end and thus it is a process of sense-making where the seeker forms a personal point of view within a frame of reference to the problem. Information seeking is the process of identifying and choosing among alternative information sources. Binwal et al. (1990)

defines information seeking as a process of collecting and receiving information by different means, and behavior as:

- The process of selection of information sources;
- The process of carrying out search for information;
- The factors that affect approach to information sources.

Binwal et al (1990) further mentioned series steps they identified in the process of information seeking behavior.

i. Identifying objective
ii. Defining need
iii. Accessing information system
iv. Establishing sources of information
v. Information acquisition
vi. Use of information
vii. Satisfaction/dissatisfaction

They mentioned that this process is cyclic in nature with various steps inter-relating and reacting up on each other as well as interacting with the information seeking behavior in general. They indicate that behavior is the best that yield the highest information satisfaction to users. The best information system is that which yields maximum information satisfaction at minimal cost through a modulated information behavior.

Information seeking behavior starts with a needs concept a user searches for information to satisfy a need. Odini (1995) states that," to study needs and users means, primarily to study the behavior and experiences of users in confrontation with information channels". Rouse and Rouse (1994) assert that human information seeking is affected by such factors as payoffs and costs, resources available, expected value, update rates, amount of information available, diagnosticity of data, distributional characteristic of data and conflicts among sources. For instance information seekers will not go for higher cost information despite its diagnosticity and will tend to go for over and under-sample information sources.

Holes (1996) define pastoralism or pastoral farming as a branch of agriculture concerned with rearing of livestock. He went further to mention that they are involved in animal husbandry which involves: the care, tending and use of animal such as cattle, goats, sheep, camel, yaks and Llamas. Pastoralism has a mobile aspect, moving the herds in search of fresh pasture and water. This argument will support the categorization of pastoralist as rural people. According to the Encyclopedia of Education, rural people are people that live in the up country and in small villages. Encyclopedia Britannica (1974) defines rural people as most of the farmed and peasant people of the world who live in villages or isolated places. The Webster's dictionary also sees rural as relating to, or characteristics of people who live in the country opposed to urban, characterized by simplicity, lacking sophistication and engaged in agricultural pursuits.

Aina (2004) opines that information seeking behavior depends on their individual personalities, attitudes, values, systems behaviors and level of socialization. In other words, it is the product of their socio-cultural, economic, environmental and individual characteristics. According to the International Encyclopedia of information and library science (1997), information seeking behavior connotes the complex patterns of actions and interactions which people engage in, when seeking information of whatever kind and for whatever purpose.

2.4.1 Information Behavior in Traditional Societies

Etebu (2009) asserts that people who are accustomed to an oral tradition can better relate to information exchanged in the way they understand. Meyer (2000, 2003) identifies communication mechanisms and information seeking behavior typical of people used to an oral tradition:

i). In an oral culture, information is stored in people's memories. Therefore, people with good memories play a vital role in storing and transferring information, and in depth of a knowledgeable person may lead to valuable information being lost.

ii). The manner in which information is communicated will largely determine whether the community will react to it or not. For example, if information is not offered in metaphorical speech or demonstrated in a way people are used to, they will not be able to understand it and it will not make any impression on them.

iii). Phrasing and repetition are used to ensure that critical expressions are stored in the memory. Phrasing provides the basis for an agreed upon interpretation, which may go beyond what was actually said.

iv). A particular form of language delivered in a special way is employed specialized contexts for particular purposes.

v). Authority structures play a vital role in storing and transferring information, the implication being that if authorities are not familiar with a particular type of outside information; the information will not easily be sanctioned, and thus will not easily be accepted by the group.

vi). In cultures with an oral tradition, information is exchanged face to face. Information cannot be transmitted over long distances. Often, information remains within the borders of a particular community. Unless people of different communities interact, information created in other communities will remain inaccessible.

vii). Stories and myths tend to be experiential that is, based on events familiar to the listener or story teller.

viii). Mnemonic aids such as rhymes are widely used to make the oral transfer of information more reliable.

ix). Recipe-like patterns or stereotypical methods of expression are also very common. Unnecessary repetition may be used to ensure that information is conveyed correctly, and in detail.

2.4.2 The nature of Information

Meyers (2005) argues that information as a resource has been a topic of discussion of academics and practitioners in various subject fields -especially in the field of economics. Economists such as Machlup, Porat and Bell pioneered the ideas of information economy with information as the transforming resource for postindustrial society. Meyers (cited authors such as Marchand and Horton (1986) viewed of information as a corporate resource, which like other resources such as people, money, raw materials, equipment and energy should be managed to give a competitive edge. These authors helped develop both the idea of information as a resource and the idea of information-resources management (Badendoch *et al.* 1994). In the wake of information and communication technologies, Hawkins (1987) confirmed that information has become a commodity. Yet requirements for economic enhancement are not necessarily requirements for development in rural communities when it comes to the basic survival of people.

Meyers (2005) posits that this immediately raises the question of what prerequisites a resource should comply with in order to be useful for development purposes. Of course, many other resources are needed for developing people in rural communities with which information as a resource should favorably compare - for example, farming practices in rural communities will require input resources (seed, fertiliser), farming implements (tractors, ploughs), credit, markets, infrastructure, and natural resources (soil, water, climatic conditions). At first glance, when comparing information with these resources, it seems that most of them are tangible in nature, while information is not and yet, many Sturges and Neill (1998); Boon (1992); Van Rooyen (1995) view information as one of

the most important resources needed for rural development. Although information is recognised as an important, yet still under-utilised, development resource, one needs to look critically at the attributes of information to determine whether they could aggravate the problem of under-utilization.

2.4.3 Value of Information

Aguolu (1997) stress the vital role information on the economy's or nations development and emphasize that the ultimate corporate resources has become information; that the ultimate competitive advantage is the ability to use information and the sum of the two is knowledge management and the essence of knowledge management (KM) is connection – the connection of people to share and build on what they know, to collect information of value and make it easily and appropriately available; to enquire that people understand the value and potential of what they know.

Several attributes are associated with the concept of the value of information. They include reliability, quality, authoritativeness, timeless, adequacy and relevance of information to its target users Acholla and Ojiambo, 1993). According to Acholla and Ojiambo (1993) librarians may gather useful data on the information needs of their users through user surveys but unless they successfully select information sources which are relevant to individual users' or user group needs, they run the risk of damaging the image of the library as an information service; and worst, users branding it as irrelevant.

Dervin (2003) acknowledges the role being played by information communication technology (ICT) in creating a networked environment that accelerates the creation, sharing and use of information. He however warns that too much information is almost as bad as not enough. This is because it becomes necessary to sieve through so much information before one identified what is relevant, important and effective. He cites an example of e-mail facilities enabled by ICTs, which has revolutionized communication in general, but which also provides a means to drown people with "just –in case" information. This is despite the fact that most people only need information on a "just –in- time" basis the right information at the right time that they need it. But Griffiths (1993) sees technology as the provider of solutions to a number of problems facing libraries in both the developed and developing world because it offers presentation and retrieval of catalogue.

2.4.4 Attributes of Information

While investigating the validity of information as a resource, the natural approach would be to compare attributes of information with those of other resources, in order to find some commonality. A comparison of this nature necessitates a closer look at the attributes of the different resources. To this end, Burk and Horton (1988) give nine basic similarities between information and other traditional resources to fit into a resource-management framework, namely:

- Information is acquired at a definite, measurable cost.
- Information has a definite value, which may be quantified and treated as an accountable asset.

- Information consumption can be quantified.
- Cost-accounting techniques can be applied to help control the costs of information.
- Information has a clear life cycle: definition of requirements, collection, transmission, processing, storage, dissemination, use, and disposal.
- Information may be processed and refined, so that raw materials (e.g., databases) are converted into finished products (e.g., published directories).
- Substitutes for any specific item or collection of information are available, and may be quantified as more expensive, or less expensive.
- Choices are available to management in making trade-offs between different grades, types and costs of information.

Burk and Horton(1988); cited in Eaton & Bawden (1991) in trying to identify those attributes of information that focus on its intangibility, Eaton and Bawden combined the viewpoints of various authors to come to the following key distinctions:

- **Value of information.** Unlike other tangible resources, information is not readily quantifiable - that is, it is impossible to predict the ultimate value of information to its users. Also, over time, there is no predictable change in the value of information.
- **Multiplicative quality of information.** The results produced by the use of information differ greatly from those produced by the use of other resources - for instance, information is not lost when given to others, and does not decrease when

'consumed': sharing information will almost always cause it to increase - that is, information has a self-multiplicative quality.

- **Dynamics of information.** Information cannot be regarded as a static resource to be accumulated and stored within the confines of a static system. It is a dynamic force for change to the system within which it operates. It adds value to an organization through encouraging innovation and change without being tangible.
- **Life cycle of information.** Information seems to have an unpredictable life cycle. Ideas come into, go out of, and finally come back into, fashion.
- **Individuality of information.** Information comes in many different forms, and is expressed in many different ways. Information can take on any value in the context of an individual situation. This proves that, as a resource, information is different from most other resources. The very fact that information is characterised as a dynamic force, 'constantly altering and extending a store of knowledge' Rogers (1992), corresponds with situations in development in which outside information is offered to focus groups to alter their understanding of certain practices, which in turn can help them solve problems (such as improving food security or standards of living) Eaton and Bawden (1991)

Meyers (2005) noted that apart from the attributes identified by Eaton and Bawden, the following, also containing elements of intangibility, may be added to the list:

- **Alleviation of uncertainty.** According to Mark and Pierce (2001), Shannon, as long ago as 1948, defined information as the resolution of uncertainty. This is

perhaps one of the intangible attributes best known among a variety of researchers.

- **Interdependency.** Information almost always forms part of technology - it is the "soft" part Röling (1990). Without its information component, technology has little value as a resource for potential users who are not familiar with its workings or its background. With regard to developing rural communities, one should bear in mind that it is not necessarily new technology that brings about these achievements. All outside technology applied for the first time could be viewed as *new* to the user group or that particular situation, and could have similar effects.
- **Enhancement of economic growth.** A frequent complaint is that information is often denied its role as a resource Neelameghan (1980); Boon (1992). Yet, when looking at the effect of information in development situations, there seems to be an underlying awareness of its importance. Kaimowitz *et al.*, (1990: 238) refer to the impact of new technology (including information as the hidden component) in agriculture on the basis of such aspects as increased farm income, reduced risk, resource conservation, improved health, better (food) security, and overall economic growth.
- **Extension of the knowledge base.** From a development point of view, there is more emphasis, first, on improving peoples' lives socially and only secondly on economic improvement. In development, outside technology is often introduced with the help of education, training and visual demonstrations. Rogers (1992: 137) states that training helps people in rural communities to expand horizons,

increase perceptions, enhance competencies, enlarge sense of perspective, and enhance self-esteem.

The above seem to emphasize the impact of the dynamic force of information, where the 'extension or altering of people's stores of knowledge' Eaton & Bawden (1991) positively affected their social well-being. Thus, although information is an intangible entity, it has the ability to bring about change for the better; which is the ultimate goal of development.

- **Context dependency.** The value of information as a resource in rural development depends largely on situation-specific issues: for example, one could argue that agriculture-related information is mostly technical in nature. However, people with little exposure to modern society have many related issues they need to know about. Ozowa (1995: 17), for example, identified certain types of basic information needed for the development of crop production by traditional farmers; *inter alia*, information about agricultural input (seeds, fertiliser, etc.), extension, technology (farming equipment, etc.), implementation techniques (ploughing, sowing, pest and weed control), soil, water and climatic conditions, conservation, credit, marketing and infrastructure.
- **Culture dependency.** Another attribute of information that can influence its usefulness as a development resource is that it is culture dependent - involving conceptual and cognitive differentiation. Pickering (1996: 451) is of the opinion that because information is culture specific, it is incommunicable unless acculturated - that is, adapted for the cultural environment or the cultural mind-set of the recipient group. Here, Shields and Servaes (1989: 49) also point out that

information is not totally value-free, but is socially conditioned and shaped by the social structures that apply it. This aspect has serious implications for developers' efforts to transfer information to the rural communities of developing countries.

- **Medium dependency.** Information is not only culture dependent, but also medium dependent. Once information is concretized outside the human memory it should be packaged in some or other format (i.e., print, images, sound, electronic digits, etc.) to be communicated to someone else. Unless receivers know how to use that particular format, the information will remain inaccessible and rendered useless; for example, an electronic medium directed at users who are unfamiliar with such facilities can impede access to available information.

Thus, medium dependency of information can have serious implications for quite a number of rural people who are dependent on oral communication, owing to their oral tradition and the fact that many of them are not literate. This attribute could cause information to be a less useful resource when compared with other resources needed for development purposes.

- **Conversion dependency.** It is a well-known fact that information is not used in the original form offered by its creator alone -.often, it needs to be adapted to suit a particular situation or specific circumstances. It can also happen that only a small chunk of the original information is used together with other chunks of information to form a new information package needed for a particular situation. In this way, more value can be added to the appropriateness of information. Particularly in a situation where outside information from the industrialized world

is used to improve a practice in rural development, the information content needs to be adapted to bring it to the level of understanding of potential recipients.

2.4.5 Information Use and Exchange among Pastoralists

The Maasai pastoralists have in many decades and centuries needed information to go about their day to day lives. This nomadic way of living is seen to influence their information seeking habits. Pastoralists have unique ways of acquiring, storing and sharing information. This aspect is linked with mobility is the complex “maps” that pastoralists keep in their minds, marking out the usefulness of certain areas at different times of year. Wilson (1992) found that pastoralists have a detailed understanding of ecological processes and environmental inputs. Information sharing is essential for creating such deep knowledge. This is made possible by formal visiting rules and networks, keeping the dispersed societies linked together. Elders discuss and cautiously plan in advance; using the knowledge they acquire, in order to act in the most appropriate way. At the same time supported by a strong traditional beliefs such as taboos and curses information is handle delicately with the highest confidentiality possible to avoid unnecessary panic, information pertaining security and safety of livestock and people is exchange only between elders and worriers.

Pastoralists need information about their environmental ecology, livestock management, natural resources such as vegetation and water. They also need information about rain patterns and meteorological information. They are also faced with challenges of drought which massively devastate their livestock so they will need information and management.

Pastoralists also need information about health, education, housing, agriculture, tourism and business. It is also important to mentioned that the Maasai pastoralists for a long time have been socially excluded from participating on national affairs and political issue which are very important for their development and this factor has made them to become marginalized by successive government regimes, in this regard there it is important to empower them with political information about the rights and the need for political participation as citizens.

2.4.6 The Value of Information and Information Services

The report of a task force of the Special Libraries Association (Matarazzo, *et al.*, 1987), stressed that information professionals must be prepared to prove the value of their services through one or more of the following approaches: 1) measuring time saved; 2) determining actual monetary savings or gains; or 3) providing qualitative, anecdotal evidence of value. Employing these approaches, the task force cited a number of case studies demonstrating the value of information professionals to their organizations. For example, the Georgia Technical Institute installed a campus-wide on-line library system in 1986 and reduced the costs of its literature searches by $1.2 million a year. Another case study was the library at the Houston division of Texas Instruments. In a survey conducted by the library, users' responses indicated that the library saved the company $268,800 a year and increased users' job proficiency by a value of $523,000 a year. From an annual investment in the library of $186,000 a year, Texas Instruments netted $959,000 in benefits--a 515 percent rate of return.

In a separate report, Basch (1990), a member of the Special Libraries Association task force, pointed out that corporate information services compete for funds with a variety of other departments. Thus, information professionals need to gather qualitative evidence of their services' seemingly intangible benefits. It is also extremely important that they know the key decision makers in their organizations, Basch added, and become thoroughly familiar with the business of the organization and its competitors. To build customer loyalty, information professionals must continually monitor customer satisfaction and modify the product or service mix as required.

Matarazzo and Pruzak (1990) argued that, although top managers value their information their libraries provide, the majority have no means for measuring this value or for determining which services contribute to the firm's strategic goals. Their 1990 survey of 164 libraries found that upper management supported libraries because they felt that information was important to the company. When asked to identify services that added the most value, however, nearly two-thirds of the respondents did not know or chose not to respond. In a follow-up survey in 1995, Matarazzo and Pruzak interviewed 103 respondents who were either the director or the vice president to whom the librarian reported. About three-quarters of the firms surveyed in 1990 participated. When asked to identify the primary means used to assess the library's value, 36 percent named annual surveys or informal feedback from users, and 25 percent measured the volume of requests handled. Only 7 percent could evaluate the quality of the information provided. While nearly three-quarters of the managers believed the library contributed to the firm's

corporate strategy, only one-third viewed the library as improving the information base used to make strategic decisions.

Kantor and Saracevic (1997) developed a basis for documenting and measuring libraries' value to their supporting organizations. They argued that, although much is known about how top management views the special library, these managers rarely use the library directly and thus have an unclear understanding of its value. They focused on how actual users of the library value its services and how they express that value.

For their interviews at 10 special libraries, Kantor and Saracevic developed a detailed *taxonomy of value* of information services, which not only considered fiscal savings, but also encompassed the new corporate concept of the *balanced scorecard.* Through interviews with 218 users of these libraries, they determined that individual users evaluate their library in terms of its ability to provide what they need to meet some corporate goal or objective. They concluded that "users of special libraries discuss value in terms of whether, and to what extent, the library or information service meets or does not meet their expectations of it" (p.37). Users will have already internalized corporate goals and shaped their own behavior to advance them. They then approach the library in furtherance of these goals and judge it on how well it meets these expectations. This information is important for anyone who seeks to express the value of the library to senior managers, whose focus is the bottom line.

Marshall (1993) examined the positive impact of information on corporate decision making. Between October 1991 and March 1992, she worked with 299 randomly selected managers and executives from five major financial institutions in Toronto. As part of the study, participants requested from their library information related to a current corporate decision-making situation and then evaluated the impact of the information on that decision. Eighty-four percent of the managers felt that the information had led to a better informed decision. Forty percent felt that the information had made them consider a new dimension, while 54 percent said they probably or definitely had handled some aspect of the decision-making situation differently. In cases where the decision involved a financial transaction, 74 percent of the managers estimated the value of the transaction at over $1 million.

In assessing the monetary value of information services, Griffiths and King (1993) drew up on 27 studies performed with 16 companies and 7 government agencies in the U.S.A, as well as 4 national surveys of professionals, with a total of over 10,000 responses. They found that libraries cost between $400 and $1,000 a year per professional (in 1993 dollars) and that, due to economies of scale, companies require 50 to 75 professionals to justify one full-time librarian. Small firms without libraries spend about two to four times as much to acquire information as larger firms with in-house libraries. And it is 2.3 times more expensive to provide information from alternatives to special libraries than from an in-house library service.

Griffiths and King (1993) argued that the cost of a professional user's time and effort to obtain information elsewhere far exceeds the cost of providing a library. These estimated savings increase significantly if obtaining the library material prevents the need for primary research, provide confirmation of research, stops an unproductive line of research, modifies a research design, or modifies a method of analysis. In these cases, the estimated savings are $310 per journal article, $650 per book reading, and $1,090 per internal report. Griffiths and King concluded that the overall return on investment for supporting an in-house library ranges positively from a low of 7.8 to 1 to a high of 14.2 to 1.

Keyes (1995) evaluated techniques for determining the monetary value of special libraries and, in particular, benefit-cost methodology. She stressed that determining the monetary value of a library to its parent organization is a critical part of the library's overall evaluation. She pointed out that the corporate library, like other divisions within an organization, is under pressure to tie its value to that organization's strategic mission. This value needs to be presented in a monetary sense so that the library can compete with other departments. Keyes presented a four-step approach to valuing the special library: 1) extract all cost data for operating information services; 2) collect user estimates of the value of beneficial library services; 3) record the impact of the special library, measurable in qualitative terms and countable, if not easily converted into dollar values; and 4) analyze the cost and benefit information gathered and determine benefit-cost ratios.

Griffiths and King also assessed the value of information in terms of time savings and work quality. Surveys conducted in eight organizations asked professionals to indicate whether reading journal articles, books, or internal reports saved them (or their coworkers) any labor time or other resources. The parameters used to assess this study were as follows: overall time savings, avoided primary research, stopped unproductive research, modified a research design, and modified an analysis method.

Koenig (1992) investigated studies that demonstrated the correlation between expenses of information services and corporate productivity. Among these, he detailed a study performed at Exxon in the mid-1970s that showed a benefit-cost ratio of 11 to 1 and a NASA study conducted in the late 1970s that reported a benefit-cost ratio of 7.6 to 1. Koenig found that all of these studies showed a remarkable consistency: the most conservative estimate revealed the benefits of information services to be almost double the costs incurred. He concluded that information services are cost-effective investments and that information-dependent organizations should substantially increase investments in such services.

McGee and Prusak (1993) argued that information is more than collected data; rather, information represents data that are organized, ordered, and imbued with meaning and context. Information must inform, they held, while data have no such mandate. Information must be bounded, while data can be limitless. For data to become useful to a decision maker as information, it must be presented in such a way that he or she can readily relate to it and act upon it.

For McGee and Prusak, the key to corporate competitiveness is the ability to acquire, manipulate, interpret, and use information. They argued that information is the basis of competition and provides the greatest potential payback to organizations. Information is an asset, and it requires management. Unlike other assets though, information is reusable. It does not deteriorate or depreciate, and it has a value that is determined solely by its users.

2.4.7 The Role of the Information Professional

In their study of 12 major corporations, Owens and Wilson (1997) found that senior executives view the creation of an information culture in an organization as a critical step toward ensuring continued success. In fact, top managers' commitment to information as an asset is a major factor in the implementation of successful information systems. Through their interviews with senior executives, Owens and Wilson determined that the role of the traditional information specialist is being overshadowed by information technology personnel, who frequently put emphasis on the effective storage and retrieval of information rather than the quality of the information itself. They endorse a new set of attributes that information professionals need to survive, including political ability; business acumen; and skills in information technology, communications, innovation, and negotiation.

The Special Libraries Association is keenly aware of the changing information world. In 1996, the association published its report, *Competencies for Special Librarians of the 21st Century* (Marshall, 1996). The report affirmed the value that the information

specialist adds by providing efficient and effective information services for a defined group of customers. The box below shows the two sets of skills that the association considers being crucial for information specialists in the next decade. As defined by them, "professional competencies" relate to knowledge of information resources, information access, technology, management, and research--and the ability to use these areas of knowledge as a basis for providing library and information services. "Personal competencies" represent a set of skills, attitudes, and values that enable information professionals to work efficiently, communicate effectively, and survive in the new world of work.

According to Choate (1997), Microsoft's training program focuses on preparing its information staff for the company's fast-paced and ever-changing business environment. The staff recognizes that new technologies and complex pricing schemes demand that they have the technical knowledge required to do thorough evaluations of new technologies and the business acumen to perform complex cost comparisons. Additionally, as their customers became more information-savvy, the need for quality, value-added information services increases. In response to a corporate challenge to stay ahead of the curve, the research group of the Microsoft library designed a training program that provides guidelines and measurable performance criteria for all staff, from entry-level to senior members. Core competencies include basic research abilities, customer service skills, and work flow management. Once specialists master the entry-level program, they are assigned to one of three researcher roles: agents, navigators, or partners. Each level has its unique training program and skills to be mastered.

Requirements in addition to the training program include presentations to library staff and attendance at outside professional-development events.

Kennedy (1997) posits that Digital Equipment also is responding to information specialists' changing roles. The Corporate Library Group at Digital met the challenge of the information explosion with a Web-based solution on Digital's Intranet: the Web Library. Staffed by interdepartmental teams, the Web Library evaluates, analyzes, synthesizes, qualifies, and disseminates externally created information. The library staff provides the expertise to carry out the Web Library's work and to validate its relevancy and content.

2.4.8 The Importance of Information to Rural Community Development in Africa

The importance of information in rural community development cannot be overemphasized Kamba (2006) discussed the importance of information to rural community development in Africa. He asserts that information has become a supportive input for any developing program. The importance of information is vital Nyerere (1967) stated that, "While other countries in the world aim to reach the moon, we must aim for the time being at any rate to reach the villages by providing them with necessary information". Thus, it can be said that, information, if well-articulated could eradicate ignorance and give enlightenment on how to achieve economic, educational, social, political and cultural objective towards the development of the entire community.

In addition to this, utilization of information in a coherent form can raise aspiration, through arousing people from fatalism, fear of change, desire for a better life and the determination to work for it. This creates an intellectual climate, which stimulates people to take another look at their own current practices and future perspectives. Ideally, information brings about knowledge, and a knowledgeable community is also an informed community. This signifies that no community can develop without knowledge, and a community can only become knowledgeable if they recognize and use information as their tool for development.

As Kamba noted that, it is generally agreed by a number of scholars such as Mchombu (1993. 2003,), (Corriera et al 1997), Okiy (2005). Dahwa and Makinta (1993). Camble (1994) and others that, rural communities in Africa have invariably lagged behind in terms of any meaningful development. This constitutes to a greater extent the underdevelopment of African nations as a whole because rural communities form the nucleus of those nations. Lack of access to adequate and right information at the right time to the rural communities undermine the effort' at improving the living conditions of the rural people by both government and nongovernmental organizations.

It has been observed that having access to the right information can address major problems that hinder rural community development and it can also improve chance for livelihoods. Several researchers such as Powell (1997) reported that an increase income because farmer's cooperatives which are well informed are able to respond appropriately to changes in the market. This has made them to compete with commercial farmers,

through communal viewing of agricultural program on television and telephone conversion with distance friends and relatives. It also strengthened their social networks, such people today continue developing themselves with information they acquired

Kamba (2006) further his argument that societal needs are satisfied through various kinds of activities, each of which requires information as an input. These include, for example, education. Policy formulation, research and development, personal needs, business, decision-making, mass communication, public good and private goods. Societal needs are also satisfied at different levels, from individuals through to global communities with information, that is why Panos (1998) as cited by Kamba (2006) stated that "access to information is an essential condition for development'·. From this juncture, it can be said that information if well uttered and packaged for rural communities will exterminate poverty, ignorance and enlightens on how to achieve economic, social, education, political and cultural objectives towards the development of the entire society.

Access to information in rural communities of Africa is affected by a number of drawbacks, evident in ways in which rural information services are coordinated. It is agreed that information providers and experts need to pay attention to the group of the community. Odini (1995). Therefore, the role of libraries, information centes and other agencies becomes vital in sustaining the information services for the development of rural communities in Africa. In this case, Libraries and information centres should develop their collections, facilities and services to meet the information needs of their patrons.

In addition, to accomplish this task effectively, government and its agencies must have a careful and through understanding of the information needs and information-seeking behaviour, information services and information system of the rural communities. Furthermore, governments and agencies must have effective implementation picture that will make the rural dwellers to maximize the utilization of information for their daily activities. It is therefore, desirable to understand the purpose for which information is required, the environment in which the user operates users' skills in identifying the needed information, channels and sources preferred for acquiring information, and barrier to information seeking and use. Adequate knowledge of the information needs of users is imperative for government and its agencies in re-orienting the information services and activities to synchronies them with the information seeking behaviour of the rural communities.

Researchers such as Mchombu (2003), Aina (2004) Correa (1997) cited that all established that rural communities in African are often left out from participating in government policies, development and other important activities. Why? Because their diverse interest, literacy level, expertise, and their needed information for survival, and development are hidden from the existing information flow. The kind of information delivered to the rural communities is very much system oriented to which most of the rural dwellers cannot understand and benefit from it, and the provision is dependent on the availability, extent of content, Government interest, format and available modes of delivery. This is particularly obvious in developing countries like Africa where

infrastructure and development policies are minimally provided due to unplanned development efforts by the governments.

Today information is conceived as an important resource that contributes immensely towards the development of a nation especially in this era of information explosion. It provides the mainstay for the development of knowledge, the foundation for innovation, the resources for informed citizenry, and a result, becomes a key commodity for the progress of any society. Mchombu (2003) stated that, “the contradiction between the vital role of information in development and its lack of official recognition in developing countries can hardy escape the attention of information specialist”. Therefore, this unhealthy situation warrants immediate concern of the information workers, professionals, government and specialists to actively bring about lasting favorable solution, so that information can be fully accepted and utilized as resources contributing to the development.

Some researchers have observed this situation as an apparent dilemma of information being a powerful catalyst to transform society, and yet there is apparent weakness of linkage between information investment and the achievement of specific development goals. There is an ironic twist in developing countries which are the least in terms of development: the trend bows that they are the least awakening to the use of information in overcoming underdevelopment (Stone, 1993).

Part of the reason lies in our information providers, Government, politicians and policymakers for not being exposed to evidence that unquestionably demonstrates the contribution of information to development. The challenge, therefore, is to produce valid models in which the socioeconomic impact of information activities could be assessed, In turn; such an orientation n would result in the design and creation of impact-bearing information programs and services that could lead to rural community development (Stone, 1993). If such impact can be demonstrated by the Government, Information professional, decision-makers, resource allocators and politician, it would definitely increase the support of information as a vital resource for development. Virtually, rural people need accessible information in order to solve problem in their everyday lives. This information provides them with a sense of security, achievement and control.

Belshaw (1965: 128) and McAnany (1978:2), share the opinion that for any community to function efficiently and productively, a basic minimum stock of usable information is essential. Every society needs to acquire, store and exchange this basic stock of information to allow it to survive. They view that information is central to the solution of any society's economic and social problem and should be regarded as a factor of production, is now widely accepted. Pradervand (1980: 56) has gone even further to insist that information is the most basic needs. This is why community information should be viewed not only as a way to improve the quality of life of the individual, but also as a primary social concern (Bordchart, 1977 and Wilson, 1981).

2.5 Information Needs

Taylor (1968) first described information need as a personal, psychological sometimes inexpressible, vague and unconscious condition. He divided information need before information seeking to four levels; visceral need, conscious need, formalized need, and compromised need. Later a lot of research defined information need as what people think or feel during information seeking and use, and information needs are treated as motivation to information behavior (Dervin and Nilaan 1986; Hewin, 1990)

Parsad (1992, 23) states that information need or need for information is a factual situation in which; there exists an inseparable interconnection with information and need. The information originates and is generated because there is a need or an interest. The context of information is of primary concern. He further says quoting Wilson (1981) that the basic objectives of studying information use or expressed need are:

i. The separation of observed phenomena of information use or expressed need.
ii. The prediction of instance of information use and
iii. Control and thereby improvement of utilization of information on manipulation of essential conditions.

Ng'ang'a (1998) observes that the kind of information needed depends on the uniqueness of the communities and their way of life and also this also vary from one rural area to another, he gives an example of information needs of rural settings around the Lake region as more interested on information about finishing as opposed to pastoralist needs in Northern semi-arid Kenya. Odini (1995) notes that the information user community

can be classified into groups such as farmers, professional in various fields, policy makers, planners and administrators.

Rosenberg (1993) raises the need to identify and meet the information needs of the rural population and provided alternative libraries such as resource centres, classrooms libraries and decentralized academic library services as some of the viable means of reaching rural populations with information.

Saleh and Lasisi (2007) identify various information needs for rural women in Borno state, Nigeria, namely educational information, economical information, health information, political information but they noted that many rural women are not politically conscious and the presence of the government is only felt at the time of electioneering campaign where promises are made and not fulfilled perhaps reflecting a similar situation in Kenya.

Bakar (2011) carried out a study on information seeking behaviour of rural women in Malaysia; he identified finance, child education, religion, foods, health, home beautification, hobbies, and international issues as their information need. Gundu (2006) observes that information needs is tied to the livelihoods of the rural women. He notes that their needs can be as simple as to know the prices of basic commodities like sugar, possibly because of the current economic situation in Zimbabwe. He further stated that women have several needs basing it on the Maslow hierarchy of needs but majority of their needs felled under the most basic needs or physiological needs i.e. need for security,

love and need to belong. Other respondents exhibited the need for survival against threatening conditions such as insecurity and forced displacement.

Kumar (1980) opines that determining the needs of the users' means knowing about their requirement for information. In order to determine their requirements, it is essential to know the following; their background (qualification, knowledge of language, areas of research and specialization) and the purpose they need the information for. Paisley (1987) as cited by Okwilagwe (1998) stresses that the five factors which affects the information needs of human beings are; their background, professional orientation, the full array of information, information sources available, motivation and other individual characteristic such as the social, political, economic and other systems that affect the users and their functions. Information needs of the rural women are mainly indigenous information. This type of information includes: knowledge held by local people, gained and transmitted informally, usually by oral tradition. The diverse nature of rural communities indicates that their information needs are many and varied. To determine the totality of their information needs. Alegbeleye and Aina (1985) quoting Ogunsheye, categorized information needs of the Nigerian rural communities to include the following:

i).The neighbourhood: Information needs in the neighbourhood include problems of water supply, electricity supply, environmental sanitation, refuse disposal, road maintenance and drought.

ii). Health information on how individuals can, prevent different diseases that affect them, and awareness of available healthcare delivery and what it costs.

iii). Agriculture and allied occupations: The greatest area of information needs by rural Nigerians is in agriculture. Such information needs include planting treated seeds, soil conservation, prevention of plants and animal disease, fertilizer application, farm machineries, recommended thinning practices, proper storage of farm products, marketing techniques, cooperative activities and other agro-cultural activities.

iv). Education: Information needs of the existing rural schools, needs of the illiterate's and semi-illiterates. They need to have relevant information that will develop in their interest and support of teaching and learning processes.

v). Housing: Rural public need information about where they can obtain loans to build houses and the type of materials to be used and where they can be easily obtained.

vi). Employment: Rural communities need information on employment opportunities on taxation, investment opportunities, banking and other financial activities. vii). Transportation: They need information on the cost of bicycles, motorcycles and vehicles and where to obtain them. They need information about road construction and maintenance.

viii) Religion, Recreation and Culture: Information is required on religions, recreations and cultural activities.

ix). Welfare and Family matters: Information is required on problems of marriage, childcare, juvenile delinquency etc.

x). Legal matters: Information is needed on laws that affect the rural dwellers. Such law ranges from marriage to land.

xi). Crime and Safety: Information is required on how to prevent crimes, report crimes, role of the law enforcement agents etc.

xii). Policies and Government: Information is needed on political rights of the people and how they can exercise such right.

xiii). Land: Information is needed on land tenure systems, acquisition and transfer of land etc.

In support of the above, Okeh (1999) stresses that information is needed to solve day to day problems such as findings consumer goods, locating appropriate medical facilities for family health, investment opportunities, and government policies. Aboyade (1987) in a recent study of library services to the rural people enumerated the following information needs:

(a) Health Related Matters:- This information on building of pit latrines, balanced diet, antenatal care of infertility, regular water supply etc.

(b) Agricultural implements and materials: - Supply of fertilizers pest and weed control etc.

(c) Education matters: - Eradication of illiteracy schools for children etc.

(d) Social matters: - Electricity, god roads, transportation system, employment opportunities, legal matters credit and loan facilities, political awareness, religious matters etc.

2.6 Sources of Information and Media

Sources of information are tools that can possibly meet the information need of different categories of users. They are information carriers while the media is the medium through which information is passed to the user. In journalism a source is a party that gives information and that information is communicated through a medium or channel. Speculated and realistic benefit desirable from a source makes that source useful and sustainable. There is a variety of sources of information but what may prove its importance is the availability and preference of the source to different categories of users.

Users are perceived in this study to be people who live in rural villages, who are mainly illiterates and whose main source of livelihood is livestock. Since majority of them cannot read or write, the most suitable sources of information for them are audio-visuals and inter-personal communication which include, radio, television, public forums, age group association, health workers, traditional songs, whistling, churches, mosques, local government workers, friends and relatives , public libraries, posters and handbills (Nicholas and Marden, 1998).

Yang (2006) notes that media is classified into three categories: personal conduct (including family, friends/peer and academic advisers), mass media (including newspaper, magazines, books, TV program, pamphlet, internet), and organization (including career centres, library, international education centre, and government Agency). However this finding are seems to favor groups that are already in knowledge

of the availability of information and perhaps a community with high levels of literacy levels.

Supporting the above statement Adegule and Adesina (1991) observe that since the essence of the rural libraries is to provide basic information to the peasant farmers and illiterate populations, bearing in mind the fact that these people cannot read or write, these libraries must provide not only books and other printed materials but also a lot of non-print and audio visual materials because they obtain and understand information better through oral, visual and auditory means of communication.

Zijp (1994) mentioned the use several mediums to share information in rural communities. He said that farmers and other rural groups can easily use powerful multimedia training programmes with touch screens, even if they are illiterates. Farmers can get information about daily markets process on the radio or through e-mail notices posted at a local centre before taking products to a market. Rural midwives can get immediate information about particular health problems from microcomputer at a local clinic; Rural people can get high quality, consistent training at low cost via distance education or interactive training technologies.

Zijp (1994) believes that application of information technology in rural development can be sustainable as has been done in other developing countries as Indian, Malaysia and South Africa. He also provided a useful guide for using various information technologies in rural development –CD- ROM, computer networks, desktop publishing, decision

support system, geographical information system, interactive multimedia, packet radio, satellite communication and video.

Okwilagwe (1993) also identified three categories of communication media available for rural people. They are:

1. Interpersonal or people-based or face to face media which includes, the news or press conference, interviewing, speech making, public meetings, group discussions, drama, home visit, role playing etc.
2. Mass media, which includes radio, Television, Newspapers, cinema, folk theatre, billboards, magazines etc.
3. Other media (not confined to mass media) which includes, publication and loose leaflets, video (forum), film strips, slides, exhibitions and displays, bulletin board, photographs.

It is also worth to mention oral tradition such as storytelling, myths, riddles because they play a very significant role in communicating information to rural communities. Little work or completely none have been carried out on Maasai in relation to information sources. Nevertheless, Mchombu (1996) and Kaniki (1995) studied the information behaviour of small communities in South Africa, which might relate to this study in the sense of being a rural community. Gundu (2006) mentions social networking pointing out on the church as a critical source of information to black women in Kariba, Zimbabwe. He mentioned that Books, newspapers and magazines but he further says rural

communities cannot access these sources due to high prices and difficulties in distribution resulting to user getting retrogressive information.

2.6.1 Information Services for Rural Communities

Information is needed by rural inhabitants in almost all human endeavors. He continues to argue that information hunger is prevalent and biting hard on our rural communities, which has resulted in poor living conditions, illiteracy, and poverty Harande (2009).

Diso (1994) holds the view that "rural areas in Nigeria are generally characterized by poor living conditions - absolute poverty and absent of almost all amenities of life. He reported that literacy in Nigeria is about 35-40 percent, but is much lower among women and in rural communities. Report of scarcity of learning facilities, including basic textbooks and journal, in school and libraries including academic libraries, show a critical situation". The information needs of the teeming majority are not provided for, which constitutes the major reason for the underdevelopment. Borchardt (1977), in discussing the need for rural information services, remarked that "None of the thousands of projects in the developing countries can be executed without the fundamental conditions of the establishment of a literate and numerate (rural) society, and a system for continuous provision of exchange of ideas, thought and knowledge on which the (rural) society, and can feed and use with suitable modifications to constructions own cultural and industrial destiny". Rural dwellers need relevant, efficient, and current information. Camble (1994) commented that “the success of rural information programmes rest squarely on the availability and use of quality information by rural development workers and rural people

and that many rural development programmes have failed in developing countries because they were planned with insufficient relevant information".

2.6.2 Traditional African Methods

Etebu (2009) states that, in Africa information is viewed as vital resource for development of people both in rural and urban dwellings. Boon (1992) and Camble (1994) noted that an absence of information may impede development. Traditional indicators are still widely used as modes of forecasting and land use management. These indicators are mostly local and are well understood in rural communities.

Okoola, (1996) outlines these traditional indicators to include: plants, birds, insects, (bees, butterfly, red ants, and termites), stars, hill shadows, moon, winds, (direction, strength, and time of starting and ending), clouds (position and movement), lightning (location and pattern), springs and swamps, cowries and so on. Apart from the traditional indicators, there are other ways in which information is provided. Most notable is the oral communication pattern. In almost all rural communities they use wooden or metal gongs or drums to stir up the people and deliver their messages orally. Another means of oral provision of information is holding meetings what is called in Kenya public meetings and clan meetings. Most villages and rural towns have squares where the people meet to discuss issues and make decisions; additionally local market places are also ideal venues for meetings. Through this means the leaders provide information for their wellbeing and development. The African rural population is mostly illiterate, and they get information this way at no cost. This oral exchange of information indicates that rural dwellers may

be able to relate to information exchanged in the way they are accustomed to Meyer (2005).

In an oral culture information is stored in people's memories and people with good memories play a vital role in storing and transferring information. The death of a knowledgeable person may lead to loss of valuable information Meyer (2005). Priests, traditional rulers, chief priests, soothsayers, village chiefs and elders, story tellers and diviners play key roles as information providers in the African context.

Sturges and Neill (1998) note rightly that "within Africa's oral medium, there existed a treasure–trove of knowledge which could contribute to the solution of many of the continent's persistent problems. Books and the print when they came did not alter the essentially oral aural character of communication in most parts of the continent". Meyer (2000) went further to say that "Indigenous communication mechanisms, is almost the only means by which particular groups exchange information. Most members of the groups hardly, if ever, been exposed to modern society, whose way of communication is based primarily on literacy".

2.7 Barriers to Information Access

Yang (2005) defines information barrier as a construct that affects both information seeking and information processing. It comes from both internal and external environment. Wilson (1999) classified intervening variables, which causes information barrier, to 8 categories; 1) personal characteristics, 2) emotional variables, 3) educational

variables, 4) demographic variables, 5) social/interpersonal variables, 6) environmental variables, 7) economic variables and 8) source variables. In this classification, the first belong to individual difference and experience; five to seven are from external environment; and the last one comes directly from information source itself. Harris and Dewdney (1994) summarized barriers to the following situations: 1) not knowing what information is needed; 2) not knowing where to look for the needed information; 3) lack of awareness of the existence of sources for information; 4) lack of communication skills, confidence, and ability; 5) discouragement by information sources; 6) time delays in information seeking; 7) inaccurate and inappropriate information received; and 8) information scatter.

Odini (1995) identifies lack of suitable information systems, language barriers, illiteracy and lack of skills as some of the factors abstract the use of information in Kenya. Additionally Kaniki (1995) also identified some factors which are viewed as constrains to accessing and utilizing information by rural population. Such factors include; illiteracy of lack of knowledge, poverty, lack of infrastructural facilities, lack of interest. Barriers that are more related to pastoral communities fall in to five categories. Dervin's (1980) namely societal, institutional, physical, psychological and intellectual. It is important to mention illiteracy as a major impediment to information access. Illiteracy is the inability to read or write. Gundu (2006) opines that reading is an essential part of life. Throughout the world people are grappling to promote a reading culture at a time when people are operating less time reading and when reading skills are declining. I tend to agree with this statement; in fact reading should go beyond classroom people should read for leisure,

discovery, and current awareness or essentially just to make their brains work as it with physical exercises.

According to Martin (1984) inconvenient location of information institution is a major barrier to access to information. Maasai pastoral communities live in scarcely populated areas. Many people in rural areas have been denied so many amenities by urbanization in Kenya and this is the reason why many libraries are found in urban centres. Saleh and Lasisi (2007) identified high rates of illiteracy inability to access formal channels of information due to poverty, lack of adequate and efficient information delivery mechanism, ignorance of governments responsibilities to its citizens, skeptism of the rural women towards government and its information agencies, attitude of extension workers towards effective rural information services and inaccessibility of the rural areas by NGOs as barriers to information need of rural women in Nigeria.

2.8 Accessibility and Availability of Information

Accessibility of information sources is an important recurring theme in the literature. A study undertaken by Abisai (1998) investigated the use of information by managers of public and private enterprises in Eldoret Municipality. He reveals that both public and private sectors firms in the municipality have information resources but access to it is hampered by poor packaging which is caused by lack of qualified information personnel. He went further to recommend that qualified information personnel who are able to appreciate the use and value of information be recruited.

Mathenge (2001) investigated the accessibility to information resources by the public secondary schools population in Eldoret Municipality. She identified the information needs of the school population to include requirements for curriculum and leisure information. The study established that the existing information resources, sources and services do not meet these needs. She found shortcomings that students encounter in their quest for information include: inadequacy of current resources, lack of trained personnel to man school libraries and poorly stocked libraries. She recommends that there is need to formulate a national information policy which should cater for school educational sector, coordination of school library service, teaching of information skills and provision of educational programmes on radio and television so as to enhance information access to public secondary school population.

According to Aguolu and Aguolu (2002), resources may be available in the library and even identified bibliographically as relevant to one's subject of interest, but the user may not be able to lay hands on them. One may identify citations in indexes, but may not have access to the sources containing the relevant articles. The more accessible information sources are, the more likely they are to be used. Readers tend to use information sources that require the least effort to access. These observations have been validated by empirical studies such as Sturges (1996), Aina (2004), and Rosenberg (1993). The user may encounter five possible types of inaccessibility. The types are conceptual, linguistic, critical, bibliographic, and physical inaccessibility. Aguolu and Aguolu (2002) noted that availability of an information source does not necessarily imply its accessibility, because the source may be available but access to it is prevented for one reason or the other.

Osundina (1974) studied the relationship between accessibility and library use by undergraduates in Nigeria and noted that the problem of Nigerian students is not the question of wanting to use the college library, but whether or not the university library can provide for their needs, and whether there is access to what is provided.

Aina (2004) wrote on access to scientific and technological information in Nigeria, revealing that of the 7,014 scientific papers published between 1900 and 1975, 5,607 (79%) are journal articles and 1,116 or (20%) of these journal articles were not indexed or abstracted, making them inaccessible. Further analysis shows that 77% of the papers not covered by any indexing or abstracting services were published in Nigeria. He recommends the establishment of a National Science Information Center to acquire, organize, and disseminate scientific information sources in Nigeria and other places.

Olowu (2004) identified natural and artificial barriers to free access to information. The library's poor reputation was attributed to lack of accessibility of information sources. Iyoro (2004) examines the impact of serial publications in the promotion of educational excellence among information professionals receiving further training at the University of Ibadan. The study looks at the perception of how serial accessibility has contributed to students' learning process. Serials were found to play a significant role in the acquisition of knowledge, because the serial collection was easily and conveniently accessible.

In a similar study by Oyediran-Tidings (2004) at Yaba College of Technology, Lagos, low use of the library by students was observed. This was attributed to expressed

accessibility problems. Neelamegham (1981) identified accessibility as one of the prerequisites of information use while Kamar (2008) notes that the governments deprives its citizens the right of access to information by classifying government information which eventually leads to information secrecy and the dangers with this includes:

1. Inaccessibility to government information enhances corruption due to lack of audit systems that act as check and balances on existing government structures;
2. Robs citizens of their fundamental human rights. Citizens have a fundamental right to access information generated by the government in whatever format, size, and shape; whenever and wherever they are regardless of language;
3. Creates unwarranted fear among citizens and mistrust between the Government and its citizens (the governed). Citizens have a right to information generated by the government as a means of knowledge.

Kuhlthau (1991) argues that the action of information seeking depends on the needs, the perceived accessibility, sources, and information seeking habits. Aguolu and Aguolu (2002) revealed that efforts are being made worldwide to promote access to information in all formats. They lament the attendant features of underdevelopment such as power failure, machine breakdowns, and lack of spare parts and technicians, which intermittently stall the performance of the modern gadgets of information storage and transfer in developing countries.

Kamar (2008) observes the following factors to be a stumbling block to information access and utilization by the Kenyan public:

i) Limited access and usage of the information/documents due to legal implications;

ii) Information not reaching the target user group;

iii) Poor ICT infrastructure and uneven distribution of internet facilities and resources

iv) Poor remunerations to information professionals in the public sector

v) Low information literacy level.

Kamar (2006), states that the low level of literacy and the absence of a reading culture has contributed to low information literacy levels. She further eludes that, with low literacy level, a sizable proportion of Kenyans cannot access government information because they cannot read in spite of available infrastructure such as the public libraries system coordinated and stocked by the Kenya National Library Services and community libraries that provide government information.

Kamar (2008) proposes the following recommendations as measures that should be employed by the government to improve information access to citizens:

1. Introduction of E-Government which will play a big role on information and library services delivery. With this in place a range of information technologies, such as the Wide Area Networks, the internet, and mobile computing, will be used to transform the library's operations.
2. Translation of information available in government libraries from English into the vernacular languages.

3. Information repackaging – Government libraries should repackage information into video/audio. Repackaged information may then be disseminated during village talks (*barazaa's*).

Harande (2009) observes that enhanced rural library programmes should be introduced to empower information services. He argues that the libraries, given the necessary attention, will play a great role in advancing the level of awareness of the people in developing countries, especially rural dwellers. Saunders (1974) observes that "in any developing country, a literacy campaign is incomplete, and will falter, without the back up of an effective public library service to develop and carry on from where the school leaves off".

This, statement has clearly shown that rural libraries are very important in the enhancement and advancement of the rural communalities. Kibat (1991) says that, "realizing the growing complexities of present day society and the increasing demands for information, a new dimension is recommended to supplement traditional library services in developing nations. This is the Information and referral service (I & R) that is familiar in the United States, United Kingdom and certain other European Union Countries. This service is variously called Community Information Service or Community Information and referral service."

2.9 Conclusion

After going through various studies on information needs and seeking behaviour important inference can be drawn. It was found that the information is vital recourse for

national and rural development; information is used to support their livelihoods. Information sources and channels used modern and traditional methods.

The reviewed studies gave the perspective of the significant studies conducted all over the world which certainly helped to narrow and more clearly delineate the research plan, in conducting the research on information seeking behaviour of Maasai pastoralist in Kajiado County. Similarly, these reviews helped in determining the degree of information needs and seeking behaviour of pastoralist that have already been done in and outside Kenya. The reviews did not find any study carried out on information needs and seeking behaviour of Maasai pastoralists, this factor shows that gaps exists in this area. Information needs studies seems to have concentrated on professional groups with an exception of a few studies have dealing with women in rural, perhaps information needs and seeking behaviour of men need to be investigated. The studies will go a long way to serve as foundation for future research studies directed to pastoralists on information needs and seeking behaviour and will be significant in developing information systems/centers and modes of information delivery channels that are tailor made to suit the requirement of pastoralists.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the design and methodology that was used in the study. It specifically entails the research design, study area, population, sampling procedures, research instruments, their validity and reliability and data analysis techniques.

3.2 Research Design

Leedey (1985) postulates that the research design is the strategy, the plan and the structure of conducting a research study. It provides the overall framework for collecting data. Burns and Grove (2003) identify three research methods, namely quantitative, qualitative and elective or mixed methods. They state that the research method is a blue print for conducting the study, which maximizes control over factors that could interfere with the validity of the findings. It guides the researcher in planning and implementing the study in a way that is most likely to achieve the intended goal.

This study was qualitative in nature; it sought to build a holistic, largely narrative description to inform the researcher's understanding of social or cultural phenomena. It gave the insider perspective of social action, subscribes to naturalism, that is to say, it got information from natural environment. The primary goal of studies using the qualitative approach is to understand and describe human behavior in a natural setting.

The reason why the researcher used qualitative research was that majority of the population in Kajiado County is illiterate. In this respect, it was important to give them a chance to construct knowledge about themselves. Chambers (1985) observes that qualitative approach empowers disadvantaged groups by giving them a chance to be heard.

Leedey (1985) postulates that there are three main types of research designs under qualitative studies namely: ethnographic studies, case studies and life histories.

3.2.1. Ethnographic Study

This study employed ethnographic type of qualitative research. The reason was that the Maasai pastoral community is a traditional African society with a rich cultural heritage and it is an intact group. Spadely (1979) reinforced this by stating that ethnographic method is the work of describing culture. The essential core of this activity aims to understand another way of life from native point of view. The study involved field work and also a discipline study of what the world looks like to people who have learnt to see, hear, speak, think and act in ways that are different. Rather than studying people, ethnography means learning from people.

Creswell (1994) asserts that ethnographic design strategy is rooted in anthropology. It involves the study of an intact group that can logically be defined in its natural context for a sustained time interval. The researcher was typically an observer or a participant

observer. It entailed the use of interviews and observation of behavior in such a natural setting such as homes, clinic, churches, schools etc.

3.3 Study Population

Best and Khan (1989) define population as, “any group of individuals that have one or more characteristics in common that is of interest to the researcher” In other words, the population is the enumeration of elements that one wants to study. Borg and Gall (1996) define a sample as a portion of a population chosen by some clearly defined sets of procedures. This therefore means that a sample has to be systematically chosen. Kombo and Tromp (2006) define a study population as an entire group of person or elements that have at least one thing in common.

The study investigated adult persons (persons above the age of 14 years) from the Maasai pastoralists in Kajiado County. Information was also elicited from key informants originating from government agencies, Non-Governmental Organizations (NGOs); community based organizations, schools and learning institutions as well as churches.

3.4 Sample Size and Sampling Procedure

Borg and Gall (1996) define a sample as a portion of a population chosen by some clearly defined sets of procedures. In this study, the entire Maasai pastoralists of Kajiado County constituted the study. The target sample was 90 respondents who were drawn from the County’s three constituencies; these comprised 30 respondents from each constituency, namely Kajiado Central, Kajiado North and Kajiado South. It was advisable to pick

respondents from the three constituencies because of diversity based on geographical distribution and other elements such as clans. This gave the study a well representative sample. Five respondents out of the 30 from each constituency were key informants.

3.4.1 Cluster and Simple Random Sampling

Cluster sampling was used because the area covered by the research was very wide and therefore it was logical to divide the whole County into a cluster of three (3) constituencies. Then from the cluster sampling, a population was divided into groups (particularly geographically), two (2) villages per constituency which were then selected randomly using simple random sampling. The advantage with this was that every member had the same or equal probability of being sampled. The villages selected were Enkorika and Orinie Village in Kajiado Central; Mile Tisa and Ng'atotoek in Kajiado South and Ilmasin and Isinya in Kajiado North Constituency.

3.4.2 Snowball and Judgmental Sampling

The researcher selected the participants from the Maasai pastoral community through snow ball sampling which is also known as chain referral sampling. It is a type of purposive sampling. In this method, participants or informants whose contact has already been made using social networks referred the researcher to other people who potentially participated in or contributed to the study. Snowball is often used to find and recruit hidden population that is not easily accessible to the researcher. Key informants (respondents from relevant government agencies, NGOS, CBO, Churches and learning institutions) were selected using judgmental sampling whereby the researcher used his

own judgment in selecting the units from the population of study based on the population parameters.

3.5 Data Collection Instruments

Burns and Groves (2003:48) define data collection as the "precise systematic gathering of information relevant to the research purpose". Data gathering under qualitative studies is a process achievable overtime rather than a once off procedure. This characteristic makes it difficult to work with prescribed template of predetermined roadmap. To effectively cover the research problem, it was appropriate to triangulate data from a number of data collection techniques i.e. interview with respondents and key informants, focus group discussions, participant observations and interview schedules.

3.5.1 Direct Observation

Data was gathered primarily through close visual inspection of the natural setting. The researcher strived to be unobtrusive as possible so as not to bias the observations and he was also detached from actively participating in the setting. The researcher observed certain sampled situations of Maasai pastoralists such as communication modes; information channels used, information sharing behavior and barrier to information access. This was achieved through the use of observation protocol or schedule data collection instrument. One advantage of direct observation was that, it offered contextual data on settings, interactions, or individuals.

3.5.2 Focus Group Discussions

Focus groups were effectively used to elicit data on the cultural norms of the Maasai pastoralists and also to generate broad overviews of issues of concern to this study. The discussions were organized around major themes that the researcher derived from the research questions. The focus group discussions were centered on the Maasai occupations or economic activities, information needs, information seeking behavior, information access to Maasai Pastoralists, barriers to information access and information access and strategies for improving access to information. The researcher took advantage of church meetings and community group meetings normally convened by elders and chief's public meetings. The researcher requested the convener to allocate sometime for discussions. Burn and Grove (2003) observe that humans are normally open and flexible when giving a group response than an individual response that may requires commitment.

3.5.3 Interview Schedules

Interview schedules provided an in-depth data, which was not possible to get using questionnaires. It also made it possible to obtain data required to meet objectives of the study. The researcher was able to explain the nature and purpose of the questions clearly to the respondents when they misinterpret a question or give incomplete or indefinite response. Interview schedules were used to obtain the required data from the respondents. This was accompanied with note taking.

The researcher decided to use semi-structured interviews because questions can be prepared ahead of time. This allowed the interviewer to be prepared and appear

competent during the interview. Semi-structured interview schedules also gave informants the freedom to express their views in their own way. It provided reliable and comparable qualitative data.

3.6 Validity and Reliability of Instruments

Saunders and Thornhill (2000) define validity as the degree to which a study accurately reflects or assesses the specific concept that the researcher is attempting to measure. While reliability is concerned with the accuracy of the actual measuring instruments or procedure, validity is concerned with the study's success at measuring what the researchers set out to measure (Powell, 1997).

Huitt (1998) opines that researchers should be concerned with both external and internal validity. External validity refers to the extent to which the results are not designed to be generalized and hence this study would be concerned with internal validity. Internal validity refers to the rigor to which the study was conducted – that is the study's design, the care taken to conduct measurements, and decision concerning what was and wasn't measured (Huitt, 1998).

The extent to which the designers of the study have taken into account alternative explanations for any casual relationships they explore. To ensure that the instruments measured what they were supposed to measure; the researcher reviewed the instruments with peers and consulted his supervisors for purposes of examining the contents and the

validity of the instruments and increases the degree to which the instruments gathered the information intended.

Reliability

Nachmias and Nachmias (1996) refers reliability to the extent to which a measuring instrument contains variables errors that appear inconsistently from observation during any one measurement attempt or that vary each time a given unit is measured by the same instrument. Powell (1997) state that a measurement is generally considered to be reliable when the error component is reasonably small and does not fluctuate greatly from one observation to another. Thus reliability can be defined according to (Powell, 1997), as the degree to which an instrument accurately and consistently measures whatever it measures.

To ensure that the instruments designed yielded relevant information to answer the research questions. A Pilot study was used to test the research instruments. A pilot study is a mini study that was conducted at Esilalei village before the actual project. This study followed the same procedures used in the actual study. A pilot study was carried out in one village shortly before the actual study. In this technique the researcher used the same data collection instrument to observe or collect scores twice for the same group of subjects. The instruments were administered at different times but under equivalent conditions. The two set of scores were then correlated to see how consistent or reliable the instrument would be in measuring the variables. The aim of this test and retest

method was to test the validity and reliability of research instruments, eliminate any ambiguity and refine them to collect data accurately.

3.7 Data Collection Procedure

Following successful defense of the research proposal and acknowledgement of the supervisors, the researcher sought a research permit from the Nation Council of Science and Technology that allowed him to collect data from respondents. The researcher further solicited support from various officers heading organizations and departments that were included in the study and after permission was granted the researcher booked appointments with the respondents who were later interviewed in this study.

3.8 Data Analysis Techniques

Qualitative techniques were used to analyze the data. Collected data were related to concepts, opinions, values and behaviour of Maasai pastoralists in their social context. It included transcripts from individuals interviewed, focus group discussions, field notes from observations of certain activities and copies of documents. For this reason, the researcher organized data, categorized it in to themes and patterns. This was done using codes which are words or abbreviations or phrases representing a link between raw data (interview or interview transcripts). The research data was analyzed and presented using simple statistical tools, which included frequency distribution tables and percentages.

3.9 Ethical Issues

Nachmias and Nachnias (1996) stated that field work is associated with a number of ethical, legal and political dilemmas as researchers are associated with long term and intimate participation in the daily life of the people being studied. Interview schedules were administered to the selected respondents and their views were kept confidential and used only for the purpose of this research without revealing their names or personality. The dignity of every participant was respected. The researcher respects the values and interests of the community in research and did whatever possible to protect the community from harm.

To avoid plagiarism the researcher did not use unpublished data, methods, or results without permission and proper acknowledgement. Credit was given to all contributions to this study.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter covers the presentation, analysis and interpretation of the data gathered in the field. Data collected using the interview schedules is presented by way of text and tables of frequencies and percentages. Information gathered through focus groups discussion, interviews with key informants and observation is integrated to give an overall view of the situation under study.

4.2 Findings from the Respondents

4.2.1 Demographic Characteristics of Maasai Pastoralists of Kajiado County

The socio- cultural characteristics of Maasai pastoralists of Kajiado presented in terms of age, marital status, level of education, economic activity and role in the community the respondent is involved in.

4.2.1.1 Age of the Respondents.

Table 1: Age of Respondents, N=90

AGE	FREQUENCY	PERCENTAGE
15-25	11	12.2
26-35	38	42.2
36-45	26	28.9
46-55	15	16.7
Total	**90**	**100**

The sample was drawn from Maasai pastoralists between 15 and 55years. The majority of the respondents (83.3%) were found to be less than 45 years old. Only 16.7% of the respondents were older than 45. About 12.2% were 15-25 years old, majority of them were in upper primary school, secondary schools and a few in tertiary education level, while some of them have either not gone to school completely or have dropped out of schooling.

4.2.1.2 Marital Status of Maasai pastoralists of Kajiado County

Table 2, Marital Status of Respondents, N=90

STATUS	FREQUENCY	PERCENTAGE
Married	57	63.3
Single	33	36.7
TOTAL	**90**	**100**

Out of the 90 respondents interviewed, 57 (63.3%) were married and 33 (36.7%) were single, as presented in table 2 above. Based on these findings, majority of the respondents were married, perhaps because early marriages are a common practice among the Maasai pastoralists. All the respondents in the sample who were married had children which was a requirement for inclusion in the sample. It is also important to note that majority of the respondents were polygamous, some having up to five wives.

4. 2.1.3 Level of Education

Table 3, Level of Education, N=90

LEVEL	**FREQUENCY**	**PERCENTAGE**
Primary school	18	20
Secondary school Level	24	26.6
Tertiary level	13	14.4
University Level	5	5.7
None	30	33.3
TOTAL	**90**	**100**

Respondents were asked to indicate their levels of education. About 20% of the respondents had completed primary school, 26.6% successfully completed secondary school, 14.4% had tertiary level of education and 33.3 % never went to school. These were mostly within the (46-55) age group. Emanating from these results respondents who attained primary, secondary and those who have attained both tertiary and

university education add up to 66.7%, against 33.3% who have never gone to school. This indicates that majority of the population above the age of 46 years are illiterate.

4.2.1.4 Socio-Economic activities of the Maasai Pastoralists

Table 4: Economic Activities, N=90

ACTIVITY	FREQUENCY	PERCENTAGE
Livestock keeping/ herders	73	65.1
Livestock trade	14	12.5
Formally employed	13	11.6
Other emerging forms of occupation	12	10.7
TOTAL	***112**	**100**

*** Multiple Responses**

Each respondent was allowed to state the main economic activity, followed by other activities. The findings were presented by means of table as shown above and it revealed that 65.1% of the respondents were livestock keepers or herders. They keep livestock such as cattle, sheep and goats. This high percentage may be a reflection that livestock farming is the main economic activity for pastoralists in Kajiado County. Livestock trade was also an important economic activity 12.5% of the respondents were involved in livestock trade. They dealt with products such as meat, milk, skin and hides. These all together, means that 77.3% of the sample population was involved in livestock keeping and related business as an economic activity. National Bureau of Statistics, Kajiado (2008) confirms that Kajiado is one of the ASAL district with livestock keeping being the

predominant economic activity. Most of the land is non-arable (92%), while only 8% is said to support subsistence farming.

A total of 11.5% of the respondents were in formal employment but some still keep livestock to supplement their incomes. A total of 10.7% of the pastoralists interviewed were engaged in other emerging forms of employment such as subsistence crop farming, beadwork selling, sand harvesting among others. Majority of the people involved in informal livestock trade and other forms of employment fall in the age below 40 years giving an indication that the younger generation no longer considers livestock keeping the only source of livelihood unlike the older generation that seems to be involved entirely on livestock keeping.

4.3 Information Needs of Maasai Pastoralists of Kajiado County

Needs are categorized into three different groups namely, physiological, affective and cognitive needs. Physiological needs are basic human needs for food, shelter and security. Affective needs entail a combination of psychological and emotional needs. Cognitive needs, where humans need to plan, make decisions and learn a skill, have to do with intellectual demands of a person. Information needs are related to everyday life, in terms of the economic activities they are involved, their basic needs and other subsequent needs.

Kumar (1980) opines that determining the needs of the users' means knowing about their requirement for information. In order to determine their requirements, it is

essential to know the following; their background (qualification, knowledge of language, areas of research and specialization) and the purpose they need the information for. Paisley (1987) as cited by Okwilagwe (1998) stresses that the five factors which affects the information needs of human beings are; their background, professional orientation, the full array of information, information sources available, motivation and other individual characteristic such as the social, political, economic and other systems that affect the users and their functions. In other words, information needs are basically information sought to fulfill a certain purpose or goal.

4.3.1 Information Sought by Maasai Pastoralists of Kajiado

Table 5, Type of Information Sought, N=90

SITUATION	FREQUENCY	PERCENTAGE
Animal husbandry	35	26.1
Health	22	16.4
Education	20	14.9
Development	15	11.1
Land	14	10.4
Employment	10	7.4
Political and Governance	10	7.4
Environmental	8	5.9
Total	***134**	**100**

***Multiple respondents**

The researcher inquired from the Maasai pastoralists the type of information they require based on their motivations. They were free to select more than one information need, which resulted in frequencies higher than the sample.

The information needs of Maasai pastoralists recorded in Table 5 are ranked by priority. Results show that animal husbandry (26.1%), health (16.4%), education (14.9%), development (11.1%) and land information (10.4%) are the major reasons for seeking information. These form the foundation of the Maasai pastoralist's needs. Results from field investigations show that the Maasai want accurate information to assist them in livestock keeping, for instance, when choosing livestock breeds, they will need to settle on a breed that is resistant to draught and diseases, as well as taking into consideration the productivity of that breed. Their livelihood revolves around livestock keeping. Therefore this information is of economic significance that is why this information need had a high frequency. Maasai pastoralists need health information; they are concerned about health of the animals and their communities. Investigations from the local clinics of Orinie and Enkorika and the veterinary offices in Kajiado town revealed that there is very serious need for information about the HIV/AIDS pandemic and other deceases, as well information on livestock diseases and their treatment. They also need information to enable them make decisions about colleges and schools for their children. A total of 14.9% of the sample sought for educational information.

Some 10.4% respondents needed information related to development and land issues. Land is a very critical issue that currently occupies all crucial debates in Kajiado

County. This is because in the last one decade, the county has witnessed a surge of other communities to Kajiado. The concern with majority of the pastoralists is that this might cause a decline in their source of livelihood. In this regard, local NGOs in the county need information regarding land agreements and other land issues in general such as land adjudication, land survey, land valuation and land registration information.

The respondents exhibited an interest in information pertaining to employment because a considerable number of young people are completing education secondary, tertiary and university education and they need employment. A total of 7.4 % of the respondents needed information to do with employment. At the same time, 7.4% of the respondents interviewed needed information about politics and governance. A lot of civic and voter education is needed by the public to be able to make informed decision. Needless to say, that majority of the population in the pastoral community of Kajiado County are not yet aware what the new constitution means to the citizens. In this regards, there is need to disseminate information about devolution of governance and funds among other critical part of the constitution. Finally, 5.9% of the sample population needed environmental information because impact of global warming has occasioned erratic weather patterns causing draught and famine. Pastoralists need environmental information concerning environmental sustainability, rains patterns, water and vegetation availability for livestock.

4.4 Factors that Influence Information Seeking of Maasai Pastoralists,

Table 6: Factors that Influence Information Seeking N=90

MOTIVATION	FREQUENCY	PERCENTAGE
Decision making	29	22.5
Survival	26	20.1
Business/ livestock	18	13.9
Rains and weather patterns	16	12.4
Health of people and animals	10	7.8
Education	10	7.8
Development	9	6.9
Politics	4	3.1
Environment and Natural disasters	4	3.1
To get current affairs	3	2.3
Total	***129**	**100**

***Multiple Respondents**

Factors that influence information seeking are conditions that trigger individuals to seek for information. There were several factors that influenced the information seeking behavior of Maasai pastoralists. The need to utilize information for decision making in their day to day activities was a prominent factor that influenced the information seeking behavior of pastoralists in Kajiado. A total of 22.5% of respondents stated that they are triggered to seek for information by the fact that information is a prerequisite for decision making.

Information obtained from focus group discussions revealed that Maasai pastoralists made decisions mostly about animal grazing and water resource management and politics and leadership about several issues that affect the community. About 20.1% of the respondents considered information as a need for the Maasai pastoral community survival in the political, economic and social sphere. This factor underscores the importance of information as a critical factor of human existence.

Business/livestock influenced the information seeking behavior of about 13.9% of the respondents. This is because pastoralists' livelihood is entirely dependent on livestock. Livestock products such as meat, milk, hides and skin form the basis of their commerce because they are business commodities. In addition, they case they will need information on livestock breeds, markets, and business opportunities. Rains and weather patterns too, influenced information seeking behavior by Maasai pastoralists of Kajiado County by 12.4%. Favorable weather conditions and rain patterns form a basis for their survival, because they need water and pastures for their livestock.

Pastoralists are also concerned about the health of people and animal. This is evidenced by the fact that 7.8% of the respondents are motivated to seek information by the need to know about their health and that of their livestock. Education is another factor that influences their information seeking behavior, 7.8 % of the respondents said education has a lot of importance. They need to know about good schools for their children and how the children can improve their performance. Some 6.9% of the respondents needed information to enhance development; responses from key informants especially from

NGOs indicated that Maasai need information to develop economically and socially. Politics and the need to know about environment and natural disasters such as draught and famine each influenced 3.1 % of the respondents. Lastly, they needed to keep abreast of current affairs also compelled pastoralists to seek for information. A total of 2.3% of the respondents were curious to know about what is happening around them in terms of governance and current affairs.

4.5 Information Seeking Behaviors of Maasai Pastoralists

Information seeking behavior refers to the strategies and actions engaged in by information seekers finding information to solve the problem at hand. These strategies are in the form of paths or processes that one engages in to satisfy an information need.

Table 7: Shows Information Seeking Behavior of Maasai Pastoralists, N=90

ISB	**FREQUENCY**	**PERCENTAGE**
Ask other people	52	49.1
Approach institutions	16	15.1
Consult the print media	13	12.3
Read books	10	9.4
Consult electronic media	8	7.5
Internet	7	6.6
TOTAL	***106**	**100**

***Multiple Respondents**

Table 7 has a total number of 90 respondents and they were encouraged to mention more than one source. The researcher inquired about the information seeking behavior of Maasai pastoralists. It was established from data collected, that the majority 49.1% of respondents sought information from other people. These include relatives, neighbours, travelers, visitors, children, elders, traditional medicine men also known in Maasai as *(Loibon)*. The main reason why they rely on other people to get information is that some information such as indigenous knowledge is only captured in the minds of elderly people. For instance, elders have mastered well the rains and climate patterns and treatment for some diseases and can advice people in pastoral communities what to do in the event of a looming draught. Another 15.1 % of the respondents approached institutions in search of information. These institutions include; Ministry of Lands Office in Kajiado town, Ministry of Livestock and local community organizations such as churches, the local clinic, local NGOs and schools.

A population of 12.3% of the respondents referred to print media such as newspapers, while 9.4% of the respondents said that they used books, implying that a small proportion of the population relies on text. The electronic media such as mobile phone, TV, radio and the internet were least consulted by pastoralists while seeking for information taking 7.5% and 6.6 % respectively.

4.6 Information Sources and Channels Consulted by Maasai Pastoralists,

Table 8: Information Sources N=90

SOURCE	FREQUENCY	PERCENTAGE%	Cumulative
PERSONAL CONDUCTS			
Family and friends	**23**	**18.7**	18.7
Elders and medicine men (Loibon)	**17**	**13.8**	32.5
Social networks (barazas, age group members)	**12**	**9.7**	**42.2**
ORGANIZATIONS			
Government depts. And agencies, Chiefs etc.	**8**	**6.5**	8.9
Chief's office, local authority office	**14**	**4.4**	13.3
Clinics	**10**	**4.4**	17.7
NGOs	6	**3.3**	21
MASS MEDIA			
Mobile phone	**21**	**12.2**	12.2
Radio and TV	**6**	**6.6**	23.4
Newspaper and books	**4**	**4.4**	16.6
Internet	**2**	**2.2**	**25.6**
TOTAL	***123**	**100**	**100**

***Multiple Respondents**

An enquiry into the information sources used by Maasai pastoralists was categorized into three information sources namely; the mass media (TV, radio, newspapers and cell phones); personal conducts (friends, relatives, elders, medicine men and social networks such as chief and elders meetings) and organizations (professionals such as lawyers, teachers, government agencies such as DIDC and KNBS, institutions such as professional associations) as depicted in table 6 above. This was derived from the proposed theoretical model of Wilson 1994 integrative model of information needs and information seeking behavior.

Personal conducts were used by 42.2 %, organizations 21% and the mass media 25.6%. The majority (53.4 %) of the respondents showed preference for information gathered from informal contacts such as friends and relatives by (25.6%), elders and medicine men and social network such barazas, age group, elders meetings and women group meetings attracted 8.9% of the respondents. Personal conducts were preferred by pastoralists because oral information can be easily acquired, feedback is instant and majority of the population is illiterate.

The media was consulted by 25.6% of the respondents, with the mobile phone (12.2%), being the most used and easily accessible channel of communicating and sharing information. Radio and TV were also used but radio seems to be the most used media, 16.6% of the respondents affirmed that it is their preferred source of information. Text books and newspapers (4.4%) formed another important sources used by pastoralists to seek information. Though sometimes, it is difficult to get up to date information

because majority of pastoralists live in rural remote locations and it is difficult to access urban location. The internet was the least used media with a 2.2% use, probably due to poor internet infrastructure and IT illiteracy.

Organizations were also a very reliable source of information. A total of 21% of the sample population preferred this source of information. Government agencies such as social services, veterinary and water offices were used by 8.9% of the respondents, while the local chief office and local authority offices which serve the political and administrative functions were used by 4.4% of the sample population. Health information provided by local clinics of Enkorika and Orinie and also Ng'atotoek in Namanga visited by the researcher were chosen as a source of information by 4.4%.

Although NGOs play a very significant role in development, they were the least preferred source with 3.3% in this category. They provide information about development, human and land rights, health and sanitation. Libraries and information centres were literally unknown to Maasai pastoralists. A total of 67% of the respondents stated that they don't know and they have never seen a public library. There was no community or public libraries in the vast County of Kajiado, with an exception of a community library at a place called Elang'ata Wuas or Mile 46 in Magadi and another community resource centre in Magadi. The study established that the community library in Mile 46 was funded by Soma Africa.

4.7 Barriers to Information Access

Yang (2005) defines information barrier as a construct that affect both information seeking and information processing. Barriers to information are factors that impede access to information. These could be attributed to the information seeker and the available information system.

Table 9: Barriers to Information Access **N=90**

BARRIER	**FREQUENCY**	**PERCENTAGE**
Illiteracy	34	37.8
Language	22	24.4
Unavailability of information centres and lack of government support	10	11.1
Distance and poor road network	9	10
Poor Network coverage and poor signal transmission	7	7.8
Cost	6	6.7
Poor internet literacy and infrastructure	2	2.2
TOTAL	**90**	**100**

Respondents were asked to state what they thought was a major impediment to information access by Maasai pastoralists. The results in table 9 above show that illiteracy (37.8%) and language (24.4%) were the highly ranked factors impacting negatively on access to information by Maasai pastoralists in Kajiado County. Majority

of the respondents in pastoral rural areas are either completely illiterate or have lower education levels, making illiteracy and language barriers to be the leading factors hampering access to information.

Factors such as unavailability and inadequacy of information materials excluded Maasai pastoralists from accessing information (11.1%). This was tied with lack of government support in setting up information centres and libraries to the Maasai pastoralist population. About 10% of the respondents cited poor road network and physical distance to urban centres where people can buy newspapers; access to government services and other important institutions as an impediment to accessing information. Poor network coverage and poor signal transmission limit access to information via electronic devices and media such as radio, TV and mobile phones impacted negatively on information access by 7.8%. Cost of purchasing information resources such as text books, magazines and newspapers was mentioned as a barrier by 6.7% of the sampled population.

Internet as a source of information is unpopular with Maasai pastoralists. Its importance is only gaining popularity with young people in colleges and those who already have tertiary and university qualifications. These few respondents use the internet for academic and social purposes, with the social media networks tools such as face book and twitter being their most preferred channels. There were only two cyber cafes in Kajiado town which is the capital of the county. In this regard, 2.2% of the respondents

noted that poor internet literacy, unavailability of internet and infrastructure negatively impacted on information access.

4.8 Strategies to Promote Information Access

Table 10: Strategies Promote Information Access, N = 90

SUGGESTION	FREQUENCY	PERCENTAGE
Adult education programmes and centres	38	29.7
Vernacular Radio	21	16.4
Integrated Community information centres	17	13.3
Libraries	12	9.4
Information Resources Centres	12	9.4
University and colleges	10	7.8
Mobile libraries	7	5.5
Internet	6	4.6
Development of infrastructure	5	3.9
TOTAL	***128**	**100**

***Multiple Respondents**

The interview schedules presented a platform for the respondents to give their views on strategies that should be employed to necessitate access to information by Maasai pastoralists in Kajiado County. The results are presented in table 10 above. The

respondents were allowed to make more than one suggestion which accounts for the total frequency of 128 exceeding the size of the sample.

Adult education programme was suggested by 29.7 %, KNBS Kajiado (2008) notes the district has a high illiteracy rate of 58% which can be attributed to a combination of factors which include high school drop outs rate, low transition and completion rates among others. This means that majority of the population is illiterate and can only access information which is packaged in their Maa vernacular language. The solution to this is to put emphasis on adult education and build rural adult education and literacy centres to teach the adult illiterate population basic literacy skills to know how to read and write. This of course, has a lot to do with the development of an adult literacy programme policy by the government.

Some 16.4% respondents suggested establishment of vernacular radio stations by the government and the private sector. It was found that there was only one Maasai vernacular radio station owned by the Kenya Broadcasting Corporation known as Nosim FM. Vernacular radio station can reach a segment of the illiterate audience that will not be able to listen to the main stream radio. The researcher found that radio gives pastoralists a voice to air their views, it also play a role in educating, informing and entertaining masses. A sample population of 13.3% suggested formation of integrated community information centres, whereby the public can access information in villages. These centres can be set up in assistant chief office or local primary schools or dispensaries.

About 9.4% of respondents said they wanted public libraries to be established in the county to provide library and the information services to pastoralists. These public libraries will play role in inculcation of a reading culture to the community by coming up with reading clubs. On that note, 9.4% of respondents suggested that information resource centres should be made available in government offices and agencies in the county to ease access to government information. This includes strengthening centres like DIDCs.

Interestingly, 7.4% stated that the government should establish a public university and other tertiary institutions in the county to make the community access university education and uplift the education standards of the county. This will in the long run make pastoralists informed citizens.

Other respondents (5.5%) suggested mobile library services to enhance library lending services to the public in the county. This mode of library service is very suitable to Maasai pastoralists given the fact that majority of them still practice sedentary nomadic pastoralism. The remnant of the population, 4.6% advised on putting emphasis on the ICTs such as the internet by stating that the new county government should focus on development of a vibrant ICT infrastructure. This will enhance e-government and in this regard information services will be accessed electronically.

Finally, 3.9% said the government and other stakeholders should develop infrastructure such as road network and rural electrification to ease transport and access to

information services by rural population who live in rural areas. Electricity is also required to provide power for mobile telephones and computers.

4.9 Findings from Key Informants

In order to get credible information about the Maasai pastoralists, the researcher approached several organizations and government agencies in Kajiado County.

4.9.1 Non-Governmental Organizations

The researcher visited two NGOs working with pastoralists in Kajiado County, namely Neighbours Initiatives Alliance (NIA) and Dupoto-Emaa. Findings from the two NGOs confirm that the Maasai pastoralists have a lot potential and they are engaged in resourceful economic activities, one of them being pastoralism, which is a branch of agriculture. The Executive Director of NIA mentioned that for decades pastoralists have managed to adopt to hash and erratic climatic conditions but he laments that the communities have been denied access to information which is a fundamental right. He continued to say, that the idea of denying them access to information was deliberate so that the communities can be marginalized by successive regimes in Kenya. Maasai have information needs that includes; animal husbandry, education, environmental information, health information, land, development, political information among other information needs. The Maasai use various channels and media to access information among the sources mentioned are personal sources, organizational and the mass media as mentioned earlier in the study.

It was also found that pastoralists face numerous challenges in seeking information, that include illiteracy, language, technology, infrastructure, lack of government support, cost and unavailability of information materials and poor internet and network signals. In order to promote access to information by Maasai pastoralists, findings from the two NGOs suggested that the government should build libraries and information centres in order to guarantee citizen access to information. They also mentioned that the fight against illiteracy requires the effort of the government; local communities and developments partners in order to increase enrolment levels in school and measures should be put in place to promote literacy among adults. They also mentioned that the new county government needs to invest in infrastructure and the internet in order address the problems of transport and communication.

They argued that government services, which widely include government information, can only be accessed if the central and county governments adopt a policy on e-government. This move will also promote transparency and fight corruption in the public sector.

4.9.2 Government Departments and Agencies

The researcher approached two government offices in situated in Kajiado County headquarters. The two offices are located at the ASAL building which hosts all the departments and agencies that represents the Ministry of Planning, National Development and the Kenya Vision 2030.

4.9.2.1 The District Development Office

The above government department was approached to get national statistics on the Maasai economy, education and development. The researcher held informal discussions and interviews with officials from the DDO and heavily consulted documents on the subjects related to this research. It was established that a few pastoralists consult government agencies to seek information and this factor was attributed to low literacy levels in the county. It was found that 8.9% of the population relies on government agencies to get information. Documentary sources found at the office of the District Development Officer shows that the ICT sector which is considered as the engine for other sectors in terms of information on markets, availability/or none availability of materials among other roles. There is low consumption of the existing information due to high illiteracy and lack of information on the existence of information itself, an indication that some marketing on availability of this information is needed. Low internet connectivity hinders accessibility of information. This was attributed to lack of electricity in some urban or trading centres.

4.9.2.2 National Bureau of Statistics Office in Kajiado

The National Bureau of Statistics Office in Kajiado was approached by the researcher to seek statistical information to support this study. What emerged from this is that, KNBS no longer compiles statistics based on ethnicity. This is based on recommendations from the National Cohesion and Integration Commission (NCIC) that population census should not be ethicized. The county has a population of over 406,000 with nearly 50% being in the age range 0 to 14 years.

4.9.2.3 District Livestock Office

The researcher also approached the Kajiado district livestock office together with the veterinary department. KDDP (2008/12) mentions that livestock keeping as the most predominant economic activity. Most of the land is non-arable (92%), while only 8% is said to support subsistence farming.

The agricultural sector remains the single most important sector in the district. About 80 per cent of the population lives in the rural areas, and 75 per cent of the population is employed in this sector. It provides nearly 40 per cent of the district food requirements. Accelerated growth in this sector, will increase employment opportunities and act as a catalyst in improving the standard of living of the people.

Most of Kajiado District lies in the semi-arid and arid zones. The main economic activity for the majority of the local population is livestock production under semi-nomadic pastoralism. Only 8 per cent of the land is classified as suitable for rain fed agriculture. However, this area was traditionally reserved for dry season grazing withdrawal of this land from the pastoralists has made them vulnerable to drought. It is expected that vigorous market promotion of livestock and livestock products like hides and skins, milk and other products such as honey and manure could increase income from 15 to 20 per cent.

It was established that pastoralists seek information about animal production, animal breeds, vector control, and immunization programme among other important services.

Livestock sector has been immensely supported by availability of Livestock programmes such as ALLPRO, NALEP, and Arid Lands Resource Project, availability of devolved funds, availability of land, proximity to Kenya Meat Commission (KMC) and Nairobi markets, high livestock population, sites for dams/pans construction, existence wildlife and establishment of ecotourism and cottage industries among other factors that making it to be most productive.

However the sector also faces various challenges that include; high livestock mortality rate, Poor marketing facilities, frequent disease outbreaks, destruction of human life and agricultural products, undeveloped micro and Small scale enterprises and high environmental degradation. The possible causes of problems affecting the sector include; inadequate water supply, increased diseases incidences, low yielding livestock breeds, inadequate marketing information, inadequate extension services, inaccessibility to credit facilities, poor research and extension farmer linkages, recurring drought/famine, overstocking, competition for natural resources such as water, grazing, conflicting land use systems such as crop farming conflicting with livestock keeping and lack of community awareness on benefits of wildlife.

4.9.2.4 District Education Office Kajiado

The researcher also approached the Kajiado district education office and he found that the county has a high illiteracy rate of 58% which can be attributed to a combination of factors which include high drop outs rate, low transition and completion rates among others. Statistics reveal that there are 624 pre-primary, 263 primary and 31 secondary

schools with enrolment of 13077, 41592 and 3974 pupils respectively. However, there have been shortages of teachers at all levels which may be contributing to low mean grades at National Examinations.

There was a gender disparity at the three levels. In pre-primary school there are more boys (133650 than girls (13077) while in primary schools, the disparity was wide as there were over 8000 boys more than girls. At secondary schools, the difference of the two was small (300 boys). Through the CDF and LATF more educational facilities have been constructed and therefore reducing distances to the nearest facilities. This has led to the improvement in enrolment especially pre-primary and primary schools.

He also found that there are no community and school libraries in near all the schools in the county. Information is communicated through social networks such as school heads and parent teacher Association (PTA), pupils to parent and also using forum such as workshops and prize giving day.

To improve accessibility to education facilities and reduce distance from one facility to another, it was suggested that there was need to have a good road network. The agricultural Sub-sector will to provide food (nutrition) for the population. This reduces dietary related complications like malnutrition. Highly knowledgeable community is able to prevent and control diseases and thus reduces cost on health care. Rural electrification should be spread throughout the district to have all secondary schools connected with electricity and therefore improves on performance of students. Water

sub-sector plays a crucial role. With accessibility of clean water to reasonable distance, distance pupils and students take collect water will be reduced. There are two MDGs targets the sector attempts to achieve. These are to: (1) ensure that all boys and girls complete a full course of primary education and (2) to eliminate gender disparity in primary and secondary education at all levels by 2015.

4.9.3 Local Health Centres

Two health centres were approached to find out how the respondents interacted with institutions in the information seeking process. Orinie AIC mission dispensary and Enkorika health centres were selected to represent other health institutions. The two centres are located at Enkorika division. Health information sought by pastoralists, as given by the health workers who were interviewed by the researcher, includes information on maternal and antenatal health, Sexual Transmitted diseases such as HIV/Aids, diseases like brucellosis which is transmitted through cow milk, information about treatment and prevention of Tuberculosis. Importantly, pastoralists need information on how to take treatment in accordance with the medical prescription. The nurses in charge who were interviewed blame illiteracy as a major barrier to effective dissemination of health information. The nurse in charge of Enkorika health centre said, “in order to achieved effective community health services, the health providers has to have a deep understanding of the socio-cultural aspects of a community’’, he argued that language and some understanding about culture and customs are very instrumental to rural health delivery systems.

The researcher observed that health information in form of health records are collected on daily basis but their storage and organization is wanting. Old tattered files were found in one of the health centres, the files were stored in dusty shelves and they were not orderly arranged. The health centres are understaffed and they also lack health records personnel.

Vernacular radio station and chief public meetings were suggested to be very effective tools to communicate information about vaccination programme and disease outbreak. The researcher established that there is low adaptation of family planning methods. This confirms statistics collected by DDOs office which showed that family planning methods such as the contraceptives acceptance is only 14%.

Kajiado DDP 2008-2012 report proposed that to improve accessibility to health facilities and reduce distance from one facility to another, there is need to have a good road network. The agricultural Sub-sector will to provide food (nutrition) for the population. This will reduce dietary related complications like malnutrition. Highly knowledgeable community is able to prevent and control diseases and thus reduces cost on health care. Rural electrification should be spread throughout the district to have all health facilities connected with electricity and therefore improves on health care service delivery. Water sub-sector plays a crucial role. With accessibility of clean water to reasonable distance, water related disease will be reduced. The sector will be trying to achieve the following MDGs targets; reduce by two thirds the mortality rate among children under five; reduce by three quarters the maternal mortality ratio; halt and begin to reverse the spread of HIV/AIDS; and halt and begin to reverse the spread of malaria and other major diseases.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter covers discussion of major findings, conclusions and recommendations of the study.

5.2 Discussion of Major Findings

5.2.1 Socio-economic Activities that Maasai Pastoralists are involved in

Research findings confirm that Maasai pastoralists are engaged in economic activities. A total 65.1 % of the respondents are livestock keepers or herders. They keep livestock such as cattle, sheep and goats. It was found that livestock trade is also an important economic activity, about 12.5% of the respondents were involved in livestock trade; they deal in products such as meat, milk, skins and hides. These all together, means that 77.3% of the sample population was involved in livestock keeping and related business as an economic activity. A total of 11.5% of the respondents were in formal employment but some still keep livestock to supplement their incomes. An estimated 10.7% of the pastoralists interviewed were engaged in other emerging forms of employment, which include farming, business, sand harvesting and charcoal burning.

The above confirmed findings from other researches that the Maasai are engaged in other forms of employment stated in International Labour Organization (2000 :55) found that there are emerging forms of employment among the Maasai people include farming,

business (selling of traditional medicine, running of restaurants/shops, buying and selling of minerals, selling milk and milk products by women, embroideries), and wage employment (as security guards/ watchmen, waiters, tourist guides), others who are engaged in the public and private sectors and tourism. Bates (1998) opposes the idea that pastoralists depend entirely on livestock. He mentions that there is a common conception that pastoralists exist at basic subsistence. He argues that this assumption is not true; groups often accumulate wealth and can be involved in international trade. Complex exchange relationships exist with horticulturalists, agriculturalist and other groups; pastoralists rarely exist exclusively with the products of their herd. This finding however, disagrees with Diso (2005) who argued that Nigerian rural people are still dominantly peasant farmers, petty traders, and middle men.

5.2.2 Information Needs of Maasai Pastoralists of Kajiado County

All respondents affirmed that they needed information to cope with everyday situation and in decision making. This agrees with studies conducted by Kamba (2006) and Mchombu (2006). The information needs of Maasai pastoralists included, animal husbandry (26.1%), health (16.4%), education (14.9%), development (11.1%) and land information (10.4%). Information about animal husbandry formed the foundation of the Maasai pastoralist's needs. Pastoral livelihoods revolve around livestock keeping and therefore this information is of economic significance and that is why this information need had a high frequency. Health information was also found to be very important. This is information about treatment of human and livestock diseases. They also need information to enable them make decisions about colleges and schools for their

children. About 14.9% of the sample sought educational information. Some 10.4% respondents needed information related to development and land issues. Finally, respondents also exhibited an interest in information pertaining to employment, politics, governance and environment. This finding supports to Kamba (2006), who furthered who observed that societal needs are satisfied through various kinds of activities, each of which requires information as input.

Sale and Lasisi (2007), Bakar (2010) studies on rural women seems to agree with this finding to a certain degree. They felt that rural women are mostly interested with information on religion, prices of commodities and welfare of their children.

5.2.3 Factors that Influence Information Seeking of Maasai Pastoralists

Findings from the study affirm that several factors influenced the information seeking of the Maasai pastoralists. These are factors that trigger the subjects to look for information. These included, decision making, survival, business/ livestock, rains and weather patterns, health of people and animals, education, development, politics, environment and natural disasters and the curiosity to know current affairs.

5.2.4 Available Information Sources and Media

Several information sources and media are employed by the Maasai pastoralists. The information sources used by Maasai pastoralists were categorized in to three information sources, namely, the mass media (TV, radio, newspapers and cell phones), personal conducts (friends, relatives, elders, medicine men and social networks such as

chief and elders meetings) and organizations (professionals such as lawyers, teachers, government agencies such as DIDC and KNBS, institutions such as schools and churches and associations). These three categories of information channels correspond with the theoretical model of Wilson 1994 integrative model of information needs and information seeking behavior which was used in this research.

The above finding supports Okwilagwe (1993), who mentioned that rural communities use video, film strips, exhibition bulletins and photographs as media. This factor might be attributed to the fact that majority of Maasai pastoralists are illiterate.

5.2.5 Challenges to Information Access

It is clear from the findings that there exist challenges that hinder access to information by the Maasai pastoralists. Illiteracy (37.8%) and language (24.4%) were highly ranked. These barriers impacted negatively on access to information by Maasai pastoralists in Kajiado County. Majority of the respondents in pastoral rural areas were either completely illiterate or had limited education levels, illiteracy and language barriers affected access to information.

The above finding also supports Odini (1995), who identified lack of suitable information systems, language barriers, illiteracy and lack of skills as some of the factors affecting the use of information in Kenya. Additionally it agrees with Adelami (2002) who also identified some factors which are viewed as constrains to accessing

and utilizing information by rural population. Such factors include; illiteracy or lack of knowledge, poverty, lack of infrastructural facilities and lack of interest.

Other factors which pose a challenge to access to information by Maasai pastoralists were as follows:-unavailability of information centres such as libraries and documentations centres, lack of government support in terms of putting in place the necessary systems to help Maasai pastoralists access to information, distance and poor road network, poor communication network coverage and poor signal transmission, cost of information materials and poor ICT literacy and infrastructure. Mann (1976) seems to support this finding when he mentions inconvenient location of information institutions as major barriers to access to information; Maasai pastoral communities live in scarcely populated areas and far from urban centres.

5.3 Conclusions

This study highlights several conclusions with regards to information needs and seeking behavior of Maasai pastoralist of Kajiado County:-

It was established that Maasai pastoralists have potential and they contribute immensely to the Kenyan economy through various economic activities they are involved in. Hence, the need for information to support these economic activities is inevitable. In this regard, it can be concluded that if Maasai pastoralists were not availed the right information, then the economy of Kajiado County could be at stake.

The study has equally shown that though today's survival is highly depended on information Maasai pastoralists are not provided with adequate relevant information as well as sources that can help them improve their social economic development. This meant that the critical role that information plays in rural development is yet to be realized in Kajiado County.

It can be concluded that although several sources were used, the study did not locate a single public library in whole county of Kajiado. This implies that the government has not been forthcoming in providing library services to Maasai pastoralists. Possibly, this factor might make them feel more marginalized.

It was found that illiteracy was a major impediment to information access by Maasai pastoralists. Many Maasai pastoralists are not able to interact with written text and could only speak the local Maa language. This means that if efforts are not made to improve literacy and education levels, a huge size of the population might not be able to enjoy information services provided through libraries, ICT community centres and e-government services.

5.4 Recommendations

In view of the above challenges, the following recommendations are made to improve the situation.

1. It was found that many Maasai pastoralists were illiterate. To enable this illiterate population of access information. Information sources should be repackaged in

audiovisual formats and interpreted in Maa language. This will help those who cannot interact with information in print format and are likely to be denied access to information by illiteracy.

2. Findings revealed that there are no public libraries in Kajiado County. In this regard, the government should build public libraries in Kajiado County to enable pastoralists' access information. Public libraries and other information systems should provide mobile library services so as to reach remote populations in Kajiado County.
3. The government and private sector should help in establishing a vernacular radios to broadcast in local Maa language so as to reach the illiterate segment of the audience in the County. This will be a very critical tool in educating, informing and entertaining this society.
4. All government departments that provide services to the public in Kajiado County should come up with information desks to address their various information needs. These departments should include: agriculture, lands, education, health, judiciary, environment, social services among others. The departments and agencies should prepare brochures and guides to assist to disseminate information to the public in Kajiado.
5. The government should also strengthen centres such as the District Information and Documentation Centres (DIDC) and National Agricultural Information Network (NAINet) among other important information centres. This will enable pastoralists to access government information and also agricultural information for economic development.

6. There is also need to provide internet services to pastoralists. This can be done by setting up Community Resource Centres in rural shopping centres. In turn, these centres can be used to train users in computer applications or information technology skills which are very critical in accessing electronic resources and also in sharing and exchanging information.
7. There is also need to train and sensitize the literate population of the Maasai pastoralists to adopt e-government services so that people in remote rural locations can access information on registration of persons, lands, examination results and other important services.

5.5 Recommendations for Further Research

This study was significant to the existing body of knowledge and it will serve as base for future studies in related areas. The researcher recommended the following areas that need to be further investigated:-

1. In view of the high illiteracy rate among the Maasai, there is need to carry out a study on the effects of illiteracy on access to information among the Maasai.
2. It is recommended that further research be undertaken to determine the information needs of livestock traders in Kajiado County because livestock keeping is their main economic activity.
3. Further studies need also to be carried out to explore possibilities of coming up with specialized information and library services to serve the nomadic Maasai school children. So as reach these children who live in remote and sparsely

populated villages (Manyattas) and they might not be able to visit public libraries.

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APPENDICES

APPENDIX A: OBSERVATION PROTOCOL

The following points are to be used as a framework for field notes when observing information needs and seeking behaviour of Maasai performance. I will be at least 2 hours in length and may cover all aspects of this guide.

Date……. Hour……..

1. Economic activities – Observation
   - Primary economic activities
   - Other economic activities

2. Documents/sources /channels of information obtained
   - Scope
   - Coverage
   - Relevance to the Maasai community
   - Frequency of use
   - Timeliness
   - Availability
   - Currency/ up to datedness of the information sources

3. Community observation
   - Attitude towards library or information centre
   - What are their information needs
   - Method used to retrieve information
   - How do they share information?
   - What are their social networks
   - Community use on ICTS
   - Available infrastructure (Communication, transport, electricity)
   - Use of newspaper and other print media
   - Use of mobile telephone
   - Use of radio
   - Use of Television

4. Schools/Academic institutions
    - Student behaviour with resources (e.g. book, magazines internet)
    - Student communication behaviour (collaborative work, socialization)
    - Interaction with teacher/school librarian

5. Government agencies and other organizations
    - Availability of libraries and information centres
    - Statistics on library use
    - Mode of receiving information and delivery to Maasai pastoralists
    - Channel and sources used in communicating to Maasai pastoralists

APPENDIX B: INTERVIEW SCHEDULE FOR MAASAI PASTORALISTS

Procedure

This interview schedule is designed to be used to interview respondents from Maasai community on their information needs and seeking behavior. Interviews will be carried out after observation of the community.

Date……. Hour……..

PERSON DATA

Age……

15- 20 ☐ 21-30 ☐ 31-40 ☐ 41-70 ☐

Gender

- Male ☐
- Female ☐

Marital status……..

Number of children……

Clan…….

Location/Village…….

Constituency…….

Level of education……..

Level of education……..

Responsibility in the community……

Apart from Maasai what other languages do you speak?

.....

Do you have any other responsibility in the community?

Yes ☐ No ☐

If yes, what are they?

……

……

ECONOMIC ACTIVITIES OF MAASAI PASTORALISTS

1. What economic activities are you involved in?
2. Do you face any challenges in performing your day to day activities?
3. How can these challenges be addressed?

INFORMATION NEEDS

4. What information do you need information to support your work?
5. What are the factors influencing your information seeking behavior?
6. Do you share information among yourselves?

   Yes ☐ No ☐

   If yes, How?

   If No, why?
7. How do you get news every day?
8. Do you use any library or information centre to access information?

   Yes ☐ No ☐

   If no, why?

INFORMATION SOURCES AND CHANNELS

9. What information sources and channel do you consult?
10. Which source do you use most often?
11. Which channel do you use most often?
12. Why do you think the above source and channel is used most?
13. Do you still use traditional sources and channels to access information?

    Yes ☐ No ☐

    If no, why?
14. Do you prefer using written or oral information?
15. Why do prefer the above format?
16. How good is your knowledge on ICT?
17. What is the role of ICT in the development of the Maasai?
18. What media do you use to get news?
19. Do you use radio?

    Yes ☐ No ☐

    If no, why?

20. Do you have any vernacular radio station?
21. What is the role of these vernacular radio stations?
22. Do you use Television?

    Yes ☐ No ☐

    If no, why?
23. Which radio programme do you mostly prefer?
24. Which Television programme do you mostly prefer?
25. Which print media do you use?
26. Do you use mobile telephone?
27. Do you use the internet?
28. How do you access the internet?
29. Which communication tools do you use for business?
30. Do you have a community library?
31. Do you use Television?

    Yes ☐ No ☐

    If no, why?
32. Do you have a library in the nearby school?
33. Do you have a community library in your location?
34. Which social network do you use to obtain information?
35. How accessible are the available channels and sources of information?

BARRIERS

36. What barriers do you experience when accessing information?
37. What do you consider to be major barriers to information access?
38. What do you consider to be the effects of infrastructural amenities such as electricity and roads on information access?
39. In what way do these barriers affect information access?

STRATEGIES FOR INFORMATION ACCESS

40. In your view what should be done to improve information access to the Maasai pastoralists?

APPENDIX C: INTERVIEW SCHEDULE FOR KEY INFORMANTS

This interview schedule is designed to be used to interview key informants who include respondents from relevant government agencies, NGOs, CBOs, churches, academic institutions and other organizations about the information needs and seeking behavior of Maasai pastoralists.

Date……. Hour……..

PERSON DATA

Age……..

15- 20 ☐ 21-30 ☐ 31-40 ☐ 41-70 ☐

Gender

- Male ☐
- Female ☐

Marital status……..

Number of children……

Clan…….

Location/Village…….

Constituency…….

Profession/ career……..

Work of the organization/ agency/ ministry……..

Designation……..

QUESTIONS

ECONOMIC ACTIVITIES OF PASTORALISTS

1. What economic activities are the Maasai pastoralists involved in?
2. What other activities are the Maasai involved in?
3. Are Maasai involved in formal employments?

INFORMATION NEEDS AND SEEKING BEHAVIOUR

4. What kind of information do the Maasai need?
5. How do they seek information?

6. Do the Maasai use libraries or information centres?

   Yes No ☐

   If no, why?

7. What are the factors influencing the information seeking behavior of Maasai pastoralists?
8. What is the literacy level of the Maasai pastoralists?

INFORMATION SOURCES AND CHANNELS

9. What information sources and channels do the Maasai use when seeking information?
10. Which channels and sources do the Maasai prefer most?
11. What makes an information source or channel popular to the Maasai?
12. Do the Maasai still use traditional sources and channels of information?

    Yes ☐ No ☐

    If no, why?

13. Why do you they still use traditional sources and channels of information?
14. Do the Maasai prefer written or oral information?
15. How is the ICTS used by the Maasai?
16. What media do the Maasai use to listen to news?
17. To what extent do the Maasai use the radio?
18. Do the Maasai have any vernacular radio station?
19. What is the role of these vernacular radio stations?
20. How is the use of Television by the Maasai?
21. Which radio programme is mostly preferred by the Maasai?
22. Which Television programme is the mostly preferred by the Maasai?
23. Which print media do the Maasai use?
24. How is the reading culture of the Maasai?
25. Do the Maasai use mobile telephone?

    Yes ☐ No ☐

    If yes, what is the role of mobile phones in development of Maasai pastoralists?

    If No, why?

26. Do the Maasai use the internet?

    Yes ☐ No ☐

    If No, why?

    If Yes, for what reason?

27. Do you obtain timely information in print media such as news papers?

    Yes ☐ No ☐

    If No, why?

28. Which communication tools do the Maasai use for business?
29. How accessible are the available channels and sources of information to the Maasai?

BARRIERS

30. What barriers do the Maasai pastoralists encounter when accessing information?
31. What are effects of infrastructural amenities such as electricity and roads to information access?
32. What do you consider to be a major impediment to information access?
33. How can these barriers be overcome?

STRATEGIES FOR INFORMATION ACCESS

34. What strategies do you propose to improve information access to Maasai pastoralists?
35. What measures is your organization taking towards ensuring that Maasai pastoralists get relevant information?
36. What should the government do to ensure that information is accessible to Maasai pastoralists?

APPENDIX D: KAJIADO COUNTY MAP

Source: International Livestock Resource Institute. (1997). *Kenya: Districts used in the third welfare monitoring survey* (Map 14A). Retrieved April 14, 2011, from www.ilri.org

APPENDIX E: RESEARCH PERMIT

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

REPUBLIC OF KENYA

National Commission for Science, Technology and Innovation

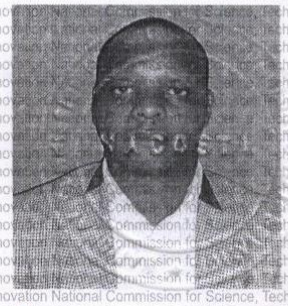
RESEARCH CLEARANCE PERMIT

Serial No. A 4779

CONDITIONS: see back page

THIS IS TO CERTIFY THAT:
MR. DALMAS TIAMPATI MANYARA
of MOI UNIVERSITY, 601-1100
kAJIADO,has been permitted to conduct research in *Kajiado County*
on the topic: *INFORMATION NEEDS AND SEEKING BEHAVIOUR OF MAASAI PASTORALISTS OF KAJIADO COUNTY*
for the period ending:
30th September,2015

Permit No : NACOSTI/P/15/2927/4871
Date Of Issue : 1st April,2015
Fee Recieved :Ksh 1,000



Applicant's Signature

Director General
National Commission for Science, Technology & Innovation