A PHILOSOPHICAL EXAMINATION

OF THE NATURE OF INDIGENOUS KNOWLEDGE AND

IMPLICATIONS FOR EDUCATION WITH REFERENCE TO

MAASAI COMMUNITY OF KENYA

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E55/20358/2010

A THESIS SUBMITTED TO THE SCHOOL OF EDUCATION IN

PARTIAL FULFILMENT OF THE REQUIREMENTS FOR AWARD

OF THE DEGREE OF MASTER OF EDUCATION OF

KENYATTA UNIVERSITY

MARCH 2016

DECLARATION

I confirm that this research thesis is my original work and has not been presented in any other university/institution for certification.

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DEDICATION

This thesis is dedicated to my beloved wife Mary and my four daughters Claire, Caroline, Claudia and Cindy. They are the motivation for which I study and work.

ACKNOWLEDGEMENT

I want to thank all those who in one way or another have been generous enough to see me study. My heartfelt gratitude before all goes to my family; my wife and children who in their wisdom allowed me to use family resources. I realize that many sacrifices had to be made to accord me this chance.

I am especially grateful to my supervisors Prof. Paul Wainaina and Dr. Francis Wokabi. Their guidance, correction, comments and their encouraging words have all been invaluable. It is not possible to mention all that I have gained under their professional direction, but their sensitivity to the freedom of research work, accompanied by very pointed suggestions, were very motivating indeed. Together with them, I want to thank all my lecturers in the department of educational foundations at Kenyatta University. Their expert guidance and genuine desire to introduce me to scientific educational reading is the greatest gift I received from them.

Words of thanks are insufficient to express how I am grateful to those whom I may refer to as the silent friends. In their silence, they happen to be always there to lend a hand. Just at the right moment! I cannot thank you enough for your invaluable friendship but I wish you true happiness in your life.

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ABBREVIATIONS

IK	Indigenous Knowledge
WK	Western Knowledge
ILO	International Labor Organization

ABSTRACT

One of the aims of education in Kenya is to promote respect for and development of Kenya's varied cultures. Underlying these cultures is indigenous knowledge that has not sufficiently been integrated within the Kenyan education system which remains skewed towards western values and knowledge. In such circumstances, this study argues that formal education seems to alienate people from their own culture instead of facilitating preservation and development of relevant aspects of indigenous cultures as also observed with indigenous people of North America. This is the problem that this study sought to address. Specifically, an examination of the indigenous knowledge with reference to the Maasai community was found to provide useful lessons on how best traditional values can be blended with modern values in order to achieve an inclusive and effective approach to contemporary needs and challenges. The study therefore used cultural synergism as embodied in Hegel's dialectics as its preferred theoretical framework. This framework admits that all cultures have their unique identities but none is perfect in isolation. Consequently, cultures need to enrich and refine each other. This is especially relevant to the contemporary globalised context where interaction of peoples and cultures is inevitable. The study sought to examine the western conception of knowledge, analyse the indigenous knowledge with reference to the Maasai community, and identify a strategic approach for achieving harmony of indigenous and western knowledge systems. The researcher reviewed literature on the basis of the themes derived from the objectives above. As a philosophical study, the researcher used conceptual rather than empirical methodology. This study therefore relied on secondary data. It employed the analytic and prescriptive methods of philosophy to examine and evaluate various works of the social scientists on indigenous knowledge deriving relevant implications for education. The study found that: knowledge is constructed as a worldview that is continually re-evaluated, improved and systematised; the indigenous knowledge of the Maasai was pragmatically developed enabling the community to adapt and survive in its environment; positive elements of the indigenous knowledge of the Maasai include sustainable use of the environment, emphasis on functional and relevant knowledge and skills; values such as commitment to service, responsibility and self-discipline. Such values can be useful to education in Kenya today. The study recommends further research on indigenous communities including re-evaluation of previous anthropological research findings that were found to be clearly biased.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

The purpose of this study was to examine the indigenous knowledge in the perspective of Maasai community and interrogate the educational implications. This chapter introduces the study. It states and justifies the research problem. It also outlines the objectives, scope and limitations of the study.

1.1 Background to the Study

Warren (1991) defines indigenous knowledge (IK) as the information base the local people use to survive in their particular environment. In this context, IK is equated with rural knowledge, local knowledge or traditional knowledge. Johnson (1992) defines IK as knowledge built up by a people through generations of living in close contact with their environment (see also Semali and Kincheloe, 1999b:3). In the International Labor Organization (ILO), IK is defined as 'that knowledge that is held and used by a people who identify themselves as indigenous of a place based on a combination of cultural distinctiveness and prior territorial occupancy relative to a more recently arrived population with its own distinct and subsequently dominant culture' (International Labor Organization, 1989: article 1).

The definitions above presuppose that the knowledge evolves in its locality and it is specifically adapted to the requirements and living conditions of the

local people. It also implies creativity in a sense that the knowledge is consciously constructed by the people as they interact with their social and physical environment. The knowledge therefore incorporates individual and collective insights, experiences, values, and beliefs deemed relevant or even critical for the survival and well being of the people (Wa Thiongo, 1986). Indigenous ways of knowing are based on locally, ecologically, and seasonally contextualized truths. In contrast to the aspirations of some Western scientific traditions for universal truths, indigenous knowledge systems are narratively anchored in natural communities. Those natural communities are characterized by complex human and non-human systems of relationships among people, animals, the earth and the cosmos from which knowing originates (Ermine, 1995).

Internationally, Wright asserts that North America was discovered as new world in 1492 by Christopher Columbus (Wright, 1992). Wright argues that Indigenous Americans had developed every kind of society like hunting groups and farming communities such that it was an old land rather than the declared new land by Western knowledge (Wright, 1992:61). In addition First Nations (referring to Aborigines of Canada) had been in America since 'time-immemorial' for archaeologists cite evidence showing that First Nations citizens were living in North America at least 10,000 years before its 'discovery' by the Western explorers (Mott, 2004:2). This alludes to the fact that these various First Nations groups lived in harmony with their

environments; hunting, fishing, gathering and trading among themselves, thus creating a system of indigenous knowledge (ibid, 3). Millions of these people were destroyed by Europeans through introduction of the diseases that were imported to America from Europe in order to control the continent, and Wright (1992) further argues that by 1600 the populations were reduced to a tenth which was easier to manage and control (1992:14). This clearly demonstrates the fact that Europeans forced themselves on a people that were organized and with a system of survival. In addition, they imposed their Western knowledge on indigenous people while disregarding and despising indigenous systems.

Human societies all across the globe have developed rich sets of experiences and explanations relating to the environments they live in as expressed by Prott (2000). These experiences and explanations are here regarded as other knowledge systems which the study wish to refer to as the indigenous knowledge. In this study Indigenous knowledge is treated as an integral aspect of the ontological theory held by the people. Knowing is relational and participatory. Through participation, Indigenous students in the context of their culture come to understand knowledge as a means of strengthening ecological balance. As Ermine (1995) contends, Indigenous knowledge is gained from a way of living and being in the world, thus learning is understood as participation, and it is in this forum that human beings influence the manifestation of the physical reality. This description makes indigenous

knowledge have a bearing on indigenous education which is a lifelong process of learning traditional knowledge, skills and values of a specific indigenous community. The same was the scenario in Africa and more especially to the indigenous communities in Kenya like the Maasai, Ogiek, Samburu and Turkana among others.

This study singles out the Maasai community as one of the indigenous communities in Kenya. The choice of the Maasai community is based on the availability of literature on the community. Newbery (1999) argues that East African historical sources do not go back further than halfway the 19th century, and not much written history has been found for the Maasai community, however, the Maasai community is one of the most studied pastoralist group in the world (1999:11). In addition, the community has interacted with wildlife for ages without necessarily interfering with their ecosystem as evident in the famous Maasai Mara Game Reserve associated with the wonderful annual Migration of the Wildebeests (one of the wonders of the world). Contemporary pictures of Maasai adorn the most unlikely publications, from economic textbooks to institutional reports and websites (for example, World Bank). Could the IK be responsible for this seemingly consistent situation?

Spear (1993:1-4) elaborates the origins of the Maasai people as those whose ancestors came from the Southern Sudan in the First Millennium AD. They

moved into the Rift Valley down to southern Kenya and currently occupy the counties of Kajiado and Narok. They are nilotic speaking people who speak Maa as their language of communication (Galaty, 1993: 61f). The Maasai are intimately attached to their culture and this makes them distinct. The Maasai have fairly successfully preserved their culture for generations and exhibited great pride in it despite major political, economic, social and cultural changes in Kenya (Spencer, 1993:140f).

Spear (1993:1) suggests that the Maasai people are known by many people because of the writings about them. The Maasai entered public imagination in the 1880s with the publication of explorer's travelogues by Fischer (1884) and Thomson (1885). This study assumes that the resilience of the Maasai culture and the attachment and pride accompanying its preservation is anchored in the indigenous knowledge of the community. Given that one of the aims of education in Kenya is to promote respect for and development of Kenya's varied cultures, this study as an examination of the indigenous knowledge of the Maasai community may provide useful lessons on how the best traditional values can be blended with modern values in order to come up with an inclusive and effective approach to contemporary needs and challenges.

Dei (2000) argues that an understanding of indigenous knowledge and how it differs from non-indigenous knowledge is an important basis for determining how it may be implemented. That then means that what IK consists of and

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how it is acquired is fundamental to being able to make use of the knowledge within the current Maasai community. The stated aim of preserving and developing the rich and varied indigenous cultures through formal education in Kenya presupposes that the nature and value of IK underlying these cultures is clearly known. This study, however, finds the need to examine Indigenous Knowledge.

Philosophy in the Western tradition, distinguishes three types of knowledge namely: knowing as in knowing a person or place; knowing how (the practical, procedural or dispositional knowledge) and knowing that (theoretical, factual, propositional or declarative knowledge). Belief, truth and adequate justification provide the classical criteria for knowledge. In other words, a person knows that something is the case if the person believes that it is and that it is true and the person has adequate justification for believing that it is. The justification may be grounded on observation, sense experience, testimony, memory, deductive and inductive reasoning (Wainaina, 2006:146-152). While this classical classification and criteria of knowledge is taken for granted in Western philosophy this study wonders whether and how they (classification and criteria) apply to IK in general and the IK of the Maasai in particular. The Eurocentric application of this classical classification led to knowledge imperialism.

The most notorious example of knowledge imperialism is seen in the works of Levy-Bruhl (1995). In his writings, Bruhl (1995) distinguished two fundamentally different types of knowledge: the knowledge of the civilized European and that of the primitive non-European. According to Bruhl, the civilized knowledge is regulated by reason, and interacts with the world through carefully organized conceptual schemes. In contrast, the primitive knowledge is hardly capable of abstract thought, and is regulated by the forces of myth and superstition (Levy-Bruhl 1995, 54ff.). The Eurocentriscism expressed in Bruhl's work under the guise of scientific objectivity was echoed not only in popular European writings, but in remarks of philosophers, such as Hume, Kant and Hegel (Ciaffa ,2008, 124). This indeed affected education in Africa given the fact that the same philosophy was what was used to bring education.

Odora-Hoppers (2002) observe that in respect to indigenous knowledge in Africa, the idea of education for all has not been attained; instead education for all has collapsed into "schooling for all". She notes that indigenous knowledge ought to represent a national heritage and thus a national resource and so its subjugation and marginalization offers challenges to the community and to the nation in terms of pragmatic philosophical levels (ibid 2002: 2-4). This is because at institutional levels, practices, philosophies and methodologies are still non-inclusive, Western-focused and Eurocentric. This study discerns the need to innovatively incorporate indigenous content and

contexts to formal education which has Western foundations. This IK - WK dialogue in education would hopefully produce synergy that is needed to make education not only inclusive but also capable of harnessing all available resources (indigenous and foreign) for societal transformation.

The images of the 'civilized European' and the 'primitive African' (though discriminatory and not rationally founded) helped sustain the idea that colonialism was fundamentally a benevolent enterprise; that is, an enterprise in which Europeans were attempting to bring civilization and new knowledge to those with none (Ciaffa, 2008). There is therefore the reason to examine both IK and WK in order to find a reasonable basis of countering the colonial perceptual claims and attitudes that portrayed African people as having no knowledge of the world or of themselves. In addition such critical examination provides a basis for seeking harmony and complementarity between Indigenous Knowledge and Western Knowledge. Such harmony is necessarily in the contemporary global educational context.

There is need to enhance effort that identifies a functional complementarities between indigenous knowledge rooted in the life of the Maasai as an example of indigenous community and the modern version of formal Western knowledge originally intended to serve the educational needs of the Maasai community. While these complex knowledge systems are functionally interdependent, Odora-Hoppers (2002) believe that they are currently often

largely disconnected in practice. Attempts to bridge the gap between two systems of cultures often suffered from a colonial one-way perception that assumes that IK is not capable of bringing required change. An analogy can be drawn here of a master and a subject, where the western perspective of knowledge as the Master found nothing worthwhile in IK regarded as subject even though acknowledgement of the value of IK would also have given credence to the western knowledge. This neglect of Indigenous Knowledge is reflected and perpetuated in theory and practice of formal education.

1.2 Statement of the Problem

One of the aims of education in independent Kenya is to promote respect for and development of Kenya's rich and varied cultures. A culture refers to the total way of life of a people. It includes material elements such as foods, dress and forms shelter as well as no-material elements such as language and religious beliefs. Culture is dynamic. It interacts with, borrows from and influences other cultures. Kenya's rich and varied cultures have, therefore, indigenous and adopted elements. The focus of this study is the indigenous aspect of culture. The educational aim referred to earlier assumes that the nature and value of indigenous elements of Kenya's varied cultures is known and embraced in educational theory and practice. It also assumes that formal education as currently structured and practiced in Kenya is harnessing and developing indigenous knowledge. The researcher contends that the above assumptions are flawed. Apparently, communities that remain attached to their

culture and indigenous knowledge tend to be less enthusiastic in embracing formal education (Rigby, 1975). In addition, Serone (1986) argues that communities, and in many cases individuals, that enthusiastically embrace formal education, tend to be indifferent, opposed to and even ignorant about their indigenous knowledge and culture. In such circumstances, this study argues that formal education seems to alienate people from their own culture instead of facilitating preservation and development of indigenous cultures as stated in the aims and goals of education in Kenya. This in effect perpetuates the colonial mentality that despised IK in favor of WK. One way of addressing this problem is examining IK in order to ascertain its nature and value as well as establish its complimentary role in formal education. This study sought to address this problem using the case of the Maasai community.

1.3 Purpose of the Study

The purpose of this study was to examine the indigenous knowledge of the Maasai community and deduce implications for education in Kenya.

1.4 The Objectives of the Study

The specific objectives of the study were to:

   i.   Discuss how knowledge is constructed.

   ii. Examine the indigenous knowledge of the Maasai community.

   iii. Deduce implications of Maasai indigenous knowledge for education in Kenya.

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iv. Demonstrate complementarity and synergy between Western knowledge and indigenous knowledge.

1.5 The Research Questions

The study attempted to answer the following research questions:

    i. How is knowledge constructed?

    ii. What is the nature of indigenous knowledge with reference to Maasai community?

    iii. What educational lessons can be learnt from the indigenous Maasai community?

    iv. How can Western Knowledge and Indigenous Knowledge complement each other?

1.6 Significance of the Study

This study is an attempt towards creating awareness about the nature and value of indigenous knowledge and cultures. As such the findings have the potential to contribute towards the achievement of the preservation and development of Kenya's varied cultures which are one of the aims of education in Kenya.

Kenya's current constitution recognizes and protects indigenous communities. Kenya's Vision 2030 seeks to marshal all available resources, indigenous or otherwise towards the development of an inclusive and prosperous society. By

examining and clarifying the nature and utility of indigenous knowledge, this study is responsive to the constitution as well as the national Vision 2030.

The findings of this study are useful in stimulating debate on educational reform in Kenya. By focusing attention on indigenous knowledge and cultures and seeking synergistic inclusion into formal education, the findings of this can be used to make education inclusive, attractive and meaningful to indigenous people of Kenya.

1.7 Assumptions of the Study

This study is based on the following assumptions:

i.   That the resilience of the Maasai culture and the attachment and pride accompanying its preservation is anchored in the indigenous knowledge of the community.

ii. That an individual knowledge system, indigenous or otherwise, is not self sufficient in a globalised context.

iii. That cultural synergy can be achieved without annihilating the cultural identities of participant cultures.

iv. That in the event that cultural synergy between WK in formal education and IK of the Maasai indigenous people is achieved; the same can be achieved in other communities in Kenya.

1.8 Definition of Terms

Convergence:

Convergence refers to the act of coming together. In particular, convergence here means the development of similarities between cultures due to similar conditions of environment.

Cultural Synergism:

Cultural synergism refers to the combined effects produced by two cultures, in this context, Indigenous culture and Western culture. In this case where the two cultures merge, they may make educational practice easily understood by those intended. In this case should Western education be understood and accepted by the indigenous people, the synergy of both cultural practices may be needed.

Indigenous Education:

The lifelong process of learning inherited knowledge, skills, cultural norms and values of indigenous communities.

Indigenous Knowledge:

Refers to the information base developed and passed on orally and practically from one generation to the other by Indigenous communities as they interact with their environment. It is a holistic system that encompasses technology, social, economic, philosophical and governance systems of a people.

Maa:

Is the Language that is spoken by the Maasai people (the plain Nilotes who occupy the counties of Narok, Laikipia and Kajiado in Kenya).

Posteriori Knowledge:

A posteriori knowledge refers to knowledge that we have only after we have certain experiences of the world. Here, we need some observations to gain such knowledge. This knowledge is popular with both IK and WK.

Apriori Knowledge:

Apriori knowledge refers to knowledge that is acquired before experiencing reality. This knowledge can be arrived through reason alone, it is emphasized by WK.

Cultural Relativism:

Is the view that no culture is superior to any other culture. It's the philosophical notion that all cultural beliefs are equally valid and that truth itself is relative, depending on the cultural environment. Cultural relativism proposes that value or knowledge is relative to the individual within a cultural identity.

Universalism:

Is a moral position that applies universally to all humans regardless of their culture. Intrinsically a human person is endowed with certain entitlements merely by reason of being human, and such entitlements are universal to the extent of their nature. However each human person lives in a cultural context whose knowledge influences human behaviours. Therefore, these rights exist as shared norms of actual human values in a given culture and knowledge though universally acceptable.

Western Knowledge

The Western knowledge is a term used to refer to the cultures of the people of European origin. It comprises the broad heritage of social their norms, ethical values, traditional customs and specific artifacts and technologies as shared within the Western sphere of influence. Western knowledge therefore, refers to the content and context of knowledge systems based on the values of the Western civilizations

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter reviews literature that indicates how the concept of knowledge is understood in Western philosophy; how the same is applicable to education in the rural African community in general and similarly, the chapter also elucidates the concept of indigenous education with particular reference to the African traditional community. The final part of the literature review is an attempt to show how Western knowledge and indigenous knowledge systems in African complement each other as exemplified by the practice of the Maasai community in Kenya.

2.1 Concept of Western Knowledge

The phrase western civilization is usually used to refer to the cultures of the people of European origin and their descendants. It comprises the broad heritage of social norms, ethical values, traditional customs and specific artifacts and technologies as shared within the Western sphere of influence. All these put together forms what is referred to as the philosophy of the Western civilization. Western knowledge in this sense refers to the content and context of knowledge system driven by the values and cultures of Western civilization. This civilization was triggered by the Western philosophy that had roots in the thinking of Greek philosophers especially Plato and Aristotle (Pollock, 1986) and those before them.

2.1.1 Rationalist and Empiricist Foundations of Western Knowledge

The twentieth century Western philosophers accept the suggestion of Plato that knowledge cannot be equated with true belief. Hence they have defined it as justified true belief (Pollock, 1986), although there is no unanimity with respect to the definition of 'justification' or 'belief'.

Everson, (1990) and Pollock (1986), stress the fact that since Plato, Western philosophers have been preoccupied with distinguishing genuine knowledge from mere opinion. The genuine knowledge was often characterized as timeless, universal, and immutable, while opinions were in contrast, regarded as ephemeral, parochial, and contingent. In the seventeenth century, this endeavour was strikingly reformulated by René Descartes. Taking account of various advances in science and mathematics, Descartes provided the questions that were to dominate Western philosophy for the next three hundred years: What is the foundation for all genuine knowledge? And what method will allow us to use it as a touchstone for distinguishing true beliefs from false beliefs? Philosophers as otherwise different as Gottfried Wilhelm Leibniz, Benedict de Spinoza, John Locke, George Berkeley, David Hume, and Immanuel Kant, as well as their various disciples and intellectual descendants, have followed Descartes in their quest for certainty, foundation, and method with regards to knowledge. Each seeks an essentially trans-cultural, historical, indubitable fixed point, or bedrock, from which a more or

less foolproof method will trace those appropriately related beliefs that can then be embraced with as much certainty as is the foundation (Everson, 1990).

Descartes' concern, as Richard Bernstein has pointed out, is not merely intellectual or academic: "It is the quest for some fixed point, some stable rock upon which we can secure our lives against the vicissitudes that constantly threaten us. The spectre that hovers in the background of this journey is not just radical epistemological skepticism but the dread of madness and chaos where nothing is fixed, where we can neither touch bottom nor support ourselves on the surface" (Everson, 1990). This view presents only two alternatives. Either we identify a foundation for knowledge, a fixed point that will, together with the proper method, allow all human beings, regardless of cultural or historical setting, to more or less mechanically distinguish true beliefs from false, or we succumb to personal confusion and social and political chaos; a world in which neither individuals nor groups can distinguish truth from falsehood.

Given this characterization of the choice, it is perhaps no wonder that so many have embarked upon the Cartesian quest, even though they have set out on paths markedly different from that taken by Descartes himself. And there appears to be wide agreement, at least in the West, that the correct route, if not the final destination, has finally been found in modern science. The scientific method and its employment, not only in physics and chemistry but also in

politics, psychology, economics, and even ethics, is regarded by many as the correct response to the Cartesian quest.

The idea, rooted in the main project of the Enlightenment, is to find out what nature or the world is really like wholly independent of any of our particular aims or preconceptions and then to have nature or the world dictate the shape of our individual lives and social, political, and economic institutions. While rejecting the a priori rationalism of Descartes, modern science claims to provide the touchstone (sense experience) and the process (the hypothetic-deductive method) for distinguishing true beliefs from false with as much certainty as various subjects will allow, thus engaging in posteriori.

Underlying the conventional wisdom, as Richard Rorty has emphasized, is a certain metaphor that has dominated epistemology since Descartes (Irwin, 1992). This is the picture of the mind as a great mirror containing various representations of nature while some are accurate others are not. It is the task of epistemology, a theory of knowledge to identify the foundation and to provide a method that, when properly employed, will polish the mirror and ensure that all that is represented on it accurately reflects true picture of the world or reality.

Descartes's own rationalist epistemology was founded on the indubitability of his existence as a thinking thing; all other true beliefs, he maintained, could be

derived from this fixed point alone by valid deductive reasoning. While rejecting Descartes's starting point and rationalist (or non-empirical) methodology, the epistemology of modern science tacitly retains his conception of mind as separate from body. Saddled with the question of how the mind so conceived can acquire knowledge of the external world, it then accepts an essentially Lockean conception of "outer space" (the external world) as being represented in inner space" (the Cartesian mind) by various sense impressions and the correct operation of the mental processes. Although the letter of Locke's account has since been abandoned, the metaphor of mind as a mirror of nature has been retained. The "polishing is now carried out by the scientific method; the accurate reflections are those that are either directly derived from sense experience or indirectly related to such experience and certified to be so by the correct application of the method.

True beliefs, in the traditional view, are those that correspond to a fixed, external reality that is wholly independent of our various plans and projects. And a principal task of epistemology is to provide a method that will confront and constrain our untutored beliefs so as to separate the factual (those beliefs that actually correspond to the world) from the fanciful (those that do not). In addition, the acquisition of knowledge is, following Descartes, conceived as an essentially individualistic undertaking. Any single person equipped with the correct method is, in principle, capable of sorting out true from false beliefs by himself/herself. Moreover, once the method is placed in operation, the knower

assumes the passivity of a spectator. Like certain computer operators, knower monitors the working and results of the method on their own (internal) screens. Knowing is, on this view, an observational or contemplative endeavour, and we succumb to error, as Descartes puts it, "when the exigencies of action oblige us to make up our minds before having the leisure to examine matters more carefully." (Pollock, 1986. 181).

2.1.2 Classroom and Knowledge

What ought to go on in the classroom should be governed by the right application of the spectator theory of knowledge with its emphasis on a fixed external world that can be accurately represented in our individual (Cartesian) minds. The passivity of students and the underlying individualism makes the assumption of a fixed external reality to which the teacher's beliefs correspond but the students' do not. The emphasis on students' assumption have to be taken through a series of steps that enables them to replace false with true beliefs and so are the legacy of the Cartesian tradition in epistemology. But what if that tradition and the assumptions underlying it are fundamentally mistaken? Indeed, this is just what a number of influential philosophers are currently saying. If they are right, it may have important implications for what should be going on in the school classroom today (Pollock, 1986: 182f).

2.1.3 Limitation of Western Theory of Knowledge

There are two dilemma of Western concept of Knowledge that can be taken as weaknesses. According to Doxtater (2004), alleges that Western knowledge is founded on reason. That reason is what makes human person to understand true nature of the world. Secondly, Western knowledge is also privileged itself as prefect of other knowledge. This way of thinking gives western knowledge strength to lean towards validating or invalidating other knowledge systems. This is what happened in colonial times where it conceptualized intellectual colonialisation in the context of Western knowledge as a guide over Indigenous knowledge (Foucault, 1977). This kind of perception exposes Western knowledge into ignorance of other knowledge systems and thus limits itself to only what is western oriented.

In the early twentieth century the fashion of doing philosophy included the spheres of Marxian ideology and liberal theory. The view of colonial power knowledge a midst Western self doubts after the horrors of attempted world colonization became known and disasters like First World War suggested certain dangers (Hammersmith, 2007). In this case colonial power knowledge communicates cultural presuppositions that elevate Western knowledge as real knowledge while ignoring other knowledge systems.

2.2 Concept of Indigenous Knowledge

Unlike the western knowledge, indigenous knowledge does not derive its origins in individuals but rather from the collective understanding and rationalizations of the community. Ogawa (1995) distinguishes between individual knowledge and societal knowledge. He equates indigenous knowledge to societal knowledge or communal knowledge. He defines indigenous knowledge as "a culture-depended collective rational perceiving reality" where collective means held in sufficiently similar form by many persons to allow effective communication, but independent of any particular mind or set of minds (p. 588). This clearly means that IK is about what indigenous people know and do and what local community has known and done for generations. This is more grounded in the society that preserve these knowledge in oral culture as having the ability to use community knowledge to form important literary skills critical to survival in an African context (Semali, 1999).

Indigenous education as defined in chapter one incorporates the whole system of knowledge. The problem it poses within the modern setting is that it has been ignored in the implementation of the modern education to the local people. The context in which Agrawal (1995) explains the distinction between Indigenous knowledge and Western knowledge is that it separates "us" from "them" that when we recognize how these two types of knowledge are similar, we can begin a productive dialogue that safe guard the interests of who are

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disadvantaged. He says that instead of trying to oppose Indigenous knowledge and Western knowledge, it might be better to accept differences within these categories and find similarities across them.

The arguments for convergence between the two knowledge system is not just about livelihoods, that is pastoralism, agriculture, agro-forestry, etc, but it also consists of abstract and philosophical systems. Agrawal (1995) argues against the perceived differences between indigenous and scientific knowledge especially with allegation that western knowledge is more scientific. With respect to methodology and epistemological differences, indigenous knowledge is also based both on trial and error and scientific experiments. Thus, the philosophers of science have abandoned any serious hope for a satisfactory methodology to distinguish science from non-science. This study proposes a model for systematically interconnected Indigenous/Western approaches to education of the Maasai people in the context of cultural synergy.

2.2.1 Indigenous Knowledge and Education

Indigenous knowledge constitutes the content of education. The study makes a direct reference to the Maasai people and how they applied Indigenous Knowledge to education. In a wider African context, knowledge and education is a means to an end (Zulu, 2006). In his analysis of indigenous education, Zulu (2006) states that this means to an end involved activities like social

responsibility, moral values, participation in ceremonies, rituals, songs and dance and other educational activities that could be acknowledged and examined.

In contextualizing these activities with the local Maasai, the work of Semali (1999) is a source of inspiration. He says that Indigenous knowledge does not derive its origin from the individuals but from the collective epistemological standings and rationalization of community. In this way, the elders in the community are only but custodians of this knowledge and are bound to disseminate it. The knowledge is the content of what local people know and do and those who know and use it promote the community from one generation to another. The study theoretically shows that the indigenous literacy is the information communicated via local culture and practice among the Maasai people.

2.2.2 The Maasai and Indigenous Knowledge

International Labour Organization (ILO) estimates that the world has a population of indigenous groups that range in millions living in several nations of the world. All these groups are unique to the places they live (ILO 1993:4). Indigenous Knowledge covers all aspects of life and forms a matter of survival to the peoples who generated the system. Granier (1998:1-2) emphasizes that the knowledge system is cumulative, representing generations of experiences, careful observations and trial and error experiments thus making indigenous

knowledge dynamic in nature. It's dynamic because new knowledge is continuously added. Indigenous knowledge, therefore as a system innovates from within; it internalizes and adapts external knowledge to suit the local situations. Maasai community forms part of these groups and its indigenous knowledge carries similar characteristic as expressed by Granier (1998).

The Maasai indigenous knowledge is stored in people's memories and activities. It is expressed in stories, songs, folklore, proverbs, dances, myths, cultural values, beliefs, rituals, local languages, plant species and animal breeds. The indigenous knowledge of the Maasai is the totality of knowledge and practices used in the management of the social economic, spiritual and ecological facets of life. Whatever breed of animals or colour of their cattle that they keep is characteristic of their knowledge and they all express the indigenous knowledge.

However, among the Elders in Indigenous community of the Maasai, much Indigenous knowledge, ways of knowing and worldview remains intact and in practise in an indigenous context. The study argues that there is a growing need to appreciate the contributions that the Maasai Indigenous knowledge can make to contemporary understanding in areas such as environmental enhancement, resource and wildlife management, meteorology, biology and medicine, as well as in basic human behaviour and educational practises.

Indigenous knowledge among the indigenous Maasai is life centered knowledge, vital and dynamic. The emphasis has been that Indigenous knowledge is more of the technical knowledge of the environment, but other scholars argue that IK is the cultural knowledge in its broad sense, it includes all the social, political, economical and spiritual aspects of a local way of life (Emery,1997). However, when discussing IK in the context of Maasai people, emphasis is put on the practices and regulations as the principal that holds life. Religion is an integral part of IK and cannot be separated from any angle one looks at IK. In this context therefore religion cuts across and influences indigenous knowledge of the Maasai community.

2.2.3 Characteristics of Indigenous Knowledge

As evidenced at University level of education, pursue of knowledge is specialised. The specializations in universities and other institutions of learning end up in departmentalization of knowledge. The process of departmentalization separates epistemology as theory of knowledge from metaphysics as theory of reality. This separation between knowledge and the study of reality was of course the work of Descartes who refused to admit the existence of anything real until he could establish that it is known, not merely believed to exist (Chrisholm, 1966). With Descartes, the theory of reality was subordinated to the theory of knowledge. This is the influence of Western theory of Knowledge on education today.

This separation and the subordination of knowledge to theory of reality is completely foreign to African Indigenous Knowledge. In the African context Gyekye, (1997), argues that Indigenous knowledge constitutes both metaphysics and epistemology. IK is founded on the reality of what is known. Emery (1997), Battiste (1995), Nkurunziza (2002) agree that Indigenous knowledge is both life centered and holistic. That Indigenous knowledge cannot be compartmentalized and cannot be separated from the people. It is rooted in the spiritual health, culture and language of the people. It is a way of life. In this way it is dynamic and metaphysical epistemology which means applied/functional knowledge. Indigenous knowledge utilizes the ordinary objects that are encountered; the earth, the plants, the air we breathe. It also utilizes the bodies, the mind which directs the body and the relationships of daily life.

This study of Indigenous knowledge will be treated as an integral aspect of the ontological theory held by the indigenous Maasai people. Knowing is relational and participatory. Through participation, Indigenous Maasai come to understand knowledge as a means of strengthening ecological balance. Indigenous knowledge is gained from a way of living and being in the world; learning is understood as participation, and it is in this forum that human beings influence the manifestation of the physical reality. Indigenous epistemology is explored through engaging and participating in a process that

is a reflection of Indigenous ways of building knowledge (Ermine 1995). The study attempts to fill the gap through cultural synergy.

As in this study, Agrawal (1995) argues that with respect to contextuality, nothing makes sense out of its context. These arguments and perspectives are supported by Agrwal's conclusion that the distinction between Indigenous and scientific separates 'us' from 'them'. When we recognize how these two types of knowledge are similar, we can begin a 'productive dialogue that safe guards the interests who are disadvantaged.' He concludes that, '*Instead of trying to oppose IK and WK, it might be better to accept differences within these categories and find similarities across them.*' The credibility of this study's arguments for convergence between the two knowledge systems is encouraged by the fact that, fifty years after the Wilsons' observations in Central Africa, Agrawal, (1995: 413-439) concludes that there is no big substantive difference between IK and Western Knowledge (WK) on agriculture, agro-forestry, taxonomies, etc. IK is not only about the livelihood of people; it can consist of abstract and philosophical systems. IK can also be prestigious (ex-ministers visiting local traditional healers for treatment). Agrawal argues against perceived differences between scientific and Indigenous knowledge, stating that, with respect to methodological and epistemological differences, IK is also based both on trial and error, and scientific experiments. Philosophers of science have abandoned any serious hope for a satisfactory methodology to distinguish science from non-science. This study argument proposes a model for interconnection between Indigenous/Western approach to education,

characterized by complementary diversity and creative interconnectivity. This is supported, among others, by the 1946 and 1995 observations of both the Wilsons (1946: 100-101) and Agrawal (1995: 413-39).

2.2.4 Importance of Indigenous Knowledge

Given the overview and the characteristics of the Indigenous knowledge, it is important to note that indigenous knowledge can contribute to local empowerment and development and this increases self-sufficient and self-determination (Thrupp, 1989). Thrupp argues that when IK is legitimized, the education of the people is also legitimized in the eyes of the local people. Secondly, it increases cultural pride and in this sense gives local people motivation to solve local based issues/problems using local resources. Thrupp concludes by saying that local capacity building is crucial on sustainable development of any community and so approaches that support and strengthen indigenous knowledge be encouraged in the local context.

It is important to note that indigenous people can provide valuable in-put on local issues and how to effectively manage resources to their disposal. The Maasai people have appropriately managed to maintain the resources especially in the keeping of their cultural identity and in living with wild animals. This has earned the community an international label and name to extent that tourists equate Kenya with Maasai people. The interest that has been created from the outside people is the evidence of how powerful the IK

can be to a people. Emery, (1996) elaborates that Indigenous knowledge can provide basis from which alternative ways of managing resources can be developed. For Indigenous knowledge takes advantage of locally available skills and materials and more often cost effective as compared to foreign western knowledge (IIRR, 1996a). This is so because local people are familiar with all its aspects and need little effort to specialize on those interests. To close the gap IK-WK marriage is useful in education of the locals.

2.2.5 Limitation of Indigenous Knowledge

Indigenous knowledge must not be accepted uncritically. Whatever indigenous people do is not to be regarded as always naturally in harmony with the community and the environment. There is historical and contemporary evidence that due to lack of understanding (within the framework of IK) indigenous Maasai people have committed environmental disasters through over-grazing of the land. Thus they have contributed to environmental degradation as a disaster. In this way it's misleading to think that Indigenous knowledge is always good and sustainable.

Indigenous Knowledge can also be eroded by wider economic and social forces. Pressure on indigenous people to integrate with larger societies is often great and social structures which generate Indigenous knowledge and practices can break down. Granier, (1998) believes that the growth of national and international markets, the imposition of Western education and religion and

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the impact of various development processes can lead to more "monogenization" of the world cultures. Consequently, Granier (1998) adds, that indigenous beliefs, values, customs, and practices may be altered and the resulting knowledge base affected. This can be a great point of limitation to the indigenous knowledge.

Thrupp, (1998) confirms that sometimes indigenous knowledge that was once well-adapted and effective in securing livelihoods in particular environments becomes inappropriate under new conditions. However, he believes that Indigenous knowledge naturally has some amount of flexibility for it concerns human persons. When change is particularly drastic, the knowledge associated with "Indigenous knowledge may be rendered unsuitable" (Granier, 1998).

Langill (1999), adds that in situations where locals have relied on knowledge that is wrong or even harmful, in terms of mistaken beliefs or inaccurate information, it can be dangerous and even be a barrier to improving live of the indigenous people. Although he suggests that it may be difficult to make judgment of this particular phenomenon, it could be possible that there could be wrong and harmful indigenous knowledge (Langill, 1999). In this context, he refers to aspects of the Indigenous knowledge that could be harmful and not the whole system of indigenous knowledge.

2.3 Globalization and Modern Education

This study is encouraged by the findings of Dei (2000) that conventional, mainstream knowledge production has been constructed so as to become a monopoly from which ordinary local people are excluded. With the globalization of Western development, most indigenous cultures are being forced into programmes of modernization that tend to regard acquisition of material goods as the central purpose in life. This observation strengthens the argument in this study for interdependency or cultural synergy that proposes education designed or organized to adapt the convergence of Indigenous and Western knowledge in order to incorporate all cultures.

Langill (1999) concurs with this when he takes position that, there are situations when Indigenous knowledge can also be said to be lost. He raises the concerns that where there is the rapid social, economical and political changes in areas inhabited by Indigenous people the danger that the indigenous knowledge they posses will be lost is high. The fact that the younger generations are acquiring new values and lifestyles, as a result of exposure to global and national influences the traditional communication network breaks down. This means that the elders die without passing their knowledge onto the children.

This situation puts at risk Indigenous knowledge of the Maasai today; where the existence of boarding educational institutions that ran from primary to

tertiary institution, use of mobile phones, modern musical instruments and use of television put away the younger generation from listening to the elders.

In the context of this study, the need to converge the culture by complementing each other is a necessary tool. This gap can be addressed, for instance, by the need to use Western knowledge to record Indigenous knowledge so that both scientific and local communities can have access to it. This would raise the awareness in the community about the value of Indigenous knowledge in terms of local practices. The exercise would involve local people at all levels for they are the ones to give interpretations in the context of globalization in some situations. And once the exercise is done, the whole indigenous knowledge would be packaged differently and disseminated to the community.

2.4 Theoretical Framework

This study used the theory of the cultural synergism as its theoretical framework. Cultural synergism is as mean between relativism and universalism. Universalism asserts that intrinsically, everyone is endowed with certain entitlements merely by reason of being human, and that such rights should be universal to the extent of their nature. Such entitlements can exist as shared norms of actual human values. In this context, Western knowledge is taken as the carrier of these entitlements and it comes basically as the culture of the Western people.

On the other hand, cultural relativism is the view that no culture is superior to any other culture in terms of their system of knowledge of values, education, law, politics or religion. It is the philosophical notion that all cultural beliefs are equally valid and that truth itself is relative, depending on the cultural environment.

This study attempted to show that universalism and scientific behaviorism are epistemologically related. Social scientists assume that there is a system of preferences which contrast each individual as having a freedom of choice (Harre, 1972: 50). An individual ontology recognizes each individual as having a freedom of choice. In contrast to this individual ontology, cultural relativists believe that the meaning of human existence must be derived from relationships among individuals. Bell, (2001) argues that these preferences must reflect the identity of an individual in society. To assert a form of individual being that is above the society to which he or she belongs is to destroy the society through which the individual identifies him/herself.

To illustrate this, the study adapts a useful analogy that may help to illustrate this different conceptualization of human nature. In this analogy, it is said that a Maasai once declared his love for both milk and *ugali*. If forced to choose between the two, he would go for milk. A behaviorist might look at a Maasai's choice in terms of social and economic status, the geographical location of his

residence, the price of each and so on to help make the choice. In this case a Maasai would have been treated just like anyone else. A relativist, in contrast, might ask what social function a Maasai choice could have fulfilled and how his behavior could have reproduced extant relationships as well as Maasai's own identity. It is meaningless to read freedom into such choice. To a cultural relativist, the notion of freedom itself is a statement of identity.

The example above shows that the approaches of both schools of thought (Universalist and relativists) can be meaningful. However, the study is concerned that some sort of cultural hegemony may arise to dominate human belief. Universalists are against any form of totalitarianism that denies individuals of their rights to private preference. Relativists are against imperialism, since it denies local communities of their collective values (MacIntyre, 1984). Under this analogy any explanation of choice universalists or relativists can provide will not be sufficient for any specific explanation provided that it may mean little to those abiding by different forms of human existence. The study adapts this as the epistemology of contingency that seeks the synergy of the two theories. Here, the human agency is responsible for creating contingency for both Universalist and relativist risk overlooking the role of human agency when lost in their single-minded pursuit.

The study also observes that inculturation as the tool of evangelization is an effort to make meaning of both the Western religion as universal belief and

cultural religion as a relative belief of the community (Hillman, 1987). Inculturation as a methodology in itself takes the advantage of the cultural synergy.

The philosophical ground for cultural synergism is in Friedrich Hegel's (1770-1831) dialectic idealism. The Hegelian dialectic is a three stage model of development that can be applied to demonstrate synergy in understanding of the reality of knowledge. The first stage is the thesis, followed by reaction to it, its counter argument, or opposite, the antithesis. From this tension between the two arises a third possibility, the synthesis, which is a new and many times better option than either the thesis or antithesis, being the integration of the two previous two stages. The synthesis is also many times greater than simply the sum of the thesis and antithesis.

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Thus Hegel believed that everything in history develops through a process of change, the dialectic. The thesis has internal contradictions and inner conflicts that causes the antithesis to arise, causing on its part the synthesis to be formed. Reality is not static or fixed, but is in a constant historical process of change and development. The study attempts to show that knowledge presented as western world view is not static that the antithesis of indigenous aspect will result to a synthesis that the study wants to achieve as the synergy.

This practice and approach can also be observed in Holism. Holism is the tendency in nature, the cosmos and reality in general, to form wholes that are greater than the sum of their parts as argued by Heraclitus of Ephesus (c.535BC - c. 475BC). It is the idea that systems (physical, biological, chemical, social, economic, mental, linguistic,) and their properties should be viewed as wholes, not as collections of parts. This often includes the view that systems function as wholes and that their functioning cannot be fully understood solely in terms of their component parts (Auyang (1999).

It is therefore important to note that those who hold to cultural relativism believe that education is completely relative to the individual within a cultural identity. The divergence of these views kills the would-be possible consensus between the two theories, while the convergence creates the synergy.

Towards the close of twentieth century, some writings attribute Cultural synergy as a term coined by Adler (1997) of McGill University. Her description attempts to bring two or more cultures together to form an organization or environment that is based on combined strengths, concepts and skills. Adler (1997) being a psychologist, she connected the concept to organizational behavious. In the context of this study, the differences in the world's people are used in such a way that encourages mutual growth by cooperation. That where different knowledge systems are brought together, the two ought to bring new knowledge that can be useful to the community. This is the motivation for picking on the term cultural synergy.

Indigenous Maasai have sustained their unique worldviews and associated knowledge for ages, even in times of transformative forces that are beyond their control. The depth of Indigenous knowledge rooted in long practice offers lessons that can benefit educators and scientist. There exists an opportunity to utilize cultural synergism between Indigenous and Western knowledge as the point for fostering a new functional connectivity between the two systems. These two complex knowledge systems, while functionally interdependent, are currently largely disconnected but if appropriately explicated, can serve and strengthen the quality of educational experiences for indigenous Maasai.

2.5 Conclusion

From the foregoing discussion, it is clear that one knowledge system cannot be adequately taken to certify humanity. A knowledge system is a worldview of a particular culture and it cannot be a measuring rod for all cultures. Each culture has its own unique world view that guides a community's interaction with its environment thus facilitating the community's survival. The Maasai is one such community that had its own world view. The next chapter discusses the method of enquiry utilised in this study.

CHAPTER THREE: METHODOLOGY

3.0 Introduction

This chapter identifies, describes and justifies the methods that were used in this study. This study mainly relied on the analytical method. This is so because the study critically analyzed, evaluated and logically interrogated claims, arguments and concepts related to Western knowledge and Indigenous knowledge and offered speculative conclusions on how the synergy between WK and IK can be realized. This involved second order analysis of secondary data. The prescriptive method was also used to recommend normative principles and standards embedded in indigenous knowledge and education that are deemed relevant to Kenya's education system.

3.1 Historical Background of the Analytic Method

Although the earliest analytical philosopher is typically taken to be Frege, the method traces its roots in ancient Greek philosophy in Plato's Theaetetus (Buryeat, 1990). The method reappeared to take a major part in the early modern period in the work of Descartes and his followers (Arnauld (1996). But the history of the analytical philosophy is largely a twentieth century affair. As scientific approaches continued to yield results, some philosophers towards the end of the nineteenth century wondered if it would be possible to learn a lesson from the sciences and do philosophy in a similar way. In trying to respond to the aforementioned concern the study adopted the analytic

philosophy particularly that associated with Wittgenstein, Austin and Gilbert Ryle.

3.1.1 Wittgenstein (1889-1951)

Wittgenstein implicitly explains that philosophical problems are a complex of presuppositions, ideas, theories and concepts, jumbled together. To make sense of them and address the issues they raise, it is first necessary to untangle them. However, to tackle the problem requires a method that recognizes this muddled beginning, coming at it from many different perspectives and hence getting a wider sense of it. Wittgenstein was not looking to explain problems but to describe them from multiple angles and thereby gain a deeper understanding.

Wittgenstein saw value in the older, traditional way of doing philosophy but believed that it had limitations. By imposing a model in the world, it is often possible to see regularities or patterns that might otherwise be missed, but it also forces an array of particular instances into a general picture and hence cannot provide an accurate representation of all the smaller details. Subtle distinctions are missed due to the generalizations we attempt to make. In this way, we can become trapped by our picture of the world or a specific problem and hence be unable to get beyond it.

The problem that Wittgenstein considered was the question of whether we can know that an external world exists or not. The first was his celebrated private language argument, in which he asked if it would be possible for a person to know and use a language if they were the only person in existence. He concluded that they could not, since language like games is governed by rules; otherwise we would not know if we had used a word or an expression correctly. However, if there was only a single person in existence, there could be no such rules; there would be nothing to refer to in order to call a usage correct or incorrect. These particular rules are entrenched in one's cultural experience (http://galilean-library.org).

This approach was taken up by the study in which different worldviews were needed to gain a common ground in a system of education. The study therefore sought to describe a system of knowledge from multiple ways and this is how Wittgenstein was useful in the study.

3.1.2 Gilbert Ryle (1900 – 1976)

One of his main philosophical concerns was the philosophy of mind, specifically Cartesian dualism, which he attacked with much vigor. He held that dualism or the idea that there is a ghost in the machine, as he termed it is a mistake based on a category error. He used a story to explain the problem:

A foreigner visiting Oxford or Cambridge for the first time is shown a number of colleges, libraries, playing fields, museums, scientific departments and administrative offices. He then asks "But where is the University?". His mistake lay in his innocent assumption that it was correct to speak of Christ Church, the Bodleian Library, the Ashmolean Museum and the University; to speak, that is, as if "the University" stood for an extra member of the class of which these other units are members. He was mistakenly allocating the University to the same category as that to which the other institutions belong (Ryle, 1946).

Anyone who has visited either can perhaps sympathize with the plight of the unfortunate tourist in this example. By analogy, however, Ryle insisted that it is an error to speak of the mind existing as the body does; "the mind" is here in the same situation as "the University" and the confusion of dualism lies in taking it to exist separately as the visitor does the University. The approach, then, was again to show that terms in language have been used incorrectly; and hence to demonstrate that the confusion in the philosophical problem disappears, as it were, when we employ language in a more logical fashion. Even so, he helped to bring the philosophies of mind and language together, such that modern work in these is almost invariably intertwined.

The study draws insights from Ryle in the sense that categorizing worldviews is an essential and noble thing but human beings remain the same. The differences which appear on the surface are mere accidents and cannot be

taken as a point of dichotomy. One view of knowledge can be merged with another to develop knowledge in the contemporary society of persons. This will transcend mere accidents of human culture.

3.1.3 J.L. Austin (1911– 1960)

Austin employed a methodological principle that is almost unique in philosophy, which he characterized as "the abnormal will throw light on the normal". This approach supposes that by studying the extreme or unusual case we will discover something about what typically obtains. Austin also used two principles that language has a long history and the distinctions we find in it like good and bad, true and false, free and un-free, have served a purpose in being employed and handed down to us. Although he acknowledged that exceptions exist, he thought that as a rule the existence of a distinction suggests that it tells us something rather than being arbitrary. In particular, he applied these to the problem of free will and used them to conclude that there are both free and un-free actions (http://galilean-library.org).

The study makes a comparison between western knowledge and indigenous knowledge as forms of knowledge systems. Therefore, the study considered the true and the false of both worldviews in a bid to draw synergy. In this way Austin did not help the study to come up with arbitrary conclusions, but rather clear distinctions that help both worldviews develop a workable convergence.

In spite of the concerns raised at the work of its early exponents, today's analytic philosophy is active in many areas, particularly in the philosophy of mind. One of the best uses of analytic method of philosophy is demonstrated by philosophers of education such as R.S Peters and Paul Hirst on the concept of education (Peters, 1967). Their attempt to understand the concept of education and its meaning is founded on the cultural aspects of Western knowledge. This study attempts to understand the concept of indigenous knowledge and its meaning founded on the cultural aspects of Maasai community.

3.2 Analytic Method in Philosophy

Analytic method of philosophy is based on the fact that human being uses language to express their ideas and their world. The method describes philosophy as a pursuit of truth where "truth" is interpreted in conformity with common usage in language as the attempt to acquire knowledge about our world (reality) (Ambrose, 1967:147). Here the concern is on language on which truths are expressed. In the language we form concepts which we use to understand reality. For example the theory of causation tells us something about the cause rather than about the causation as a feature of our reality.

The analytic method seeks to understand the subject matter by coming to understand its composition. It aims at understanding the behavior of the whole by tracing its behavior to the influences of its parts and their organization. The method aims to understand the inferential behavior of a concept (Moore, 1980: 182). Thus it tends to understand by analyzing concepts into their parts. The example that can be given here is the effort of philosophers in understanding the concept of propositional knowledge. They attempt by viewing it as a composed of other concepts that is belief, truth and justification according to Western world. The method of analysis is here used to explain the concepts. In this case the concepts that the study takes interest in are the Western knowledge and the Indigenous knowledge. The study attempts to break the components that form these concepts in an effort to drawing practical application of the same in education.

The success of the method is dependent both on correctness of the analysis and upon its capacity to deepen understanding by explaining the less well understood; the whole, on the basis of what is understood that is the simpler components and the effects of their configuration in the whole. The presented analysis of the concept of knowledge arguably fails on both counts: a) that the concept of knowledge is a simple concept and so not composed of other concepts and b) it has been argued that the concept of justification and belief is no simpler, or easier to understand than in the concept of knowledge.

According to Njoroge and Bennars, (1986), the analytical method is primarily concerned with logical analysis of language and concepts. The methods sought to analyze concepts, statements and language used in deferent situations and perspectives aiming at giving clarity and justifying meaning. This method clears the antiquities and confusions that exist and move to clarify different perspectives taken by proponents of indigenous knowledge as a basis for modern knowledge. This helped to examine the rationality of the educational ideals of the long practiced traditional knowledge and how it blends with the modern knowledge. In this study, analysis of the facts leads to clear definition and understanding of both traditional indigenous knowledge of the Maasai and the Western knowledge.

What this entails is the breakdown of the process of knowledge construction using the Western knowledge model. It is then used as an example of how a community constructs knowledge. Then the analysis of the indigenous knowledge of Maasai community and a demonstration of how it is a world view or knowledge system logically follows. In this way, the method clarifies speculative and prescriptive statements and examines rationality of indigenous knowledge

3.3 The Prescriptive Method

The prescriptive method of philosophy was also used in this study. This method is normative in nature and it involves making value judgement about human conduct. The method was used in this study in identifying and recommending ideals, virtues, principles and standards of a moral nature deduced from the indigenous knowledge and education of the Massai. Such values are then recommended for inclusion in Kenya's system of education.

CHAPTER FOUR: CONSTRUCTION OF KNOWLEDGE

4.0 Introduction

A study that is concerned with indigenous knowledge of necessity has to discuss the concept of a worldview in the context of culture. In this chapter, the concern is to examine the concept of worldview, establish its theoretical basis as well as its place in society. John Mbiti affirms the concepts' vital place in understanding other cultures (1978:273). In this context, Mbiti (1978) asserts that the knowledge of people's worldview not only strengthen the understanding of their cultures but can also help in understanding the development of their epistemologies.

This chapter attempts to address three tasks. First, it considers the concept of culture and its relationship to worldview. This includes a brief analysis of the development of the term in order to establish a theoretical working definition of the concept. Secondly, it addresses the problem of human universals in relation to concept of knowledge, that is, what it is in humans that cause them to need and develop knowledge. This particular matter of universal urge for knowledge development leads to the third aspect of discussing how Western societies developed their knowledge. The attention here is not so much on how one group, for instance the Maasai, developed its knowledge but rather how societies in general construct knowledge. The aspect of how and what of the Maasai worldview is the subject of the next chapter. Here the researcher looks at the factors and forces that are in operation in the formation of knowledge.

This study argues that worldviews are essentially epistemologies and the researcher uses Western epistemology to demonstrate how a dominant society has come to develop its foundation of knowledge.

4.1 Culture and Knowledge

Taylor (1871, 1), defined culture as "that complex whole which includes knowledge, belief, art, law, morals, custom, and any other capabilities and habits acquired by man as a member of society." This definition lumps together psychological items (e.g., belief) with external items (e.g., art). That is why anthropologists focus on both artifacts and behaviours. Herskovits (1948, 17) tells us that, "Culture is the man-made part of the environment," and Meade (1953, 22) says culture "is the total shared, learned behavior of a society." These dimensions are combined in Malinowski's (1931, 623) formulation: "Culture is a well organized unity divided into two fundamental aspects—a body of artifacts and a system of customs." Masolo (1983) discusses culture from individual, sectional and whole-social point of view but quickly points out that it's the last sense (social point of view) that culture is most defined. Using Masolo's (1983) argument, it will make sense discussing culture in these three perspectives. According to the first perspective, culture signifies individual ability and preparedness to handle and deal with diverse problems in society as exemplified by the Maasai elder's ability to diagnose and treat animal diseases. Secondly, culture may be used to signify a mode of subsistence adopted by the community. An example here could be cattle

rustling as practiced by the Maasai community to increase the herd. To the outsider, the practice of cattle rustling appears as if the Maasai community allows stealing from the other community. Compare this to Western advertisement as a way of convincing potential customers to buy a commodity. All these are some forms of manipulation depending on who is looking at it. Thirdly, culture is considered as signifying a "collective heritage of any given society". These three senses do overlap but the emphasis in this research was on the third sense.

Culture looked in this context falls under the category of observable behavior. When one observes and listens to members of a society, one discerns certain observable behavioral patterns. For instance, an observer among the Maasai will soon discern that youth and women do not greet elders by shaking hands, but rather by bowing their heads towards the elder to touch. They ought not to utter a word until the elder accepts the greetings and utters a greeting 'ero supa" (young man how are you?) that is when the young man will respond saying "epa" (am good). Here, the elder takes the initiative to call the young man after he has shown interest to greet him.

This is an aspect of culture that falls under observable behavior. A distinction must be made here; in philosophy that observable behavior is referred to as explicit aspects of culture, while the non-observable is implicit (hidden) culture. In this sense explicit behavior which our senses observe or perceive in

others is a manifestation of hidden values and meanings within people's minds. It is from this aspect that Tyler (1969) concludes that cultures are not material phenomena; they are cognitive organizations of material phenomena (Tyler, 1969: 3). Similarly therefore, culture is a system of ideas, it does not provide a cognitive map, but rather a set of principles for map making and navigation. And in this sense, different cultures are like "different schools of navigation designed to cope with different terrains and seas" (quoted in Spradley, 1980:9).

Culture taken in this sense reveals man's ability to transcend the biological limitations. This ability to transcend is different from other animals. Other animals do have the capacity to adapt effectively to their environment, but their modes of adaptation do not manifest the creativity found in humans. For example, dogs have instinctively hunted by running to follow its prey. Over the years they have not developed better hunting habits and there is no reason to believe they will. They lack the creative ability to invent say a gun and trucks and are thus locked into behavioral modes by the nature of their instinctive constitution.

While human beings have certain similarities with other animals, they do however have better biological ability to create worlds that best respond to their environment. Each individual human in society has this biological ability

to be creative. Hence, culture is the corporate construct of people in a given society in order to respond effectively and meaningfully to their environment.

Culture begins humbly as individual members in a society think and plan effective ways of adapting through interactions with other members. In the process, certain individual or group ideas, habits or plans receive societal approval. That which began as an idea in individual mind acquires acceptance and becomes society's objective reality. The objective reality then becomes the cultural world of the society and this is turned into structured explicit institutions. The quality of objective reality in culture has historical life validity where it is grounded on the fact that it antedates the biological life of members of society. Therefore, the traditions of the past generations form part of this objective reality and weigh heavily on the memory of the living. Those alive look at the traditions as something that existed before their time and certainly will continue after they die. This objectivity makes members of a society take their social and cultural worlds more seriously.

4.2 Cultural Diversity

A society's culture is built on its conceptual world. Humans perceive what their conceptual world trained them to see (Kuhn, 1982:123). This explains why people from different cultures have difficulties communicating with each other. The reason is not because they hate each other but because they come from different conceptual worlds. In this respect therefore, it is human

reflection within the context of different environments that accounts for differences in conceptual worlds and which results in behavioral diversity. For example when President Obama visited Tanzania in 2013, he advocated for gay marriages and this elicited uproar from both political and religious leaders in Africa, including those from Kenya. Their main disagreement was that gay marriages are not African and should never be promoted on African soil. To an American listening to Obama, this is a normal thing coming too late for it is part of their explicit world. Without undermining the religious nature of the statement, it can be said that it was but a reflection of the different conceptual world views. The only hurdle was that the same was made on African soil intending to address Africans. But culture as the pattern of observable behavior is rooted in the subjective conscience of human beings. This means that the external behavior in persons has its origin in the governing conceptual world which is mental. It is this hidden conceptual world that this study refers to as worldview.

Worldview in this way of looking at situation is a conceptual tool in philosophy. It seeks to search the nature of knowledge, meaning and conceptual aspects of culture. Luzbetak (1970) called this a "philosophy of life, mentality or simply inner logic" (1970: 157). On the other hand, Redfield (1953) defined this situation as the 'ethos of a people' which is made up of organized conceptions. This is what identifies the national character of a people and it brings out a personality of a given society. For example in

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Tanzania, President Nyerere taught people to be polite and respectful in their daily communication, which became part of the ethos of the Tanzanians. This aspect defines a Tanzanian whenever he/she speaks as a polite person regardless of what he intends to do.

Today this concept of worldview is taken as the unconscious system of meaning which resides at the centre of culture. It constitutes the basic assumptions the people have about the nature of reality and of the right and wrong of the society. Hiebert (1979) puts all these aspects together and refers to them as the people's worldview. For instance, I know more about myself than anyone else. Others who know me must describe me from what they have observed in me, hence primarily outward behavior will dominate the description. In this context, whatever you observe is informed by culture and that is my worldview.

On the same note, the conceptual hidden world of human cultures can best be represented and reflected by an insider, that is, the person who is influenced by a specific culture. Any analysis by outsiders (those from different cultures) should be submitted to some critique for the person may not understand the spirituality of that specific culture. However, to point out that worldview description should be regarded as containing exhaustive explanation of a people's conceptual world is deceptive. This is because our view of the reality is an abridged version of the world that has been edited by our language

(Conn, 1984:111). Human beings, therefore, do not live in the objective world alone, nor alone in the world of social activity as ordinarily understood, but rather at the mercy of the particular language which has become the medium of expression for the society (ibid, 112).

It is important to note that a society's conceptual world is unconsciously learned through cultural transmission. You will sometime find people who are unaware of their conceptual world. They live and believe in what has been given to them. These people represent assumptions that are taken for granted and accepted unquestionably as cultural givens. In this respect, he/she live, act and behave in a particular way as culture may dictate but completely unaware that is a product of a specific culture. This now takes us to the human universals as a point of convergence.

4.3 Human Universals

This section endeavours to look at the human universals as individual and socio-cultural traits that are found in every known human society (Brown, 1991) and determine whether they provide any framework for development of human knowledge. More specifically, the author investigates societies and their universal preparedness for development of models of reality.

Earlier in the 20th century, scientists advocated phenotypic differences in humans that is, the differences based wholly on similarities in appearances

where such similarities are by no means proof of underlying generic equivalence (Kluckhohn, 1949:107). In order to justify colonialism and slavery as the dominant ideologies and practices of their day, some scientists argued for a polygenesis origins of man. The debate on the origin of the human species is between monogenesis and polygenesis. Thomas Aquinas (1225-1274) argued for the monogenesis position that all humans came from the same source - that while surface differences exist, deep down we are all the same. But some key western philosophers such as Locke, Hume and Hegel argued for polygenesis position. Their general position was that man comes from different species. Those whose physical appearances were non-European were described as savages, primitive with lower genetic structure than the civilized European people.

The primitive savages were the illogical species of mankind due to an innate, supposedly inferior and lower genetic structure. For example, scientists observed Negroids' skin, hair, nose, lips and head size and concluded that they were closer to apes (Klockhohn, 1949, Curtin, 1981). Little did they realize that to use say head sizes as long, oval, round to describe a racial group is a scientific impossibility. Western scientists found that humans are found with all kinds of head across mankind and concluded that there is no scientific model for determining Mongoloids, Negroids and others. Thus human racial categories are cultural and not biological.

This claim reaffirms the biological oneness of the human species. The pseudo-scientific claims of evolutionary ideologies have influenced views about the nature of man. For example, statements that black people lack the leadership skills to govern themselves especially whenever chaos occur reflects the unfortunate belief of some whites that black people are yet to reach the top human rank in the evolution ladder. Although Thomas Aquinas argued from a Christian point of view, he helped to understand that the differences in human beings are primarily cultural. The racial categories of the world are not determined by biology but by society. To help understand the concept of human universals, a brief analysis of causality, human cognition and meaning as important ingredients is attempted below.

4.3.1 Causality

It is impossible to conceive a people who do not have ideas about how they and the world came into being. Each society had its own way of explaining causality. The Maasai, for instance, have their way of explaining the cause of sickness in cattle. Out of experience they will identify a disease in cattle and they will explain it using another experience of wild animals having come in contact with cattle. This way of looking at a problem and cause differs from the way Europeans will explain similar experiences. Europeans will depend on research done and use recommended medicines. Looking at it in this manner causality is a universal worldview whose content is applied by respective society. The convergence therefore is in how the problem is treated eventually.

4.3.2 Human Cognition

This is concerned with how the mind works. Are there genetic variations in human cognition or are mental processes the same in all humans? As already explained, evolutionary theories were responsible for the pseudo-scientific claims of biological and racial differences in humans. But as it has been shown, the oneness of human species is an unquestioned biological fact. Thinking made a shift to universality of human cognition.

When searching for the universality of human cognition, Piaget (1930: 244-6) identified principles of causality that appear implicit in the reasoning of children of various ages. According to Piaget's developmental psychology, a child's mental development shows itself in the formation of a greater degree of objectivity in which the fragments which forces the child to "cling to the external world" drop away in the "general process of evolution which leads the child from a dynamic to a mechanical view.

On the contrary, Levi-Strauss, a social scientist maintains that there is no difference in how the mind works from one culture to another (Cole & Scribner, 1974). To him (Levi-Strauss) all people's cognitive process seeks equally to understand the universe and how to best adapt it to their own environment. The differences in human cultures do not, therefore, lie on the cognitive processes but on the material for those cognitive processes

From the communication perspective, it can be said that for communication to take place between humans of different cultures, there must be an intrinsic make-up underlying universal human cognition. On the same strength, it can also be said that universality of human cognition must be distinguished from cognitive structures. That cognitive processes fall into the category of human universals, thus cognition itself is a universal category in human thought. There is nothing in the western scientific view of the world that makes it offer mankind a truer picture of reality than other worldviews. This is why it would be unwise to judge a Maasai's cognitive competence by the use of western made intelligence tests. Tests for cognitive development for any people must be based on their cognitive needs, relevant to their cultural context.

4.3.3 Meaning

Beyond the universal biological needs of humans is a universal need for the meaning of human life that goes beyond the need for food and shelter, making sense of one's life. Hiebert (1976) says that "peoples are concerned with meaning. Unlike animals, they are not content simply to live but spend a great deal of their effort in trying to understand and explain life." Each society desires to make sense of life and the world around it; it strives for the meaning. Aristotle said that "all man by nature desire to understand". Humans of all cultures seek for meaning. The need for meaning is at the core of humans and is what it means to be human. It is an essential dimension within the human psche, whether we talk of the sophisticated habitat of a modern city

or the nomadic Maasai. All humans desire to have meaning of life and the world around them

Bensley (1982), in reflecting on a similar conviction suggests that to deny the need to construct a model that offers some form of meaning is in essence "to deny part at least of what it means to be human." It is therefore important to note that man's need for meaning is a human universal and the quest for a society's need to construct a meaningful explanation system for its existence and that of the world. In this context, meaning is a human universal but the content is supplied by the worldview within one's own socio-cultural context.

4.3.4 Relationship

The human universals namely causality, cognition and meaning do not exist as independent entities in a society. They do interact with each other. Similarly, individuals in a society do not live as independent islands but interact and relate with each other. Kearney (1984) refers to the relationship as between "self and other as the primary poles of a world view" Looking at it in this sense, the containers of the "self and other" are the fundamental human universals. From a western perspective Kearney looks at "self" as a fixed entity that acts upon the "other". His understanding of the relationship reflects the individualistic orientations typical of western epistemology where diagnosis of reality is done best by isolation and compartmentalization.

For a Maasai, the question is not so much how self relates to other, but rather self as part of the other. Donovan (1986) portrays an obvious attitude of humility and respect towards nature and society among the Maasai. The thought of an interdependence relationship with nature in which we are at peace with all is central in Maasai concept of reality.

The study has analyzed causality, cognition, meaning and relationship as universals that each culture needs as primary aspects of survival in an environment. The purpose of examining these universals is to investigate the conceptual tools with which societies are equipped in formation of knowledge. This shows that whatever humans develop out of the environment goes to answer difficult questions that each human being is exposed to regardless of where they could be. This helps us understand how Western societies developed their knowledge.

4.4 The Western Worldview

As the study begins to explore the processes involved in constructing societal models of reality, it is important to elaborate briefly on the concept of reality and its relationship to a worldview. The belief that each society has its own unique way of perceiving reality is grounded on four fundamental aspects.

First that each society's view of reality includes its own assumptions on what exists. Such existential assumptions can be described as a society's assertions

on that which exists in the immediate environment. In other words, a society's

existential postulates are responses to the question of "what is." (Goodenough ,

1957). For example, the unquestioned belief in the existence of God (Enkai) is

a Maasai existential assumption and forms part of their worldview.

Secondly, a society's view of reality includes ontological assumptions which

have to do with the nature of that which the society acknowledges as existing.

Thus, ontological assumptions have more to do with the essential nature of the

objects of existence. An example of the Maasai ontological assumption of

reality is their belief that all cattle belong to them (Donovan, 1986) and that

the Maasai are justified in raiding all neighbouring communities that own

cattle.

Thirdly, a society's worldview includes teleological postulates which have to

do with a people's perception of the end products of reality and how they

function. That the universe has a purpose and that objects in the universe must

be understood in terms of their functions. The example among the Maasai is

their belief in Enkai (God) as the designer of what they see (Donovan, 1986).

Finally, there is the normative assumption. Normative assumptions form the

society's "taken-for-granted" (Berger, 1977) hidden codes of conduct. In other

words, normative postulates seek to spell out the nature of normative behavior

that follows as a consequence of the society's views of reality. For example,

the explicit values (moral, social, attitudinal and others) exhibited by a society can all be traced back to some implicit worldview's normative assumptions.

Therefore, when we talk about a society's view of reality we must have in mind its existential, ontological, teleological and normative assumptions. All these form, as we pointed out earlier, the "of-course statements," the unquestioned beliefs and the taken-for-granted normative codes of the people. Most of these assumptions are implicit, and as Berger (1977) points out, most members of the society may be only vaguely aware of them, if at all.

How then are these views of reality developed in the minds of people? In exploring the factors involved in the construction of a society's worldview, the study begins by pointing out that when we talk about worldviews we are basically talking about knowledge systems, as Tyler (1969:3) states that it is the ideas in the people's minds that make up their mental structures of reality. In this sense then a people's worldview becomes the conceptualizations that house the society's assumptions of reality. Kearney (1984:10) says that, "Since a world view is knowledge about the world, what we are talking about here is epistemology; the theory of knowledge". Expressing similar concerns is Bensley when he says that "… epistemological questions are not only relevant, but central to any discussion of what world views are and how they are formed" (1982:26). For example, if a society's worldview is made up of ideas or conceptualizations that house a people's assumptions of reality, then are we

not talking about epistemology? And as such, are cultural worldviews not essentially epistemologies? This study does not agree with Kearney (1984) and Bensley (1982).

 A Worldview is a collection of assumptions, beliefs, convictions, including prejudices and erroneous views that are regarded as true and reliable guides in making sense of reality. Epistemology on the other hand is the reasoned theory of knowledge. It includes reflective appraisal of claims to knowledge implied in worldviews. A world view is therefore not necessarily an epistemology (a reasoned system of knowledge). However when elements of a worldview are critically interrogated and reconstructed, an epistemology can be gradually formulated.

4.5 Empiricism in Western Worldview.

Empiricism emphasizes experience as core to the knowing process. This is what has driven scientific knowledge. Encyclopedia Britannica defines Empiricism in Western Epistemology as the assumption that all ideas and concepts originate in experience. As discussed above ideas result from the mind's interaction with the environment as embodied in the culture. The central thesis in the empirical argument is that the environmental stimuli received through the senses provide the input for the construction of ideas in people's minds.

This can be traced to Aristotle (384-322 B.C.), a Greek-born student of Plato who believed that "ideas existed only as they were expressed in individual objects" (Brown 1968:16). Plato taught that the world of our senses was but a world of shadows. However, his student Aristotle sought to modify this position by laying more emphasis on the importance of observation. Aristotle sought to explain reality not in the form of ideas like Plato did but in the form of cause and effect relationships. Epicurus (342-270 B.C.), who followed Aristotle, argued that we have no knowledge of anything except that which comes via the senses. To him the senses provided human's sole criteria of truth. These approaches to knowing were central in classical Greek philosophy.

However, while there were key philosophers who made contributions during the medieval period, such as Anselm (1033-1109 A.D.) and Thomas Aquinas (1225-1274 A.D.), it was the Aristotelian emphasis on objectivity that laid the basis for empiricism in the 17th century. The empiricists contended that experience through the senses proves reality. John Locke (1632-1704) also wrote to refute Plato and other pre-1600 A.D. Platonian thinkers, like Descartes, who claimed that certain basic features of knowledge were innate in the human mind. Locke denied innate knowledge in humans and talked of the human mind as being a clean slate which gets knowledge via the senses.

Thus, in Locke's thinking humans cannot perceive aspects of reality except by their senses. The mind perceives data conveyed to it by the senses upon which it reflects. No wonder this view came to be called "sensationalism," meaning that man's knowledge of reality cannot be acquired by reason alone without the senses. Others who sought to enhance the empirical tradition include David Hume (1711-76) and his contemporary Sir Isaac Newton (1642-1726). David Hume was an empiricist whose attempts to modify Locke's claims pushed his empiricism to skeptical conclusions by mixing empiricism with logic (rationalism). Newton, who formulated the laws of gravity, believed that the world was run by physical laws and the role of science was to determine those laws. This was the beginning of a mechanistic worldview which has had such a firm grip on Western approach to knowledge.

4.5.1 Critique on Empiricism

The world of sensory perception had a profound influence on the formation of knowledge. But knowledge is too complex to be confined to the avenue of sensory perception alone. Senses do not generate all the knowledge of humanity. It is therefore important to acknowledge that senses contribute significantly to knowledge but do not rule out other available sources of knowledge such as reason.

Theories on the nature of human knowledge cannot afford to ignore other sources. Laudan (1977) argues that social-cultural environmental factors alone

cannot be regarded as an adequate causal explanation for the emergence of ideas (1977:199ff). To look at knowledge primarily from an empirical perspective is to be naive realists. The naive realist's approach to knowledge functions under the assumption that by the use of the senses one may acquire an accurate or an unbiased knowledge of reality. Thus, empirical observations provide us with literal pictures and accurate descriptions of the world. Barbour (1974) points out that, with a few exceptions, most scientists until the present century assumed that scientific theories were accurate descriptions of the world as it is in itself' (1974: 34).

However, human observations and new experiences are filtered through the 'eyes' of our conceptual world, and as Kuhn (1962) points out, that a person observes what his previous visual-conceptual experience has taught him to see (1962:113). Kearney (1984) affirms the same when he says that the way in which new experiences are perceived and conceptualized depends on how they can be related to or fitted into existing images and assumptions (Kearney, 1984:44). In other words, a new experience is interpreted and given meaning from the already-existing store of meanings in people's minds which has been collected from previous experiences. The mind cannot be perceived as just a passive recipient and reflector of sensory information. Humans do have innate mental categories with which to organize sense experiences. The mind plays an active role in ordering and giving meaning to empirical experiences, but the meanings exist in the mind of the observer. In this case knowledge becomes

the interpretation of sense-experiences by the mind within a socio-cultural context.

Thus, the entire epistemological systems cannot afford to be represented by mechanical models that view knowledge as a fact other than an interactive process. Humans are always in the process of knowing. Geber (1977) says, "Knowledge develops, it is a dynamic process, influenced both by the social environment and the process of maturation" (1977:6). It is from this non-mechanical orientation to the phenomena of knowledge that Piaget and others suggests that a developmental perspective is essential for understanding intelligence and epistemology. In the same way, "perception is not determined simply by the stimulus patterns; rather it is a dynamic (interaction) … searching for the best interpretation of the available data" (Gregory, 1966:11).

4.6 Rationalism in Western Worldview

As seen in the discussion on empiricism above, there are philosophers who have contended that ideas about reality are innate in humans. Reality is perceived to be in people's minds, that it could be attained through human reasoning. The embryonic idea for this model of viewing reality is again traced back to Plato (428-347 B.C). He taught that, the world which we see with our eyes and touch with our bodies was in reality only a world of shadows. It was a copy of the eternal world of spiritual forms to which the pure soul could attain by philosophic contemplation (Brown 1968:15-16).

Plato's major goal was to explain reality ideologically. His ideological model became key in classical Greek philosophy, and in medieval thought and certainly as the foundation for rationalism in the 16th century. Rationalism in the 16th century is best represented by Descartes (1596-1650). Descartes argues that reality is rational at heart, and he became responsible for the phrase "I think, therefore I am" (quoted in Brown 1968:51). He has been regarded as the "father of modern philosophy" (Hick 1964:66), and also "the first of the great rationalist philosophers" (Brown 1968:49). He argued that inside the individual's consciousness lies the final criterion of truth (Brown 1968:53).

In the rationalist tradition we see another main root or basic axiom of Western knowledge. Its triumph reached climax in Kant (1724-1804), who has been described by some as the "personification of modern man's confidence in the power of reason to grapple with material things and its incompetence to deal with anything beyond" (Brown 1968:91). Emmanuel Kant represents the era of Enlightenment in Western society when the worship of human reason was at its peak. "Dare to use your understanding" (Brown 1968:91), being the motto of the enlightenment period, bears witness to the value given to human reason.

4.6.1 Critique of Rationalism

In rationalism we see reality being confined to human reason. That the human mind can know through reasoning alone. But is it true that the development of epistemological system depends on human rationality alone? Geber (1977) asserts that reality is subjective and resides within the perceiver and so searching the external world for that which is real does necessarily reveal answers (1977:15).

Both empiricists and rationalists posit two perennial antagonistic positions. As seen above, each has its own explanation of the origin of ideas. Both are knowledge related positions of the Western worldview. Primarily Western worldview demands that knowledge is only genuine if it is arrived at through critical empirical or rational analysis. Kearney argues that the concern should be how reality and thought shape each other rather than the debate being centered on how much reality or mind determines the structure of thought (Kearney, 1984:4). The origin of knowledge is not from "either-or" but from a dynamic interaction of both. It is probably the mechanistic dualism of Western worldview that blinds Western ethno-philosophers from seeing pluralism in understanding the nature of knowledge.

4.7 Other Western Views on Reality

Besides empiricism and rationalism that make claims on the best means of obtaining knowledge, the West has also developed other views on the nature

of reality. For example, idealism is the view that spiritual reality is the only reality there is. It was a kind of metaphysical movement in western epistemology. Some philosophers advocated for absolute idealism. Absolute Idealism can generally be characterized as including the following principles: (a) the common everyday world of things and embodied minds is not the world as it really is but merely as it appears in terms of uncriticized categories; (b) the best reflection of the world is not found in physical and mathematical categories but in terms of a self-conscious mind; and (c) thought is the relation of each particular experience with the infinite whole of which it is an expression, rather than the imposition of ready-made forms upon given material. Fichte (1762-1814), Schelling (1775-1854) and Hegel (1770-1831) were key personalities in advocating these ideas. Hegel is regarded today as the greatest of 19th-century German idealists. Using the German word "Geist" (mind or spirit), he said "Spirit alone is reality." After Hegel's death two groups emerged: the Hegelian right--those who wanted to preserve Hegel's system (Kierkegaard); and the Hegelian left--those who wanted to modify Hegel's system (Karl Marx)

In his attempts to modify Hegel, Karl Marx became disillusioned, and rather than seeing reality as the outworking of the Spirit (Geist), he saw reality as the outworking of matter or the material world. He associated the material world with the social world and claimed that the ideas are not rationally but socially determined. In other words, one of the basic axioms of historical materialism

is that ideas in a society are to a great extent a result of their social origin within that society (Kearney 1984:2).

However, Kierkegaard attempted to preserve Hegel's idealism. In doing so, he deprived Geist of its objectivity (historicity) and argued that reality was not something objective that can be handed out on a plate but rather something that is discovered personally and subjectively through sometimes-painful process of self-analysis. Kierkegaard described his work as corrective to the dry religion of his day (Knight 1959:157). Later he was referred to as the existentialist.

And so those who were skeptical of idealism welcomed the arrival of logical positivism and linguistic philosophy. If idealism was a metaphysical movement in western philosophy, then logical positivism was an anti-metaphysical movement in [Western] philosophy (Brown 1968:168). While its roots are both in England and France, its beginning can be traced back to David Hume's empirical skepticism in the 18th century. The logical positivists' goal was to come up with a modern scientific philosophy (i.e. a more empirical philosophy) which would discredit what they regarded as pseudo claims of metaphysics. Proponents of logical positivist philosophers include Schlick (1882-1936), and Wittgenstein (1889-1952). The chief weapon of the movement was what they called "the Verification Principle" which logical

positivist advocates claimed could distinguish between genuine and pseudo statements.

To logical positivists a statement was meaningful and genuine if it could be verified in a manner comparable to the way in which scientific hypotheses are tested by public experiment (Brown 1968:170). A statement which could not be verified would be regarded as either meaningless, or that it meant something rather different from what the speaker intended (Brown 1968:173). And as such, the logical positivists (or logical empiricists as they can well be described) regarded religious language and statements as meaningless expressions of one's attitude toward God himself or other people, since none of the statements would be empirically verified. But as we would expect, the premise began to receive reaction from those who questioned whether the verification principle had itself been verified. Besides, humans know that they have found meaning in all kinds of metaphysical and theological experiences which cannot be empirically verified.

4.8 Conclusion

This chapter has attempted to underline the fact that humans try to make sense of their surroundings. It is through this process that humans acquire meaning, understanding and knowledge about the said surroundings, be it social or physical in nature. The meaning, understanding and knowledge form a people's worldview. This worldview is specific to particular people or

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community for example; the Western worldview is different from that of the African worldview. The chapter has shown that culture is closely related to worldview and in its attempts to show why humans need and develop knowledge, we have shown in some detail reasons for the existence of human universals. Building on these aspects, the research has used Western knowledge as an example of how a dominant society has developed its own worldview.

In the context of the Maasai people, they too live in a particular cultural background which influenced the community on how to develop knowledge that could support their needs. Thus, in the following chapter we will show how the Maasai as an African community depend upon knowledge that was as a result of their own creation. The alien system of knowledge does no justice to the community but is looked upon as interrupting that which the community has worked to put together. Other forms of intervention are required to reconcile these different cultural systems thus the concept of convergence comes into play.

CHAPTER FIVE: INDIGENOUS KNOWLEDGE AND MAASAI COMMUNITY

5.0 Introduction

The concern of this chapter is to examine elements of the indigenous knowledge of traditional Maasai community and lessons that can be learnt and used to inform Kenya's education system. It has already been established in the previous chapter that knowledge systems are made up of a people's mental models of reality. That a society's mental theoretical constructs are imaginative devices which humans use for selecting, classifying, interpreting, structuring and assigning significance and meaning to life experiences. The chapter also has shown that western knowledge was majorly theoretical rather than practical. It has been noted that the emphasis was more on theory; hence, the various theoretical systems they developed. On the contrary, Maasai indigenous knowledge is majorly practical, learning from the environment, again anchored on the Maasai life experiences. In this context therefore, this chapter endeavours to explain cultural experiences of the Maasai and be able to show that indigenous knowledge of the Maasai leans more towards pragmatic philosophy. Pragmatism emphasises practical beliefs that help a community develop knowledge system for the survival in a given environment. The chapter also draws specific implications for education that can be used in reforming Kenya's education system making it more responsive to indigenous knowledge.

5.1 The Maasai Traditional Worldview

In analyzing the Maasai traditional worldview, this study prefers to use Donovan's (1978) explanation in his book "*an Epistle from the Maasai*". The author is a sociologist who devoted his many years among the Maasai and attempts to see the unique contributions of Christianity to the Maasai with little or no influence of Western civilization. Donovan wonders why the Maasai people are known world over, yet they never fought a fierce war like the Zulu of South Africa. Even the history of the Maasai is not known and documented like that of Zulu. But their trek from Northeastern Africa to where they are today, have left indelible mark though with a dim memory of their ancestors. For example, the word "khartoum" in maa means "we have acquired" That is where they believe they acquired their first cattle (ibid, 1979:45). Khartoum today is the capital of Sudan. When they moved from the steamy jungles of Sudan and south to cold plains of Kenya they said "nairobi" which means cold. This stands today as the capital city of Kenya. Donovan says that Maasai history can be "pieced together from the horror stories of the surrounding bantu tribes". But most people who come across the Maasai, have gone away with a deep feeling of admiration and affection for them.

The heart of the Maasai culture is the warrior class system (il murran) who are the guardians of the flock and the community. They become warriors when they get circumcised. They are then organized into age groups known as "orporor". Each age group has its own elder leader. First test of warriors is

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during the act of circumcision where if one flinted an eye, or face or twitched a muscle he would entail a lifelong social ostracism (Donovan, 1978). And for about fifteen years after circumcision, the warrior's main task is to defend the community and enlarge the herds through cattle theft. The belief that all cattle belong to the Maasai by divine right is the motivation to acquire and return cattle to their proper owners. During this early time, warriors are not allowed to marry for they are in their formation stage. Murranism provides lessons relevant to education in contemporary Kenya. The system fostered such values as courage, service to society, self-denial and discipline. The belief that all cows belong to the Maasai, however, fostered a flawed sense of entitlement that motivated cattle raids thus antagonising neighbouring communities. Such beliefs need to be interrogated rationally and where found to be wanting, modified or abandoned.

Stages of formation have great relevance to the education system as it is known today. Murranism has a direct relationship with education especially when one begins to attend school. The current school goes on for eight years and one does examination that enable him/her join secondary level at the age of about fifteen years. Examination and eventual qualification to move to another level can be likened to separation of the warriors to manageable groups and they are taught community values until they are circumcised. During this time one ought not to marry, endurance and focus is the main element. After the circumcision they enter into an older group of murraninsm

which enable them to be taught community values such as courage, responsibility and service to society. One important thing to learn from this system is that there were no failures and thus no one repeated a year. Continuity in learning was promoted and learners kept pace with their peers. This is an important lesson that contemporary education in Kenya can learn from.

During the moment of separation young people learnt important lessons on various aspects of life. As a result they acquired courage, leadership skills, endurance and sacrificing their interests for collective good. The period became one in which the young became integrated into the social life of the community. It cannot, therefore, be claimed to be a period of alienation. This has implications for education today. Young people are put in schools sometimes without due regard to age and development needs of the child. The values of courage, endurance, leadership skills and a sense of responsibility that were acquired during the seclusion period are still relevant to the young and can be borrowed to enrich education.

The Maasai people live in the midst of the great concentration of wild game and over time they have worked out a system of peaceful coexistence with the animals. Donovan (1978) writes saying that "maasai people do not eat wild meat, therefore, they do not hunt for it". However, Donovan specifies that, the lion remains a danger and a challenge to the herd that the community has

constantly conserved by all means. In this context, warriors are willing to take on the lion with knives and spears. To kill a lion, for a maasai is a proof of adulthood. At the end of warrior-hood, a whole group of murran goes through the "*eunoto*" ceremony thus entry to elder-hood. After this ceremony one is allowed to build a house called "*osinkira*" and thereafter, one marries and becomes an elder.

Human wildlife conflict as a recurring theme today forms important lesson in regard to the indigenous knowledge of the Maasai. The fact that they did not eat wildlife meat is a very important factor in conservation. This helps in the conservation effort, however, the Maasai believe in killing the lions to prove their warrior skills. This is something negative in their indigenous knowledge. One would argue that in the past the number of lions was more than what remains today and thus the need to kill some, this thinking can be countered by the fact that nature controls itself. If lions are many, there could be a natural way to reduce them rather than man killing them. Killing of lions can lead to their extinction. Since culture changes with time, in order to improve conservation, the practice could be stopped and other new ways adopted. If the practice would continue, it would greatly affect the relationship of man and his/her immediate environment. The negative aspects of the indigenous knowledge cannot draw any important lesson to education. The positive ones form important lessons for human wildlife conflict and man's relationship with environment.

5.2 Lessons learnt and Implications for Education

The community is led by elders. The Maasai have no kingdoms. Each section of Maasai has its own elders as their leaders. However, this elder does not get to that position by political manoeuvring or even personal ambition, but is chosen for his excellence during the period of warrior-hood. Immediately he is chosen, he assumes a title of "*legwanan*" (leader) and keeps the title for life. The position of *legwanan* is not hereditary. It comes to a man of an age group who is gentle, above all, who can sacrifice for other members. *Legwanan* is one who will be first in all activities of the group; like being first to the battle, first to own cattle, first to get married and even to die, all for the sake of his age group (Donovan 1978:19). This emphasizes achievement and excellence in service to community.

Leadership skills are acquired through enduring some kind of training. When we talk of leadership and democracy does not mean that leaders be imposed on the people. Proper consultations and community participation forms important core of selecting leaders. The indigenous education of the traditional Maasai structure has mechanisms to produce leaders without the aspect of imposition. The young endure training and come out as leaders recognised by their own agemates. This aspect can be borrowed to our education training and leadership. Dewey (2008) argues in the book on democracy and education that, a society which makes provision for participation for the good of all its members on equal terms and which secures flexible readjustment of its

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institutions through interaction of the different forms of associated life is democratic. Such a society must have a type of education which gives individuals a personal interest in social relationships and the habits of mind which secure social changes without introducing disorder. This argument augers well with the indigenous knowledge of the Maasai, that the democratic aspect where leaders are realized in the formation period have great implication for education reform today.

Indigenous culture of the Maasai does not recognize teenagers and youth as understood in the Western meaning. In fact in maa language, (Mol, 2013) there is no word for teenager or youth. Every male teenager or youth is a warrior and referred to as *ol-murran.* In reality the community recognises age groups as a strength, but lack of a term to express growth is actually a weaknesses in the development of young people. However, while the community recognises all young males as murrans, it also gives training according to age. It beats reason as to why Mol (2013) would argue that teenegers as a term does not exist in the community. This has however, some implications for education that regardless of how much reforms are done on education, a perfect system cannot be realized. That is why constant review in consideration of current trends is needed for growth.

Girls in the community are circumcised too and when they marry, they belong to the age group of the men they marry. They practice their independence

around the kraal (home made of sticks and cow dung) they build and maintain. They take charge of milking cows but take no part in herding, for herding is done by uncircumcised boys. While in the kraal, there is little cooking for all members of the family "lives on milk, blood and meat from the herd they revere" (ibid. 20). However, women have no official status in the community but walk tall and proud, conscious of the true power that is in them.

A system that does not recognises full potential for women is geared towards oppressing some members of the society. The fact that the community confines women to the home for menial jobs like milking the cow belittles the potential of women. The girls in this context are mainly meant for procreation and as a social support for men in the community. This may not have strong implication for education today. In the education system women should be afforded equal opportunities as men. Restricting all female members of a society to a specific duty in the community narrows down their potential and opportunity in life. Although this aspect had importance in the development of the community leadership it does not have value in today's education and thus it is taken as a weakness.

Donovan (1978:10) writes that traditional Maasai cannot count over one hundred and that they do not have a way of keeping history. He continues to argue that when asked for instance, how many cows one had, the answer would be many. This kind of argument is based on anthropological bias that

was characteristic of the racist colonisers and it does not stand the test of time. First, it is important to understand that the author wrote from a colonial background, he was not really convinced that indigenous ways of life legitimate alternative but dignified lifestyles. He wrote from a conceited background of a master-servant relationship that assumed the superiority of white civilization.

It is important to note that most of the early history that is written about the Africans was done by western people. Where there is a gap in the history, there must have been a reason for it. What is important in this context is that Maasai had their history that is known right from their origin. When they refuse to say the number of their cattle for instance, it is not that they cannot count beyond one hundred, rather they do it intentionally. Showing that they have many cows and they do not see why one should want to know the exact number. The same applies to children, if you asked a member of the community how many children one has the answer will be simple 'many'.

However, they keep historical events by means of age groups, each age group spanning seven years and each one with a different name. By this method they can place historical events back in the far past. As regards the ancestor aspect, the community has its set of ancestors but it has different traditions when it comes to recognition of the ancestors.

Communities that had their system of knowledge developed their education in time thus dynamism involved. As explained, knowledge adapts and changes with time and Maasai indigenous knowledge was not an exception. Each age group learn from the previous age group.

The cow is considered sacred, not in the sense of the Eastern Indians, but in the daily meaning of life. All an indigenous Maasai has comes from the cow; the home is made of cow dung, the food is composed of milk and meat, the clothing is made of cow skin and finally, cows as a form of currency. Their life is determined by a cow, places of grass and water. This implies that any danger to the cow is a danger to the community. This is what makes attractions of herds owned by neighbouring non Maasai communities irresistible to steal.

To consider cattle as important is good for it is a source of livelihood. Young people are trained in life to understand that their livelihood depends on cattle. However, the aspect of specialisation can be pulled from this. That the community specialised in animals and so in education reform today, one can also specialise on one thing and learn how to do it well. This is a positive aspect with indigenous knowledge of the community. There are many ways of earning a living and narrowing down on one form of livelihood limits one. This aspect has a demerit in education reform today. The implication for

education has the strength in education specialisation and training. Those who take up courses narrow down to a specific skill and understand it well.

The community practises true pastoralism. Farming is not exciting to them. The word for a farmer is "*olmeg*" which is used to refer to all non- maasai like Bantus, Europeans or barbarian. Maa which is the language of the Maasai has no future tense Mol (2013). The community is conservative and pragmatic in nature. That what works today will work tomorrow.

The implication for education is that pragmatism is a reality in the community life. Future plans are good, but the present must be done and done well. Rather than plan and hope for various aspects of the future it would be important to live the present. Looking at it in this manner, then it has a merit in education. But as it is hope gives one energy and enthusiasm to live the present. Not thinking of the future may de-motivate one and in this sense it is a demerit.

Donovan summarizes Maasai spirituality as one that rotates around belief in one God whom they call "*Enkai*", but are plagued by the fear of evil spirits which is handled by the "*laibon*". These are respected traditional medicine men and foreseers of the community. They stand to advise the community on various aspects that may befall the people like the draught. Laibons therefore, do have experience with the world of the spirits. The community has no ancestor worship and no belief in immortality. When one of them dies, they

wrap him or her in a cow or goat skin and leave the body for the hyenas to fulfil the last function.

There are people who opt to be incriminated in the modern life. Not only do they consider this option because they have no place or land in which they can be buried but it is a choice they make, Considering this as a trend in education reform, them the community has something to learn from. When a body loses life those expensive parties are not necessary but deplete the family resources. The other aspect is about those who even after going through the education system still belief in the power of the evil spirit. This aspect of evil spirits is a demerit and may not have any implication on education today.

5.3 Pragmatism and Maasai Indigenous Knowledge

Having explained, though in brief the indigenous Maasai people and their worldview, we proceed to show how pragmatic they are in their formation of knowledge. The community depends entirely on their cattle and the environment that they can graze and water for their animals. Their knowledge entirely rotates on what keeps their cattle alive. In drawing pragmatism to explain their view the researcher attempts to show that Maasai life depends heavily on what is immediately available than trying to theorize on what they cannot use on the immediate.

Pragmatism is derived from the word "Pragma" meaning practice. Pragmatism maintains that ideas and theories are results of practice, and their value is assessed through knowing their practical results. Pragmatism creates meaning and determines values practically. Charles Sanders Peirce (1839-1914), holds that meaning of ideas lie in their practical consequences. If we want to know the meaning of the word hard for instance, it can be known through performing a practical. This practical could be scratching an object, we can know if it is hard or soft. We can scratch a soft object but we can't scratch a hard one. This precisely gives the meaning of the concept of hardness.

William James (1842-1910), while giving an understanding to the value we assign to an idea or belief, says that ideas and beliefs are good if their results are good, bad if the results are bad. If we want to know the value of culture, we have to practice it. If this practice results in good, then culture is good, if not, then it is not good. In this sense, Pragmatism emphasizes consequences, utility and practicality as determinants of meaning and values. In this sense therefore, human intellect learns when it solves problems.

Unlike the realists and rationalists, pragmatists believe that reality is constantly changing and that we learn best through applying our experiences and thoughts to problems, as they arise. There is no absolute and unchanging truth, but rather, truth is what works. Pragmatism in the western sense is derived from the teaching of Charles Sanders Peirce (1839-1914), who

believed that thought must produce action, rather than linger in the mind and lead to indecisiveness.

John Dewey (1859-1952) applied pragmatist philosophy in his progressive approaches. He believed that learners must adapt to each other and to their environment. All learning is dependent on the context of place, time, and circumstance. Different cultural and ethnic groups learn to work cooperatively and contribute to a democratic society. The ultimate purpose is the creation of a new social order. Character development is based on making group decisions in light of consequences.

The system of education in Kenya though designed to be pragmatic, it failed on implementation. Those entrusted to implement the system did not consider the practical aspect but leaned on theory thus most students are trained to perfect in rote memory. The practice of a community that depends entirely on its surrounding has implications for education reform. That teaching young people to understand what is immediate to them makes more sense that learning what has never been experienced or even seen.

In discussing the Maasai worldview, John Dewey's ideas on pragmatism are relevant. For one to attain freedom, one must have knowledge of facts which enables one to develop desires and aims (Dewey, 1957). For instance, a

Maasai Moran who develops knowledge of animal treatment in his youth gains freedom of thought after the practical training during murranism. The young man lives with the cattle all through his life and he is trained in all ways of the animal behaviour. This is knowledge at hand and pragmatic for its drowned from the situation he understand well. In this context, knowledge and knowing among the Maasai is centered on examinations of real things in everyday life as opposed to abstract knowledge. Although abstract knowledge is good in its self, but in the reality of the community is farfetched. The practical aspect is what bears implication in education.

5.3.1 Real and Ideal

Real and ideal expresses fundamental distinctions in human experiences. Self consciousness reveals to us in two kinds of relations to our environment that is in real and ideal relation. Real relations binds humans to the material world of things, the physical world, while the ideal relations binds humans to the spiritual world of persons. These two form the basis of social moral and religious institutions. These two relations though different, are mutually exclusive and never identical. They lead to a distinction of nature in our own self-consciousness, distinction between body which suffers and acts and mind which knows and understands between reality or fact and knowledge (Carr, 1929).

The focus of this activity there converge the two systems of relations forming two heterogeneous causal chains, one inserting the forming action in the material world, the other uniting it to the spiritual world. The one causal bond we have efficiency, the other finality. To will an end we must know, to effect an end we must act. Knowing is ideal, acting is real. The relationship though distinct, the two are indissolubly united. Knowing and acting leads us to conception of mind and body.

Among the indigenous Maasai community, more emphasis is placed on real. The young are brought up with thinking that real things and situations they experience as they grow is what matter and all effort need to be employed to take advantage and manipulate the environment. But as a young murran is taught how to handle sticks and weapons efficiency is highly demanded. And as much as the emphasis is on materiality, the ideal is enkindled too. The educational implication is that with the current system properly implemented with emphasis on the practical, it does not mean that the ideal part is forgotten. Theory will always walk along the practical whether you emphasise it or not. The current system therefore will be advantageous to the community or rather the community will take advantage easily of the system.

5.3.2 Indigenous Knowledge and Freedom

As discussed in the introductory chapters, indigenous knowledge is part of the whole system of knowledge. If knowledge is made up of beliefs, practices,

common sense, relationships, traditions and sciences of a people, then Maasai indigenous knowledge can also be put in perspective. In Western model, to know that something is the case is to assert that it is true. Knowledge presupposes truth and it is believed that this presupposition can be defended universally irrespective of the cultural context (Chrisholm, 1966).

Indigenous knowledge breeds some degree of freedom. The road to freedom may be found in knowledge of facts. For instance, a traditional medicine man (laibon) is free in his action in the degree in which he knows what he deals with. Also freedom is dynamic in the sense that it gives growth to one and brings change to modify community (Dewey, 1965. P. 207). However, Dewy adds that the operation of knowledge and dynamism is based on the pragmatic conceptions of reality. Here, knowledge and knowing are centered within the existential matrix of society as in the examination of real things in everyday life. Dynamism is based on a view of the world as changing. In this sense pragmatism holds no absolutes. Nothing is fixed and final. Since knowledge promotes the possibility of freedom to know our environment is a first step in knowing the nature of freedom. This argument puts a Maasai to stand on his own and claim knowledge of his actions, thus freedom to practice his achievement regardless of the external knowledge.

Relevant to the perspective, invasion on Maasai ways of thinking has been sustained by economic oppressions. To some extent destruction of culture has

occurred when it is used as a way of attracting tourists. The good in it is lost when the narrow interest takes prevalence. However, education reform can learn from this act of cultural preservation as a way of training the young to insist on the best in the community for identity. Harding asserts that there is a possibility that members of one social group could develop knowledge that differs from the other though serving same purpose in humanity. That is why the modern science is distinctively European science not trans-culturally human science (Harding, 1977).

This model of knowledge accommodates and promotes Maasai indigenous knowledge for it does not claim universal application, but rather it is founded and based on specific culture. In this context Maasai indigenous knowledge should not be viewed in abstract, but in context of a particular culture, society, community and history.

5.3.3 Knowing and Believing

Western philosophy understands knowledge as justified true belief. This portrays the linkage between knowledge and belief (Wainaina, 2006). Knowledge in this context starts from what is, what is true and what is there. For example you know that it is raining outside if you believe that it is raining outside and you are justified in believing and knowing that it is actually raining outside. The point is that knowing that it is raining outside is tantamount to believing that it is actually raining outside when it is actually

the case (ibid, 2006). Knowing and believing is then understood as two sides of the same coin.

Knowing and believing are two entities to Maasai indigenous knowledge. Holland (1996) demonstrates that one would gain knowledge, but belief would not be exclusively a private affair regardless how helpful it may be to the community. The community must as a matter of fact believe in it before authentication is accepted. The research carried out by Holland demonstrates that individual Maasai could know a lot more and help people but if the community does not believe in that knowing, it becomes watered down (Holland, 1996) That is, it is both knowledge and belief of individual in the community and so the community forms and sustains this knowledge and belief of the individual. It can be said here that this knowledge and belief is specific to Maasai worldview and it cannot be transformed to fit in western forms of logic for it has its own logic and sets of rules to manage it.

However, separation of knowledge as understood in the universities, where for instance epistemology and metaphysics as two entities is a foreign aspect in Maasai indigenous knowledge. In Maasai cultures, knowledge is founded in reality of what is known and believed by the community thus it is both life cantered and holistic. To echo words of Kaphagawani (1998) Maasai indigenous knowledge utilizes the ordinary objects we encounter, like the

earth, plants, air we breathe, bodies and relationships of our daily life founded and sustained by the holistic perspective and vision of reality.

5.3.4 Competence and Utility

Maasai indigenous knowledge presupposes competence. This element is acquired and practised through observation, listening and following instructions during and after warriorism. This way of looking at knowledge gives way to describing cases and types of knowledge. In this regard common knowledge is the same as shared knowledge. For example, when a il-moran displays competence, the community acknowledges that he knows how. This is the knowledge of competence that can be as a result of instinct, initiation, talent or merely, the ability to follow instructions. Here competence is taken as a central form of knowledge. This is acquired through close association with elders who have it and practice it. It is acquired through communication and instruction as its methodology is handed on from one age group to another. Therefore Maasai indigenous knowledge is a result of cumulative experiences not for individual's sake but for practical purposes of promoting life, society and environment in the community

The relevance of this to our current system is that the young are taken to schools and a lot of public funds are used to educate them. Whatever achievement they make be in sports, science discoveries, social achievement, the pride is taken by the state which is the community in this case but at the

same time the individuals earns and enjoys the results of the effort. For instance those who achieve big in athletes gives their country pride but enjoys the earnings from it as individuals.

The second factor is that this knowledge is built on experience and acquaintance with environment that they live in. It is the knowledge of relationships with plants and animals the experience here is about what each plant does and importance of each of each animal to the life of the community.. In this regard, elders have to have the ability to recognize a given plant and what it does. For instance, the community does not have high regard for the wild beast for its dung infects calves with diseases thus lowers production of their cattle. This has some relevance in the education today that one must be fully aware of the environment you dwell in. The social research and seing relevance of all aspects in the immediate life is important lesson.

The last factor is that Maasai indigenous knowledge underlies communal acceptance as a condition of its functionality. That all useful knowledge is the property of the community and elders are the custodians. Members of the community are obliged to accept it and whatever that comes from the elders. One must not only recognize the information in the cultural context as true but must also have the right attitude towards it. This implies that for Maasai indigenous knowledge to function, it requires the right attitude and disposition of the body and mind. Lessons learnt in this is that partriotism ia a vital factor

in nationhood. Our education system ought to impart the idea of partriotism such that all citizens becomes proud of their country and have an equitable share of its resources.

5.3.5 Strengths and Limitations

Maasai indigenous knowledge is maintained and transmitted orally. Cruikshank, (1981), when discussing oral and scientific traditions of Yukon people says that oral transmissions are distinct intellectual way of knowing among a given community. Among the strength of the indigenous knowledge of the Maasai is the persistence. Although most aspects of the knowledge have changed enormously since the last century in part, due to resource extractions, i.e. tourism, government programmes, modern agriculture and schools; oral transmissions of the knowledge continue to be important to elders. The structural arrangements has persisted even where/when the details of the story vary. It may be said here that the deep conservation of Maasai oral knowledge is likely to be one of its chief attractions to the tourists.

Cruikshank (1981) goes on to suggest that oral transmissions of knowledge could be a critical adaptive strategy for communities in harsh environments. He argues that the conceptual ability to recreate situation for one who has not experienced it directly can be seen as some form of adaptive technology carried in mind, rather than in the hand. The example of the descriptions of how to correctly make herbal cure for animal disease with mental notes come

to mind. This accurate transmission is critical for the survival of the Maasai community.

However, on the other hand, Indigenous Knowledge does not handle quantitative data in the same way as Western knowledge does as mentioned elsewhere. The people talk of many when they mean tens, hundreds and thousands. This knowledge does not stretch far into the past in thousands and millions of years. This knowledge therefore seems timeless rather than chronological and it mostly refers to situations rather than events. And therefore, in comparison to Western form of knowledge it limits the possibility that researchers can date or quantify phenomena on the basis of Maasai indigenous knowledge.

5.3.6 Structure

For knowledge to be developed and used, it follows a certain aspects of community command and flows to a useful end. The structure in figure below shows how it is achieved to sustain the community. It stands as a graphic illustration of how knowledge is transmitted orally.

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                    ┌────────────────────────────────────┐
                    │   Maasai Indigenous Knowledge      │
                    └────────────────────────────────────┘
              │                                          │
              ▼                                          ▼
      ┌──────────────┐                          ┌──────────────┐
      │ Method Used  │                          │ Guiding Wisdom│
      └──────────────┘                          └──────────────┘
              │                                          │
              ▼                                          ▼
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Method Used

Observation
Communication
Instruction
Monitoring
Interpreting
Adapting

Guiding Wisdom

Respect
Ethics
Control
Sharing
Peace
Holism
Spirituality

Integrated into

Maasai World View

Results in

Sustainable Community
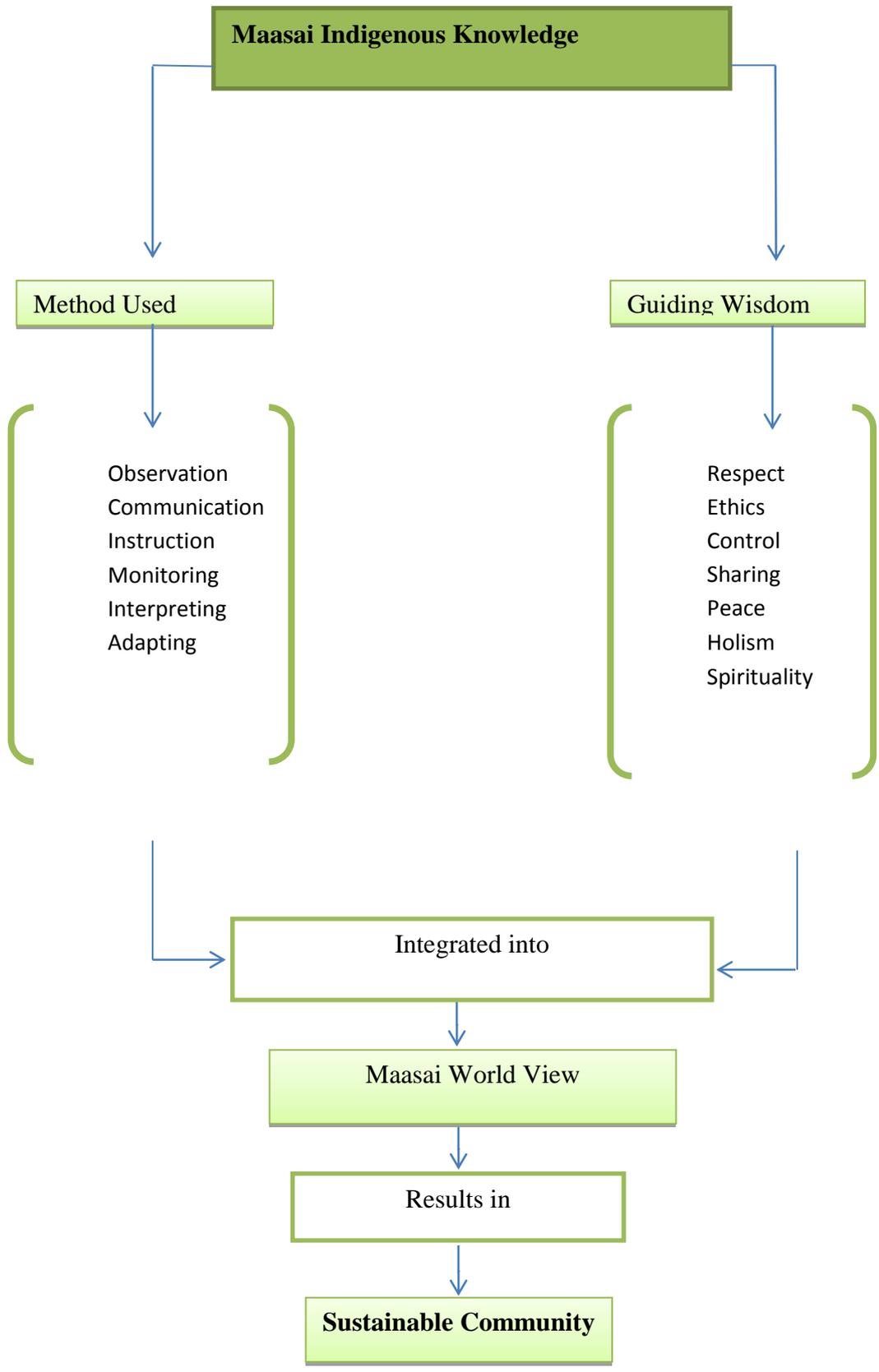
Having given this background, the following section draws specific cases or specific examples of Maasai indigenous knowledge in the community.

5.4 Indigenous Knowledge and Murranism

Indigenous knowledge offered to Maasai youths under the *Murran* system do enhance several values and develop certain skills and attitudes among male youths. Indigenous knowledge promotes and fosters patriotic values among them. Ronoh (2008) asserts that *il-murran* training inculcates in male Maasai youths a distinct love for their society, a disposition that is marked by unswerving loyalty and readiness to defend it at all costs. In addition, they are taught to respect and obey their leaders. Those who are selected to become age-set leaders are especially given training on leadership styles and command. This is how the age-set spokesman (*ol-aiguenani*) and his assistant (*ol-otuno*) obtain their basic training on leadership and governance. The training enhances loyalty to Maasai society, its social institutions and systems. It also fosters values of leadership and command as well as responsibility for conflict resolution and reconciliation (Ronoh, 2008). Through Indigenous knowledge, offered during *Murran* system, male Maasai youths learn the art of resolving conflicts and the skills of effective communication (Bernardi, 1948).

Similarly, this knowledge develops social skills that include styles of leadership and techniques of conflict resolution. Also, the art of effective communication through debates and stimulus variation such as the use of gestures, intonation and inflection, and body movements are also developed through the training (Ronoh, 2008). Important attitudes are fostered through the Indigenous training under the *Murran* system. For example, Maasai youths develop distinct readiness to defend their society (people and cows) and exhibit total respect for their leaders, whose commands they respond to with humility. Through the training the youths develop commitment to solve problems facing the society.

Another aspect of indigenous knowledge is in the area of social and family life that is taught and learned in the *Murran* system. According to Ronoh (2008) Maasai youths learn about their ceremonies and virtues of corporate unity, comradeship, social cohesion and the principle of sharing. They also learn gender relations and marital responsibilities, including family life. Thus they (*il-murran*) obtain formation based on mutual trust and cordial relationship to each other. In addition, they learn the value of sharing among the *ilmurran*. They learn to share practically everything including food, water and company (Ronoh, 2008)

Certain attitudes that are developed in the formation of *il-murran* like desire and yearning or looking forward to fulfilling the social responsibilities are

expected of them. Another area of knowledge includes economics and other productive arts, as well as ecology or environmental knowledge. Ronoh (2008) establishes that in respect to economics, Maasai youths are taught the importance of becoming rich in livestock. The more they acquire more cows the better their lives and future. In addition, they obtain skills for the sustenance and expansion of this wealth. Mature male members of the Maasai society take it upon themselves to instruct young boys and youths on how to carry out activities related to Indigenous Knowledge and skills of animal husbandry, for example, herding, identification of nutritious grass and as well as treatment of diseases. Basically, Maasai youths are given elaborate training about all facets of animal husbandry.

Wealth in livestock as well as the pervasive indigenous learning processes makes a Maasai more complacent with their way of life to the extent that they do not aspire for anything better. They have ample time to engage fervently in traditional ceremonies like circumcision and *murranism*.

In the community, the subject of indigenous animal husbandry is offered around the home and in the range lands with the main aim of bringing forth a proficient Maasai pastoralist. To achieve this aim, values of responsibility and productivity in livestock keeping, livestock wealth and sustenance of such wealth are imparted.

Animal husbandry as a skill includes aspects like livestock management, herding and treating. These skills include identification of missing stock using skin colour, and branding tattoos for purposes of identification. Ronoh (2008) observed that indigenous animal husbandry enhances core attitudes in the Maasai society. For instance, it develops a strong commitment to livestock production as a distinctly Maasai activity. It also enhances attachment to livestock keeping. Thus indigenous animal husbandry inculcates in Maasai learners a unique desire to participate in pastoral praxis from an early age. Most of the economic and productive activities revolve around pastoral praxis and related engagements. This implies that in the traditional settings, Maasai people deliberately educate their children and youths about the knowledge that is based on their economic mainstream.

Through the philosophy of productive work, Maasai children and youths learn to be prudent by carefully identifying their advantageous opportunities and avoiding occupational risks. They learn as they work and they also work as they learn, thus pragmatism in all aspects of their engagement. Either way, Maasai children and youths learn to be responsible and productive members of their society. An education system that does not encourage and appreciate the productive aspect of their citizens stands to lose. The practice has a direct implication in education in a way to encourage and appreciate the hard work of its people by offering jobs to its citizens first before considering none citizens.

Another knowledge area offered to the *il-murran* is in the field of ecology or environment. Through this knowledge youths learn about plants and animals, various land features and their importance, different human and bovine diseases and their treatment, quality of pasture and browse as well as the significance of salt earths (salt licks) and saline springs, among others. This may have triggered Miaron (1997:52) to observe that "the pastoral Maasai's deep knowledge of the living components of the ecosystem, allowed him to exploit the ecosystem sustainably". Therefore, the young get to understand the importance of geographical features such as highlands, plains, rivers and other water bodies and their use in the light of animal survival.

This has direct relevance to the education. That the system should organize and teach a curriculum that equips the learners to know and understand their immediate environment rather than teaching them foreign theories. For example, geography should be designed in a way to orient the learners about the features in the country and history should also be first to learn about their local history. Its from that that the other histories of the world will follow. This will model the learners and create interest too.

In the knowledge of their cattle, during rainy seasons, livestock are driven to the plains (*Ol-purkel*) where there is plenty of pasture, browse, water, saline springs and salt licks and during dry seasons, livestock are moved to forested

highlands (*O-supuko*), which abound with grass, browse and water (Anderson, 1995). This therefore stresses an obligation to conserve the environment. However, on the importance of indigenous geographical knowledge, Anderson (1995:26) noted that the physical environment forms such a central element in Maasai perceptions. The symbolic geography of this landscape is redolent in the variety of Maasai place names that refer to the quality or type of grazing, the purity and freshness of water, and the general suitability of an area to the pursuit of pastoralism (Anderson. 1995).

The success of every herder hinges upon his knowledge of the landscape, its ecology, and his livestock. They are deeply aware of pastoral use of a variety of flora of their environment. As Hollis (1905:289) put it, "cattle feed on grass, and the Maasai love grass on this account". This is why the Maasai have incisive knowledge of which plants make good pasture. Miaron (1997) examines this factor that the Maasai teach their children and youths to identify and know the nutritive value of various grasses, trees, and shrubs found in their immediate environment.

Our education system should also teach the youth to know and value their ecosystem. Whatever surrounds them, does not come as a mistake but a design which they should learn and understand. Knowing names of plants in your immediate environment broadens the mind. There are learners who do not even know the type of grass in their compound. Some confuse maize with

sugarcane while others think that goats are other species of dogs. Education system theire must be broad enough to widen the knowledge of the people in the environment they live. The articulate manner in which the Maasai community understands their immediate nature has a great implication on how our education be organized.

In particular the young are taught to identify and recognize various species of pasture and their usefulness in animal husbandry. Male Maasai youths obtain intensive training on pasture while they are in the *Murran* system. The knowledge is significant to them as herders and shepherds and it enhances certain functional attributes including values such as recognition of the variety and nutritive significance of grass and browse. In addition to grass the words like il-*keek* and *ol-chani* are also used to refer to trees and shrubs as well as herbal medicine. The education sytem should be designed in a way that herbal medicines are regarded as alternative medicines. It should therefore encourage learners to carry on more intensive research on herbal medicines and dispel all lies that comes with it.

Skills on herbal medicine are elaborately developed by the youths during the *Murran* system. The youths are trained to identify various trees and shrubs with medicinal values. In addition, they are trained to diagnose diseases, prescribe treatment and prepare appropriate herbal concoctions. Herbal concoctions are administered as digestives and excitants, especially for Maasai

warriors. Ecological knowledge is offered to the *il-murran* during their protracted training and learning sessions. A distinct value enhanced by this subject is the promotion of an appreciation of the importance of the natural environment in sustaining human life. Ronoh (2008:148) observed that male Maasai youths are particularly trained "... to understand the intricate relationship between soils, plants, animals, climate and land on the one hand, and human existence on the other" (Ronoh, 2008). The educated must help in dispelling all lies that office jobs are the only means of livelihood. Humans can survive by doing all kinds of jobs even that of looking after plants. Education syetm today seem to give impression that when you go through the system you are good for office job. But who will do the menial jobs and plant food that we need for survival? Learners must learn the importance of working on the farm.

Military Studies is yet another very useful knowledge offered to male Maasai youths during the *Murran* system. The youths learn the theory and practice of warfare. They also learn the values of good warrior-hood, military strategy, discipline and chain of command (Ronoh, 2008). *Murranism* is a social institution to the community equivalent to school or youth service in the modern society. Here the young are taught how to protect and defend the community, among other things. The youths are also made aware that in the event of war, warriors are not supposed to attack women, children and

livestock, however, unbearably they may have been provoked (Sena, 1986). This may be, explains why the community is fond of acquiring women from other communities but they would hardly let their young girls be married to other communities in the neighbourhood. The education sytem should encourage the youth service. The training prepares the young to be ready to protect themselves and also the country. The implication of preparing the youth for military carrier is relevant. This should be made compulsory for all before each one enters job market. In today's threat of the terrorists young people ought to be given skills that would protect them.

Hunting is a significant aspect of knowledge among the warriors, especially the lion hunt *(ol-amaiyio)*, since it provides them with opportunities to display their bravery. Courage and readiness to defend the community are two basic attitudes developed through military knowledge.

All the areas of knowledge taught to Maasai warriors under the *Murran* system have functional attributes, which enhance Maasai culture and identity. Most of these attributes have utilitarian qualities and knowledge offered through *murranism* is comprehensive and very relevant to life in the community. Thus this knowledge becomes all-inclusive and strengthens ethnic cohesion. Education system that takes care off the needs of its young goes hand in hand in protecting the nation and people creating the need for

nationhood. This actually brings about a cohesive society as opposed to individual effort.

5.4.1 The Maasai Ethno Veterinary Skills

The pastoral Maasai depend solely on their cattle for livelihood as explained above. Community life revolves around the cow and this poses a challenge to observe and question problems that are associated with the cow. Over time, the community has developed impressive disease control procedures for their animals. Through the experience with their environment, Maasai developed ethno veterinary medicine that evolved into a sophisticated animal health care service whose practice is solidly based on a deep indigenous knowledge of livestock diseases and predisposing factors (Miaron, 1997). This knowledge has led to the development of traditional disease diagnostic skills.

The concept of indigenous knowledge in association with ethno-veterinary medicine has been documented not only among the Maasai (Miaron, 1997) but also for the Fulani nomads (Leeflag, 1993), Trinidad and Tobago (Lans and Brown, 1998) and the Karimojong of Uganda (Jost et al., 1998). Indigenous knowledge and sustainable animal production has been viewed as a stimulus to research (Otim, 1993). It has been said that the big interest shown in the twenty first century on approaches to improve animal productivity through improved modern nutrition, breeding and animal health have generated a lot of research interest in the developed world (Thacker, 1994). Readings of

Thacker's writings allude to the fact that indigenous knowledge was the catalyst of this spirited endeavour. This implies that the traditional knowledge properly gained by an individual youth can ignite research interest in his developed mind. Education should ground the young on the traditional knowledge so as one grows knowing well about his immediate environment.

5.4.2 Maasai Diagnostic Skills

The Maasai developed a sophisticated ethno-veterinary practice that is comparable to modern veterinary medicine. The animal medicine is deeply rooted in their livestock disease diagnostic skills, which, forms the basis for treatment, control and prophylaxis of animal diseases. (Jacob…UON research). The indigenous knowledge on diseases is orally passed on from one generation to the next and especially from the elders to the young. Traditional healers rely on visual, audio and tactile senses to establish a diagnosis and on rare occasions post-mortem examination is employed to confirm cause of death of an animal. Despite a rather poor knowledge on differential diagnosis, the Maasai ability to diagnose livestock diseases accurately compares favourably with that of a modern veterinarian (Miaron, 1997). This study reveals that symptoms of disease, knowledge of known vectors of livestock diseases, knowledge on seasonality of disease outbreak and species affected by specific diseases are important tools of the Maasai traditional disease diagnostic procedures.

When the young people are trained to do the right thing and accurately, they develop traits of honest. Education should be designed to instil this in the young mind in order to receive accurate and dependable diagnosis.

5.4.3 Herbal Medicines

The community pay a lot more attention to the survival of their herd thus the ethno veterinary skill. However, they also developed herbs-generated drugs that were concerned with human health. According to Sankan (1971:60-61), the Maasai used herbs, bark and roots which were boiled in soup that was drunk in order to improve blood circulation and stomach problems. They also used drugs derived from trees and shrubs for curing ailments such as gonorrhoea, stomach infections, throat problems, pregnancy disorders, tooth problems, eye infections, children's diseases, colds, swollen legs and painful joints (Sindiga, 1992).

The Maasai have used herbal knowledge for millennia, and they are deeply rooted in Maasai life. The Maasai know herbs that can be used as remedies for many conditions. It is the duty of every Maasai child to learn about the medicinal value of herbs as one grows up (Sankan, 1971; Sindiga, 1992). Teenage boys are taught about all the grasses on the range. Traditionally boys are assigned the task of looking after small stock (goats and sheep) around the homesteads. In the process, they also pick up the knowledge of herbal

medicines used in the home. Girls receive their knowledge of herbal medicines from their mothers and grandmothers, with whom they spend a lot of time.

Traditionally, herbal mixtures aid digestion and are also excitants, particularly by *ilmurran* (warriors) preparing for raids. For example, the herb *olkiloriti* (*Acacia nilotica*) was taken as a digestive, excitant, and to prevent hunger and even thirst. The *olkiloriti* was mostly taken by warriors before going on raids. It was also reputed to prevent fatigue and fear. These are real aspects of the community and educational reaserchers should take on this and advice the community. Today, there are many excitants on the market and some are actually dangerous to the health of the people. The traditional excitants could be developed for local use. This has actually happened in China successfully.

5.4.4 Early Warning and Predictions

Maasai indigenous knowledge is centered on their animals and they use their animals to predict weather and calamities in the community. A UN report on Indigenous knowledge in disaster management in Africa (2008) documents these aspects. For example, the report documents that the Maasai elders read signs in the intestines of a goat when slaughtered. That when the small intestines appear with very little dung this is a sign of draught and hostility but when they appear with a lot of dung this is a sign of beginning of rain and peace. That if more goats are seen mating than usual at a particular time this is a sign that the season coming will experience more rain. But on the contrary, if

they notice increased libido in donkeys, this is an indicator of low rainfall and possible drought in the coming season. These signs were observed over time following behaviours of animals that they depended on for livelihood. This implies that our meteorological training should also include indigenous knowledge. Sometimes they do predict the weather patterns using the foreign weather stations and they get it inaccurately. That what they tell the locals does not end up being true. Good weather prediction should incorporate the local methods of knowing. This not only gives relevance but credibility too.

5.5 Conclusion

As detailed above, the training and formation of the warriors in general enhanced in them values, skills and attitudes for survival by the community. These values promote a sense of belonging as Ronoh (2008) asserts that the worriorism insert a great sense of patriotism and belonging thus the strength to protect the community. Those who excel and are chosen to become *laiguanan* (leaders) among the age group of elders, they are endowed with a great sense of respect and obedience. These are the virtues that help them to resolve conflict within the community.

During the formation period, family knowledge and community ceremonies are developed and taught to keep the social coherence and the principal of sharing. These aspects are internalized and become part of the individual. On the economic training, the importance of developing wealth in livestock

remains the core pillar. All the skills developed are skewed towards sustenance and expansion of cattle with regard to their environment. The lessons learnt in this include, respect for military training, weather predictions and importance of herbal excitants as medicines.

CHAPTER SIX: HARMONISING INDIGENOUS AND WESTERN KNOWLEDGE IN KENYA'S EDUCATION SYSTEM

6.0 Introduction

The study has looked at Western knowledge and indigenous knowledge of the Maasai as worldviews. Each system views the world in different ways. While the Maasai view the reality in the context of their surroundings, Western knowledge as adopted in Kenya's education system tends to be more theoretical than practical. The study has shown that Indigenous knowledge of the Maasai seems to be closely inclined towards pragmatic philosophy. It is important to note that pragmatic philosophy is itself associated more with American philosophers and is thus Western. The Maasai tend to understand and view the world in the context of their very specific environment. Whatever they see and interact with makes sense in terms of understanding the world they live in. Both ways of looking at the world, that is using surroundings or theoretically as inclined by the westerners, leads to the development of man and in reality none should be superior. At every level to achieve good results both systems must find a home in a community that may not favour one side of the knowledge. This chapter attempts to harmonize indigenous knowledge and the western knowledge in reforming Kenya's system of education.

Maasai's indigenous knowledge as shown in the above chapter inclines towards pragmatic knowledge which is Western in nature. In this respect the two knowledge systems are not divergent, but rather mutually supportive. The research attempts to further seek to strengthen harmony by seeking ways in which indigenous knowledge can supplement western knowledge as adopted in our system of education.

6.1 The Need for Harmony of Knowledge Systems

In the colonial period of the 16-19th century, Western anthropologists studied worldviews and practices of different peoples in the world. In the Encyclopedia of the history of science, technology and medicine in non-Western cultures (Selin, 1977) Michael Adas asserts that knowledge curiosity was a major motive for expeditions, discoveries and conquest. Ethnological studies brought about writings of Levy Bruhl (1910 and 1923) that came to illustrate the Eurocentric and racist position of the West. These discoveries gave force to the West to spread their epistemology to other parts of the world. It was a strategy that was seen to rationalize the world and banish subjective epistemologies that they had come into contact with. This made Western knowledge aggressive and intolerant to non-Western forms of knowledge. This way of looking at reality was later challenged by Western scholars.

Feyerabend (1975) is one of those scholars who demystified this elitist position of the West by rejecting the existence of universal methodological

rules in science. In criticizing western arrogance and imperialism, Feyerabend notes that exporting Western knowledge has not brought exclusive wellbeing to the Indigenous communities. He advocated the stopping of the one-way knowledge traffic and proposed a mutual learning process. Raine (2001) also asserts that Western myth of rationalism and objective thinking is increasingly destructive to the majority of the world's people. It is in this understanding that cultural liberty; the right of each people to choose and create its own culture, (World Bank, 2004)   also means that each culture has a right to understand the world through its own ways of knowing.

The World Bank report on Human development of 2004 entitled: Cultural Liberty in Today's Diverse World, reiterates the fact that there is no reason for deciding that one worldview offers a superior way of knowing the reality than another. Nakashima and Roue' (2002), Gadamer (2001) agrees that there is need to prepare pathways to accept the truth from other worldviews a fact that could bring about a fusion of the horizons of human wisdom. It is this fusion and synergy that this chapter attempts to establish between indigenous knowledge of the Maasai and Western knowledge.

6.2 Distinctions between Indigenous and Western Knowledge

Granier (1998: 1-2) points out that indigenous knowledge covers all aspects of life in a community and thus a given community actually survived on it. Such knowledge represents generations of experiences, careful observations and it is

fully relevant, localized and lived knowledge that people easily identify with and own. Granier continues to argue that indigenous knowledge system is also dynamic and incorporates new knowledge with time, in this way, we can say that indigenous knowledge is innovative; the community internalizes and adapts external knowledge to suit the local situation. Although Indigenous knowledge is stored in people's memories and activities and expressed in stories, songs, cultural values and rituals, the same can adopt Western form of knowledge and be written and kept in record.

However, the written and the oral are two modes of expression and traditionally the two have been put to use and can be traced way to Plato when he referred to writing that it was an orphan or bastard, as opposed to speech. This argument gives weight to oral traditions as a legitimate form of expressing knowledge. In this context, the community interrogates, deconstructs, analyses and tries to explain communal knowledge orally. This is where the relationship with western knowledge converges. Plato and never wrote down his thinking it was oral, but those who appreciated his wisdom wrote down for the sake of record and to be shared by many. When it gets to be written then the two becomes modes of expression (Masolo (2003).

Understood in this context, Indigenous knowledge is the totality of knowledge and practices used in the management of the socio-economic, spiritual and ecological facets of indigenous people such as the Maasai. Mayor (1994) says

that this can be contrasted with cosmopolitan knowledge that is culturally anchored in Western cosmology, scientific discoveries, economies and philosophies (Mayor, 1994: 1-5). It is important to understand how Indigenous knowledge differs from Western one for this form the basis for determining how to use each one of them. Previously we attempted to shed light on what each one of them contains, how it is acquired, transmitted and held. Understanding this is fundamental in being able to make use of the knowledge. In this sense, Maasai Indigenous knowledge has social importance and should be recognized as part of larger pool of universal knowledge expressed in oral form.

It's important to note at this stage that, both social contexts and technical contents are essential to good understanding of scientific activity and in any case, science can only be understood through its practices (Masolo , 2003: 24). Gerdes (2003) has also argued that even mathematics, like any other technical and abstract knowledge can best be grasped only in practical terms. This kind of approach directs indigenous knowledge as pragmatic in nature.

The moment we recognize how Indigenous and Western forms of knowledge are similar in functionality and service to humanity, then we begin a dialogue that safeguards the interests of each knowledge system. Instead of opposing the two, it's important to accept differences within the categories and see similarities across. It's important to understand that IK, which is the subject of

this research, is pragmatic and practical, while WK based is largely theoretical. That is why Agrawal (1994) argues that with respect to contextuality, nothing makes sense out of its context in the local situation.

6.3 Indigenous Knowledge and Innovations

The relationship between the knowledge systems where complementarity is recognized is strengthened by Shiva's (1989) observation that Indigenous innovation is informal accumulations that take place over a period of time. Here we can say that the Maasai discoveries of animal medicines came after many years of trial and error. It involved modifying, adapting and building on existing knowledge in strict adherence to age group. The outcome of this involvement gives credit to the community. The community becomes beneficiary and gives authenticity to the discovery.

The current Western knowledge is based on the idea that innovations and discoveries are individual processes. Even after all the collaborations and scientific partnerships are done, the end result rests on an individual. A good example can be cited of Steve Jobs as one who invented apple computer. Although there is a whole team that was involved in this invention the credit has always been put on one individual. In this way we do talk of people who have achieved or made discoveries in the area of science. In the Maasai Indigenous knowledge no mention of individual is made, may be the furthest mention closer to individual is the age group. Shiva emphasizes that the

indigenous knowledge's innovations are viewed as kin to the human species and not just as raw materials. Taken in this way the integrity of the community must be hailed rather than merely the rights of individuals being recognized.

The idea of convergence between knowledge systems is in the observation that Indigenous knowledge is based on and controlled by the community. This draws the parallelism of the Western concept of institutions. That means that, in an institution, no individual is hailed. In this sense the indigenous community complements the conventional mainstream academies as we understand them today. In this way, we may say that the idea of Indigenous community based knowledge leads to the convergence between Indigenous and Western knowledge systems.

Supporting integration of indigenous content, contexts and learning processes is not to simply incorporate Indigenous Maasai knowledge into Western forms but is a means of disrupting mainstream knowledge on how people produce, interrogate, value and apply different forms of information. Dei (2000) puts it that, it's to bring Indigenous knowledge into the present means of constructing meaningful and valid knowledge that is acceptable and appreciated by a people.

With globalization of Western development, Maasai Indigenous cultures are forced into programmes of modernization that tend to regard the acquisition of

material goods as the central purpose of life. The Maasai idea of increasing cattle herd can be seen as acquisition of material good but in their context, it's not meant to glorify individuals but it is for the glory of the community. Take for example, when murrans go for the cattle raid, it's not the affair of individual murran, but rather it's about Maasai community. The lessons learned in this activity would be that the community did not encourage accumulations of individual wealth, but rather all wealth accumulated belonged to the community. Although, this is not the case today, the researcher would argue that western knowledge through colonialism has informed the current situation where individualism is encouraged. Individualism encourages one to think of him/herself and leave the community on its own, thus this can breed immoral acts. The Maasai community's institutions can adopt perspectives that lead to the convergence of both knowledge systems in Kenya today.

6.4 Indigenous Knowledge and Philosophical Realism

Harding (1997) in her study of the nature of modern sciences extends to the domain of comparative social and cultural analyses. She argues that good scientific knowledge is characterized by strong objectivity, inclusive rationality and universal validity, but which still remains a local knowledge claim. This directly translates to saying that science can make universal claims while remaining locally grounded. The fact that all sciences are grounded locally; and that they can be compared with each other leads to ethnoscience.

Taking this argument further, it can be said that since the relationship exists in all the knowledge it points to the fact that some of the knowledge are on individual level while others are culturally embedded thus meaning that convergence is a possibility. However, this study has broken the boundaries among science, humanities and social sciences and has enhanced understanding on all sides and unavoidably placing realism at the heart of the debate. Realists tend to believe that whatever knowledge we have is only an approximation of reality and that every new observation brings us closer to understanding reality. If that is anything to go by, then convergence is necessary in terms of achieving universal knowledge.

As is the objective of this study, Ermine (2005) refers to the Western learning as a place where people become entrapped in one worldview. Ermine argues that the West needs to detach from the exclusivity of this worldview and realize that it is presenting a mono-cultural monopoly. In the context of Maasai cultural education, one grows knowing the environment, for instance, one learns the names of trees, animals and their importance to the community. Western knowledge puts emphasis on specifics while indigenous seems to emphasizes general knowledge. The dominant knowledge in the society today seems to address specific needs of the community and moves to give a solution to the particular problem. Here the comparison can be cited as forces such as natural verses artificial contexts, oral traditions verses written tradition and holistic verses physical worldview. This calls on the fact that we must

imagine the possibility of the society learning from both sides and that is where convergence takes its relevance.

6.5 Parallel Knowledge and Empowerment

Parallel knowledge refers to a situation where different ways of knowing co-exist openly without interaction. In the context of the study, the example can be drawn in conventional veterinary medicine and the Maasai traditional veterinary skills as co-existing. In this case interaction between different ways of knowing may result from trade, tourism, migration, and mass communications. However, the degree of reciprocal influence may greatly vary. More often than not, the more powerful culture dominates and has influence on the less powerful culture. If authentic change requires authentic engagement, Odora-Hoppers (2002) assume that Indigenous knowledge can lead authentic pluralist change as a parallel knowledge.

The convergence of Indigenous and Western knowledge systems when led by indigenous communities can lead to the process of achieving democracy and social justice. But a situation where Western knowledge leads the way, is when you find individualism taking root and community get more isolated. For instance, today's corruption cases in Kenyan society, seems to bear traces on individuals groomed in Western knowledge. Take in particular land issues where individuals corrupt the registry and obtain documents that are used to make land deals. In this way, western knowledge is specifically applied to

favour corrupt individual. Although these individuals are members of a community, it is apparent that those who are in astute in delivering the vice have perfected in theoretical knowledge and that are capable of intellectually justifying the vice.

There are instances where the community shields their own, but this is on the level of emotional attachment and not in terms of the knowledge. Knowledge is used in accumulation of material wealth that is associated with an individual. This wealth is used to determine success of an individual rather than the community. The community only comes in because the individual is associated with it.

Traditional knowledge of the Maasai acknowledges the success of the community rather than individual. If the two knowledge systems are to find complementarities is when the community benefits and takes reward rather than individuals. Therefore, the traditional community of the Maasai does not have structures to probe an individual who in most cases hides away in the name of individual privacy and freedom. All these are theories strengthened by Western knowledge. We can therefore say that parallelism exists when those tending to lean on western form of knowledge are seen as individuals while the indigenous knowledge recognizes more the community.

Self determination can only earn credibility when the individual effort is aimed at developing community in the understanding of the prevailing environment. The credibility can be enhanced when promoting self-determination does so by coupling practical aid with an understanding of the need to shape change in a given environment. In the context of the Maasai, language and experience can be used to achieve this understanding. When done outside this kind of understanding, the community is bound to reject individuals that are propelled by individualism that comes with high credentials of Western knowledge and they do this by resisting taking their best children to school to be groomed in western knowledge. This rejection has led to the community being labeled as anti- education

This objective is therefore encouraged by Drought's (2005) observation that if something bordering on sanity is to prevail where other systems are involved, then the gaps that separate cultural understanding must be bridged. Competing epistemologies and practices must be addressed and equal conversations be granted to all whose intent is good for the change in the community. In respect to the colonial silencing of Indigenous knowledge of the Maasai and the subsequent governments that followed, it helps to achieve Western domination at the cost of deterioration in social status of Maasai community.

6.6 Harmonizing Indigenous and Western Education

Before the introduction of western formal education by the colonial rule, the Maasai people had their own system of education embroiled in the indigenous knowledge. The Indigenous education did not offer literacy and formal schooling as its known today, but it was founded on certain aims, a specified content and a workable pedagogy. It was basically aimed at the transmission of the community's cultural heritage, inculcating of moral, social and religious values, thus imparting the youth with desirable dispositions, skills and competencies.

As explained in the previous chapters, Maasai indigenous knowledge is influenced by the immediate cosmological and ontological environments. Its components includes: language, local geography, community history, socio-economic practical skills like herding, building homesteads, milking, herbal medicines, animal health and other skills that enhanced physical and intellectual growth. The teaching agent includes parents, grandparents, and elders of the clan. A pedagogical tool employed consists of observation, imitation, participation, apprenticeship, games and oral literature.

Western education, as it is in the community today, was introduced by those schooled in Western education. The colonial government was keen on implementing the imperialist agenda of the Western education. This education is done with no regard or in alienation from the immediate environment. The

young are taught what is not relevant to his environment. The system employs teachers who are authoritarian and basically one must memorise what the teachers teaches as an indication of learning. Failure to this led to severe punishment. This obviously did not impress on the local youth in their indigenous education, they learned as a way of life.

The other aspect is that this education uses a foreign language completely alien to the community. One had to begin to learn the basics before fitting into the system of learning. The community has its language that has been developed through the ages thus the rich vocabulary. The new language requires years of learning to acquire needed vocabulary. The western education had its focus on employment while indigenous education focused on life. This, therefore draws the dichotomy between knowing and doing. Competition is highly observed in the western education. Those who excel are rewarded well and those who do poorly are left with no solution to their misfortune, this aspect disregards harmony in the community.

Bogonko, (1977) says that education offered in the schools consists of mainly reading, writing and arithmetic and its only sufficient to enable one to read, write and to engage in basic business transactions.

However, it's important to take note of what the research learns from Maasai indigenous knowledge. The relationship with immediate environment is

important in formation of the young. All aspects of education of the community paid special attention to the environment and that is why human wildlife conflict is minimal in the community. However, with the belief that a murran had to kill a lion to proof his courage is negative and can lead to extinction of the lions. While on the other hand the community had ways of conserving the environment, the traditional practices that are seen as negative and that could impact negatively on environment should not be encouraged.

Secondly, the indigenous education of the community encouraged strongly tenets of leadership and democracy. It was known from their murranism that leaders were never imposed. They were realized through a democratic process by identifying competency through community service. If a murran did not participate completely during the formation years the community would not accept them as leaders. Leaders are realized during murran time as young elders. Elders are not imposed however, the process of consultations and participation was allowed. This pragmatic and practical way of realizing leadership is a great lesson in the indigenous education of the Maasai. This exposes democratic tenets needed in the education of the youth today. Some leaders manipulate the people using their resources to gain leadership, this is negative in the light of the indigenous knowledge of the Maasai.

Thirdly, the Maasai community has a way in which the youth were involved from an early age. That is why there was no name for teenagers. Al the young

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were regarded as elders and has their entry points spelt out. They participated in community's activities before circumcision and after circumcision they entered murranism until they graduated as elders. Today's young people have no role in the community. When schools close, most of these youth are left with parents who do not have a special engagement for them. They instead look for a way in which they keep in school through private tuition. This indicates that the society has no structures to include the youth.

Fourthly, while girls are important in every community, ways in which they are educated varies. Maasai community engaged t he girls for sole purpose of giving them out for marriage. They participated in the structures of the community until teenage age and were given out to elders for procreation. This practice demeans the women and cuts short their growth. First when girls are married early before the age of maturity chances are that their possibility to deliver children becomes minimized. May be that explains why the community has low population. However, education today does not encourage early marriages; it instead wants girls to grow into woman hood with responsibility. That women need to have adequate education to help them make e informed decisions. The western education can be used to strengthen the education of girls and move away from the factor of early marriages which is a demerit.

6.7 Indigenous Knowledge and Education

The current set up of modern education falls into an interpretation that disregards Indigenous knowledge. In the situation where we recognize an honest indigenous practice that closely protects and sustains the land and its inhabitants as it is the case with Maasai community it should be taken as a positive aspect and incorporated in education. Cultural relativism is applied here to mean that to have education that incorporates many we have to respect diverse customs and abstain from unfair judgment. However, some would denounce this on grounds that such education lacks objectivity when all knowledge is equal and defensible and true within their context of cultures. This extreme position can license cultural relativism to dismiss convergence and gains made in education today.

Related to this issue is that educators in Maasai community may reinforce stereotypes should they present an over-simplistic view of Indigenous knowledge. Mohatt (1994) asserts that educators should not oversimplify culture. This then implies that educators committed to integrating educational experiences based on Indigenous ways of knowing must synthesize local indigenous and western knowledge. In this way, they would be creating a hybrid content. Indicators of such content would be manifested in how much they know their environment, creativity in teaching style, classroom management and language choice. Aikenhead (1997) suggests that educators in this sense can explore ideas from multiple knowledge perspectives but

examine content within the perspective they are situated in. Aikenhead refers to this as autonomous acculturation similar to the Christian evangelists who attempted to use inculturation in evangelizing the Maasai.

Educators in Maasai community are under pressure to conform to industrialized methods of education without regard to local situation. These are methods that help bring modernism in terms of buildings, communication, socialization and economic situation. These methods may not seem to work for the Maasai community in the rural areas as they would do in modern cities. In this way, therefore, the community may be looked upon as the resistant lot given that the concept of modernism does not really appeal to the community. But the issue could be on the level of involvement. That the rural communities are not involved in the way they know and understand. The hybrid schooling may apply in a great deal within and between school communities. This way of restructuring education based on Indigenous knowledge involves the community, educators and leaders/elders. They all participate in redefining education and build connections between indigenous and western knowledge system thus convergence.

The other related aspect in implications for education is that in order to keep relevance, educators should not over-simplify Indigenous and Western knowledge. They should not artificially, separate content areas during study. The example here is that, there should not be a separate subject to study

Indigenous knowledge or Western knowledge. Both knowledge systems should be merged during the learning activity. This is because nature changes and knowledge must also change to effectively interact with man-made environment. Mohatt (1994) describes this as the need for complex cultural negotiations and that education can become a new "third reality". This third reality is neither Indigenous nor western but a new perspective and a way of knowing on the synthesis of both.

In contemplating the implications, we must also be thinking of cross cultural education. Educators must prepare the community for life in a culturally diverse environment. Should educators develop a teaching approach that merely develops an appreciation of one type of knowledge then it can plunge the community into vices like hatred for the West, racism and the like. The attempt should be made to deconstruct old prejudices. Any attempt towards a multidimensional cultural world of the community helps it to move back and forth between the knowledge of the Maasai community and the knowledge of the cultures of the world.

6.7 Conclusion

Human knowledge deals with all aspects of human life that is geared towards survival. The conventional idea is that there is a superior way of knowing that is considered to be universally applicable because it is based on rational theoretical concepts and research. It is also characterized by objective methods of analysis and logical reasoning. Yet different communities perceive reality in different ways and the resulting worldviews lead to different ways of learning and knowing. Within communities people interact on their perceptions and come to certain consensus about what is valid. The knowledge acquired is always limited and subject to modification in the light of new learning.

There is no fundamental difference between western oriented and Maasai cultural ways of knowing. It's rather safer to be realists and look at all knowledge as an approximation to the truth within specific knowledge tradition and that no knowledge can make exclusive claims on truth. Differences in degree cannot be denied. But several knowledge systems are likely expose the community to a wider worldview and understanding than when a single system is utilized. In harmonizing knowledge system certains lessons are realized. In this case lessons like leadership, democracy, human wildlife conflict, sense of inclusiveness of the youth and girls education are among the striking aspects to be learnt in harmonizing the systems of knowledge.

Closely related to this is the difference in investment in certain knowledge systems. Western oriented systems have a more invested in their systems as compared to the indigenous knowledge. This aspect can lead to wider gap if overlooked but to lean on one system is to exclude other communities that look at reality in their context.

CHAPTER SEVEN: SUMMARY, CONCLUSIONS AND RECOMMENDATION

7.0 Introduction

The foregoing six chapters have discussed the study under investigation at some length. The notion of Indigenous knowledge has been discussed along the Western knowledge. The study has shown how communities develop their worldviews and how to benefit from different world views. In particular we have considered and shown how western knowledge was developed as an example of a community that has been able to develop its knowledge system. The study has also exposed aspects of Indigenous Knowledge of the Maasai. It has shown the origins and development of this knowledge among the Maasai community. The study has argued that the indigenous knowledge leans more towards pragmatic philosophy as understood by the western knowledge and is thus more *a posteriori in* nature.

This last chapter offers a summary of findings of the issues under investigation and proceeds to make the conclusions of the same. It also proposes some recommendations for further research.

7.1 Summary

The study is entitled 'A philosophical examination of the nature of indigenous knowledge and implications for education with reference to Maasai

community of Kenya.' The study attempted to show that the indigenous aspect of culture has positive implications for education in Kenya which remains heavily inclined towards western knowledge.

Chapter one set the foundation for the study. Colonisation set the stage for the misrepresentation of the value of indigenous knowledge by arguing that it was illogical, pre-literate and inferior to western knowledge. Those who held such views were western anthropologists like Levy-Bruhl. He insensitively drew the category of knowledge between the one of the civilised and that of the uncivilised. He named the one of the civilised to belong to the European while the uncivilised to none-European. The Maasai who form the target of the study are in the group of the non-European, clearly showing that since their knowledge was not Eurocentric it had imperfections yet their indigenous knowledge made them survive many centuries and still do have elements that can be borrowed in the modern society. The purpose of the study was to critically analyse the indigenous knowledge of the Maasai with a view to establishing its relevance in Kenya's education system.

Chapter two reviewed literature that was regarded relevant to this study. It analysed the concept of Western knowledge and how it developed to become dominant in the western civilization. It identified rationalism and empiricism as foundations of the western philosophy. It showed how this thinking influenced the education system. The chapter also looked at the weaknesses of

western knowledge. It argued that although western knowledge is founded on reason which makes the human person to understand the nature of the world, it need not be the prefect of all other knowledge systems. The chapter singled out thinkers who considered alternative ways of looking as reality. Such thinkers include Doxtater (2004), Foucault, (1977), Hammersmith (2007), Ogawa, (1995) and Agrawal (1995).

The second chapter also reviewed sources on Indigenous knowledge that facilitated the adaptation and survival of different communities such as the Maasai of Kenya. It noted that Indigenous knowledge can provide valuable input on local issues and effectively be used to reform the education system to make it more relevant. However, indigenous knowledge was shown to have limitation s such as lack of exactness and prevalence of conformity. This implies that while indigenous knowledge has positive and relevant aspects, it needs to be moderated and enriched to be useful in contemporary settings.

Chapter three presented the methods of philosophy that were employed in the study. Analytic method was particularly singled out for its perceived suitability for the study. Human beings use language to express their ideas and the world that surrounds them and thus analysis of such language yields useful meanings about people and their world. This is how Peters (1967) used the method in the attempt to understand the concept of education and its meaning as founded on culture of the Western people.

Chapter four discussed Western knowledge as a world view. It examined the concept of the world view as a base for any society and an important aspect in understanding cultures. It discussed the concept of culture and its relationship with the worldview. Secondly, it examined the human universals in relation to knowledge. The chapter explored the process involved in constructing societal models of reality. First each society believes in its own unique way of perceiving reality. Second, each society's existential postulates are responses to what exists in the immediate surroundings. Third even the ontological assumptions are based on what the society acknowledges. Therefore empiricism, rationalism and idealism are given as world views constructed by Western society and used to develop their knowledge.

Chapter five discussed the indigenous knowledge of the Maasai. It discussed the origin of the community and its culture that has helped it survive through the centuries. Murranism was identified as an important developmental and learning stage for the youth. In murranism young people were equipped with knowledge, skills, values and attitudes that made them become responsible members and elders in society. They also learnt how to relate with their immediate environment. Knowledge of local animals, plants, community history, leadership, service to society, environmental care, family life and responsibilities were taught practically. Values such as courage, discipline, service and responsibility were fostered. These are positive inputs that can enrich education in Kenya. However, the chapter also identified some

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elements such as cattle raiding based on the legend that claims that all cows belong to the Maasai and the marrying off of young girls as negative aspects that need critical reconsideration.

Chapter six argued that indigenous and western knowledge can be harmonised to facilitate the development and preservation of the positive aspects of indigenous and adopted elements of culture. Some of the areas of complementarity include fostering of democratic values such as participation and consultative leadership; sustainable use of the environment, resolution of human-wildlife conflict and development of social values such as service responsibility and self-control. Negative activities like killing of lions by Murrans the keeping of large herds of animals leading to overgrazing can be re-evaluated and re-contextualised by ustilising alternative worldviews to enrich the indigenous perspective.

7.2 Conclusions

The study was guided by four objectives namely to: examine the construction of knowledge, critically analyze the concept of the indigenous knowledge with special reference to the Maasai community, deduce implications for education and develop harmony between Western knowledge and indigenous knowledge.

With regards to the first objective, the study has concluded that any society constructs their knowledge first as a world view which is further interrogated, reconstructed and systematised. Indigenous people constructed their worldview in strict adherence to the immediate environment.

In relation to the second objective, the study has concluded that the anthropologists who wrote about indigenous communities were biased and they misrepresented the nature and value of indigenous knowledge and education. The study has also concluded that the indigenous knowledge of the Maasai had positive as well as negative elements. The positive elements include relevance to context, sustainable use of the environment and promotion of democratic and social virtues such as courage, participation and responsibility.

In relation to the third objective, the study has concluded that the positive elements listed above need to be injected in Kenya's education system. The negative elements need to be re-evaluated and reconsidered.

In relation to the last objective, this study has concluded that an effective education system needs to embrace positive elements of diverse cultures. Specifically, Kenya's education system should bring together indigenous and other borrowed elements of culture (emanating from Western and other influences) that work together to enhance human well being. Such an inclusive

approach would benefit from positive and tested indigenous aspects such as democratic values and leadership, sustainable relationship with the environment, innovative human-wildlife conflict resolution mechanisms and inculcation of a sense of responsibility, care and service towards society.

7.3 Recommendations

This study recommends further study in the following areas:

a) A critical review of anthropological views about indigenous communities. This study found that some early anthropologists who have written extensively on some indigenous communities were biased and their views should not be consumed unquestioned. Research directed towards this end is recommended.

b) More studies on other indigenous communities apart from the Maasai and further studies on the Maasai. The researcher realised that there is a lot more that can be learner about the Maasai. Scientists, for instance can research about ethno-veterinary skills and their current efficacy. Research on the indigenous knowledge of other communities would be worthwhile.

c) Research focussing on whether and how indigenous knowledge has been embraced, if at all, in Kenya's system of education would also be useful. Such an investigation would unearth challenges involved in conserving and developing indigenous knowledge.

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Appendix I

Map showing the area occupied by the Maasai both in Kenya and Tanzania

Kenyan clans are: Matapato,kaputiei,Keek-Onyokie,Purko, Loita,Damat, Siria, Moi-Tanik, Uasin Nkishu