

**AN INVESTIGATION INTO THE ROLE OF INDIGENOUS
KNOWLEDGE SYSTEMS (IKS) IN POVERTY ALLEVIATION:
A CASE STUDY OF LOKALENG VILLAGE.**

BY

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COURSE CODE : IKS 895

**A MINI-DESSERTATION SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF
ARTS IN INDIGENOUS KNOWLEDGE SYSTEMS IN THE
FACULTY OF HUMAN AND SOCIAL SCIENCES NORTH WEST
UNIVERSITY.**

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DATE SUBMITTED : NOVEMBER 2006



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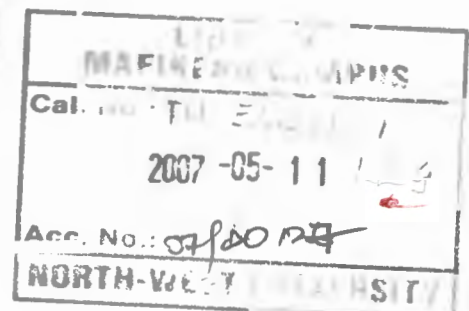


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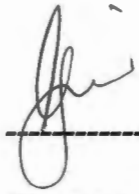
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DECLARATION

I, Herminah Legari declare that this research for the degree of Masters of Indigenous Knowledge System in the Faculty of Human and Social Sciences, North West Universty, has not previously been submitted by me for a degree at this or any other university.



HEF LEGARI

DATE 15/11/06

ACKNOWLEDGEMENT

Many people helped with this research study in various ways, Professor Kaya for guidance he provided for the success of this research. I would also like to acknowledge assistance from IKS colleagues. I'm also grateful to the community of Lokaleng for their cooperation in providing with information.

A special thanks to my beloved husband, who was so helpful with typing, and my son (Thabang) and daughter (Bakang) for their loyal support throughout my studies.

Above all, would like to thank almighty GOD for strength he provided through thick and thin in my studies.

ABSTRACT

Indigenous knowledge Systems (IKS) is a local knowledge which is acquired in a non-formal settings through experience. Elders of the communities are the custodians of this knowledge, and they passed from generation to the next by word of mouth. This study investigated the role of Indigenous Knowledge Systems (IKS) in poverty alleviation in Lokaleng village. It was found that, the local community of Lokaleng is affected by poverty. They used IKS in poverty alleviation. The community made use of the natural resources such as land, plants, etc. to earn a living.

However, for further growth of IKS in Lokaleng, the community still needs the support (for eg. financial assistance) from the government. Therefore, the study recommends the following:

- (a) awareness on the use of IKS in bringing development, particularly in areas such as Lokaleng village.
- (b) IKS should be included in the curriculum so that even the youth can recognize the importance of the indigenous knowledge.
- (c) There should be a financial support from the government or any financial institution.

CHAPTER ONE

INTRODUCTION

1.1 Background

“Poverty is said to be pain, it feels like a disease. It attacks a person not only materially but also morally. It eats away at one’s dignity and drives one into total despair” (World Bank 1999).

Poverty is a global issue particularly in developing countries like South Africa. At the beginning of the 21st century poverty emerged as a one of the challenging socioeconomic problems where 20% of the world’s population is living in absolute poverty. In Sub-Saharan Africa, the World Bank reported that between 2 000 and 2003, in twenty nations the number of Africans living in poverty increased by no less than 80 million (www.worldbank.org/research/povmonitor/-2).

Poverty can be defined in various ways. It is an inability to obtain income that will enable one to leave a descent life. There are two types of poverty, absolute and relative poverty. South Africa is mainly being affected by absolute poverty. Absolute poverty is when people suffer from malnutrition

or when people rely on social grants. It can further be defined as that experienced by those who do not enough have food to remain healthy.

It is argued that many social problems such as crime that adversely affects people in all walks of life rooted from poverty.

There are various western approaches that have been implemented in poverty alleviation. However, many of them failed because they were top down approaches where members of the local communities were not involved in decision making. According to Human Development Report (1997), a quarter of the world's people remain in severe poverty despite the major advances in reducing poverty made during the 20th century. At the same time, social inequality, marginalization and discrimination still exclude many people (Nafziger, 1990).

It was therefore found that the use of indigenous knowledge systems (IKS) to be mostly appropriate in poverty alleviation, particularly in Africa. Indigenous knowledge refers to traditional and local knowledge existing within and developed around specific conditions of men and women indigenous to a particular geographic area in contrast with knowledge

generated within the international system of universities, research institutes and private firms (Warren, 1991).

Several studies have pointed to the increasing significance of knowledge and indigenous knowledge systems in sustainable development in Africa and developing world in general. The awareness of the value of indigenous knowledge, particularly its potential contribution to sustainable development and poverty alleviation is growing at a time when such knowledge is being threatened than before

(<http://www.scidev.net/dossiers/index.cfm?fseaction=dossierfulltext&Dossier=7>).

In South Africa, the use of IKS is sustained, hence the formulation of its policy (that is the IKS policy). However, it should be noted that the IKS policy only have meaning if it can change the lives of people.

Indigenous knowledge systems have attracted the attention of many people in both developed and developing countries. The United Conference on Environment and development held in Rio de Janeiro, Brazil in June 1992, was an important development for indigenous people and their rights related

to the environment. The conference, or Earth Summit as it was called, recognized that indigenous people and their communities have a crucial role to play in managing, developing the environment, and bringing sustainable development. The importance of indigenous people's traditional knowledge was acknowledged, hence the international community committed itself to promoting, strengthening and protecting the rights, knowledge and practices of indigenous people (www.ecologyandsociety.org).

There is a very close relationship between land and the indigenous people. For them land is the source of life a gift from the creator that nourishes, support and teaches. Although the indigenous people vary in their customs, culture, and impact on the land, they all consider land the centre of the universe, the core of their culture and most importantly, the origin of their identity as people. The land connects them with their past (as home of the ancestors), with the present (as provider of their material needs) and with the future (as the legacy they hold in trust for their children and grandchildren (www.ens.gu.edu.au/ciree/LSE/mod5.htm)).

This notion of the close relationship between the indigenous people and land is clearly seen in Lokaleng .This community does understand that for them

to survive, they must make use of the land through the help of their indigenous knowledge.

The idea that the land can be owned, belong to someone is foreign to indigenous people. It is unlike in the so-called Western world where the land is in the hands of private individuals, corporate investors, or the state and can be sold at the will of the owner. For indigenous people land is collectively for the community. According to indigenous law, humankind can never be more than a trustee of the land, with a collective responsibility to preserve it. The indigenous people use their indigenous knowledge to utilize the land as part biodiversity to alleviate the problem of poverty (Davis,1998).

The indigenous knowledge is best understood by establishing the difference between it and non- indigenous knowledge that is the scientific knowledge which most of us are familiar with. The scientific knowledge which is often confined to classroom is generated by professional scientists through systematic scientific research and experiments. The indigenous knowledge on the other hand is generated by local people through their day to day

experiences in facing the challenges of nature and society

(<http://www.nuffic.nl/ciran/ikdm/2-2articles/titilola.html>).

Both adults and children are involved informally in the traditional learning process through ceremonies, rituals, imitation, recitation, and demonstrations. It is a method of informal education, which is based on a wide range of cultural items such as folk drama, folk story, village meetings, taboos, superstitions, to name but the few

(<http://www.ens.gu.edu.au/ciree/LSEmod5.htm>).

1.2 Statement of the Problem

The statement of the problem is based on the following research questions :

- What is the extent of poverty in Lokaleng village?
- What is the role of IKS in poverty alleviation in Lokaleng village?
- What is the attitude of community members in Lokaleng village towards the use of IKS for poverty alleviation?
- What is the government's involvement, particularly the North West Gov
- ernment in promoting IKS for poverty alleviation?

1.3 Rationale of the Study

North West province is predominantly rural where most of the local communities are engaged in the primary economic activities. These people use their indigenous knowledge to earn a living. Therefore, there is insufficient literature especially in North West province which justifies the fact that the indigenous knowledge can be used as the tool or instrument to alleviate poverty.

This stimulated my interest in this study as to why the indigenous knowledge is not so considered in poverty alleviation.

It is so evident that the so-called Western instruments to poverty alleviation are insufficient and unable to combat or alleviate poverty especially among the indigenous communities. That is why poverty in indigenous communities still persists.

1.4 Aim of the Study

To investigate the use of indigenous knowledge in poverty alleviation in North West province with special reference to Lokaleng village.

1.5 Specific Objectives

- The extent of poverty in the indigenous community of Lokaleng.
- The role of IKS in poverty alleviation in Lokaleng village.
- The involvement of government, particularly the North West government in promotion of IKS for poverty alleviation in Lokaleng village.
- The use of IKS in bringing sustainable development in Lokaleng community.
- The role of the government in poverty alleviation.

1.6 Literature Review and Theoretical perspectives

1.6.1 Literature Review

Literature review focuses on previous work that is related to one's study. Literature review is an ongoing process. This is the case not only because the relevant research results can be published at any time but also in the course of research. Therefore, in conducting a literature review, the following three broad issues should be kept in mind: the purpose of the review, the literature sources and the reviewing techniques.

The following are some of the purpose of literature review:

- ❖ To sharpen and deepen the theoretical framework of the research.
- ❖ To familiarize the researcher with the latest developments in the area of research.
- ❖ To identify gaps in knowledge as well as weakness in previous studies, and what is yet to be studied or improved (Bless &Higson-Smith, 1995).

The indigenous knowledge is environmental knowledge. It is used synonymously with ‘traditional’, ‘community’ and local knowledge to differentiate knowledge developed by a given community from the international knowledge system sometimes also called western systems generated through universities. Indigenous knowledge is therefore, that knowledge which is known to a group of people or is embedded in a community, particularly the rural one. The term ‘embedded’ is used in the general sense of knowledge being around when needed by the people themselves (<http://www.unesco.org/most/bpikpub.htm>).

The above mentioned definition has been justified by the by the World Bank report (2004), where the indigenous knowledge is defined as the large body

of knowledge and skills that have been developed outside the formal education system.

Indigenous knowledge systems are important part of the lives of the poor. It is the basis for decision –making of communities in food security, human and animal health, education, and natural resource management.

It is also the information based in a society, which facilitates communication and decision-making. Indigenous information systems are dynamic, and are continually influenced by internal creativity and experimentation as well as by contact with external systems. It is the knowledge that people in a given community had developed over time, and continue to develop. Indigenous knowledge is based on experience, often tested over centuries of use, adapted to local culture and environment, dynamic and changing (<http://www.unesco.org/most/bpindi.htm>).

Therefore, this gives the indigenous people an advantage of having a vast knowledge of, and capacity for developing innovative practices and products from their environment.

The following are the distinctive features that characterize indigenous knowledge:

- ❖ Collective rights and interests held by indigenous people in their knowledge.
- ❖ Close interdependence between knowledge, land, and other aspects of culture in indigenous societies.
- ❖ Oral transmission of knowledge in accordance with well understood cultural principles, and
- ❖ Rules regarding secrecy and sacredness that govern the management of knowledge.

Poverty on the other hand can be defined in different ways, depending on how is being viewed. The following are some of the definitions of poverty.

- Poverty is deprivation that a person is subjected to.
- Person's inability to achieve his or her needs, particularly the basic ones.
- Mental deprivation when a person is not allowed to think for him or herself.

Poverty is also an inability to obtain income that will enable one to leave a descent life. According to World Bank and United Nations, people who are poor are those who unable to afford one dollar a day (Development Report, 2001).

Poverty level and rates are getting ever worse. Poverty level is the percentage of the total population living in poverty. Poverty rates measures the amount by which this percentage increases from year to year. It is beginning to be recognized that poverty is no longer to be eliminated, but alleviated where the emphasis should be on finding modalities for managing it rather than addressing its root or systematic causes (Perkins, Radelet, et al, 2001).

The Key Indicators of Poverty in South Africa

- ❖ Poverty in South Africa has a strong race dimension.
Nearly 95% of South African's poor are Africans.

- ❖ Poverty in South Africa has a strong rural dimension.

75% of South Africa's poor live in rural areas, mainly in the former homelands and TBVC states. Unlike the poor in urban and metropolitan areas, rural poor suffer from higher unemployment rates, lower educational facilities and lower access to services.

❖ Poverty has a strong regional dimension.

Two third of South Africa's poor live in three provinces, namely; Eastern Cape 24%, Kwa Zulu Natal 21%, Northern province 18%.

❖ Poverty has a strong employment dimension

Unemployment rates among the poor stands at 50% compared to only 4% among the richest. In addition many of the poor are out of labour force due to illness, disability, etc. Less than 30% of the poor working –age adult are working. Therefore, 50% of the poor households are dependents on pensions as their primary source of income. Even the poor who are employed earn less than one tenth of the richer household.

❖ Poverty has a strong gender and age dimension.

Female headed households have a 50% higher poverty rate than male-headed households. A higher proportion of working age women lives in poor households. A higher proportion of the poor elderly are women with about 61%. Women also suffer from higher unemployment rate than men, for eg. 35% versus 25% (Lauer, 1998).

Hunger affects more than 840 million people worldwide. It is argued that more than 300 million of these people are in African countries. Hunger is an obstacle to any form of progress. It increases susceptibility to diseases, hinders learning, and leaves a person weak and unable to work or meet family needs. Therefore this break in self-reliance inhibits developing economies and creates poverty. This briefly shows that poverty has some form of vicious circles. Surely disease and malnourishment cause poor health, and if one is sick, he or she can't work and this will affect the production (<http://www.churchworldservice.org/africainitiave/hunger.html>).

Development experience in the Third World countries demonstrates that the conventional approach to development has failed. As a result a new view of development which is termed 'sustainable development' has emerged as an alternative to the conventional view. It is argued that the indigenous

knowledge can be the basis of sustainable development as well as that the national indigenous knowledge resource centres can play a very important role in sustainable development.

It was nearly three decades ago that the United Nation General Assembly designated the 1960s as a development decade to hurry economic development in the Third World countries. Millions of people in the Third World have no access to adequate food supplies, clean water, decent housing, clothing, education and health services. Benefits of the growth have not helped the marginal groups as initially expected. Therefore, this widened the gap between the poor and the rich nation. Natural resources on the other hand which was overexploited for short term benefits resulted in environmental degradation (<http://www.nuffic.ni/ciran/ikdm/1-3/articles/ulluwisheswa.html>).

That's how conventional approach failed sustainable development. The term sustainable development has been defined in different ways. According to World Commission on Environment and Development (WCED) (1991), sustainable development is that development that meets the needs of the

present without compromising the ability of future generations to meet their own needs.

Sustainable development is also a management of human use of the biosphere, taking into account ecological relationships as well as social and economic factors, the capabilities of the living and non-living resources base and long-term advantages and disadvantages of alternative actions, while maintaining the potentials of the given ecosystem to meet the wants and needs of future generations for food, shelter and other aspects of human civilization (UNDP Report,2004).

Moreover, sustainable development is an improvement of the quality of human life while living within the carrying capacity of supporting ecosystems. It is also the development that does not result in reduction of the future productive capacity of the economy which depends on the stock of natural capital, human capital and technology, that future generations inherit from the present generation. That is the development at the highest possible rate consistent with leaving the same or an improved endowment of resources and options to the future (Panayotou, 1992).

From the above mentioned definitions, it is very clear that the main goal of sustainable development is lasting improvement in the quality of life and not just short –term improvements that disappear rapidly at the end of the project cycle. However, this goal is achieved by good conservation, management and by utilization of natural resources in a sustainable way. Sustainable development represents a combination of development and conservation. It requires that the productivity of the ecosystem not to be sacrificed for short term production gains (Perkin, Radelet et al, 2001).

However, gender equality and equity are matters of fundamental human right and social justice and pre-condition for sustainable development. This is because in most societies there are differences and inequalities between women and men in activities undertaken, access to and control over resources as well as decision-making opportunities. In the use, management and conservation of natural resources women and men have different roles and responsibilities, which vary greatly from region to region. Women often make contributions to the family, community, and society with unequal access to, control over and benefits from resources and resources use. This inequality is said to often exist in a context of discrimination and unequal power relationship (<http://www.FAO.ORG//docrep/X0252e05.htm>).

The indigenous knowledge, which is the knowledge that people have gained through inheritance from their ancestors, has been seen as a relevant strategy to be use in poverty alleviation. This knowledge is a science derived from people and represents people's creativity, innovations and skills. It is a knowledge which has been accumulated over centuries and has a potential value for sustainable development.

Therefore the following are said to be some of the suggested application of indigenous knowledge systems for sustainable development:

- ❖ Historical evidence proves that some communities have utilized natural resources over centuries without impairing their capabilities to support them and their successive generations.
- ❖ A gap in communication between project personnel and local communities in Third World countries often inhibit sustainable development. Therefore the indigenous knowledge can facilitate this communication by providing a better understanding of how people perceive their local environment and develop their perception (<http://www.nuffic.nl/ciran/ikdm/1-3/articles/ullywishewa.html>)

The indigenous knowledge represents the wealthiest of the poor, which in most case is not been recognized. Any strategy to alleviate poverty should recognize what the poor have instead of what they don't have, and should transform their creativity into asset- creation. If any programme is aimed at poverty alleviation and bringing sustainable development, the use of indigenous knowledge is a priority. The poor who are knowledgeable about this technology should actively participate in such programmes. This will help them to get their overdue recognition and self-reliance.

In 1999 the Netherlands Organization for International Cooperation in co-operation with Management of Social Transformations Programme (MOST) has established a Database of best practices on indigenous knowledge. These practices mainly concentrate on poverty alleviation. It contains examples of successful projects illustrating the use of local and indigenous knowledge in the development of cost- effective and sustainable survival strategies, covering Africa, Asia,- Pacific, Europe, North America and Latin America and Caribbean (<http://www.itc.nl/library/General-info/best-pract-indigenous-knowledge.asp>).

However, it is argued that in most cases it is only the poor who are likely to accept and utilize the indigenous knowledge and IK based technologies because they are unable to afford the global knowledge technologies. The indigenous knowledge has its particular socio-ecological, economic, philosophical and scientific content, but at the same time, should be recognized as part of a larger whole pool of universal knowledge.

Categories of this knowledge include: agricultural, meteorological, ecological, social welfare, medicinal and pharmaceutical, legal, music, architecture, sculpture, textile manufacture, metallurgy, and food technology. In terms of practice they include songs, dances, fashion and garments designs, as well as holistic nature of these traditional lifestyles (www.nrf.ac.za/fcusareas/iks).

Knowledge about the environment had been central to human survival throughout history. Survival was virtually impossible in hunting for example, without knowledge about the wildlife plant and animal species, their growth, environment and habitats. Their specific characteristics of plants and animals' species and their uses are of most important. In the same way in farming societies, people depended upon understanding of the local natural environment and ecological process leading to the regeneration of environmental resources, for example soil fertility and water. The interaction

with the environment helps the local people to have a clear knowledge with the environment.

In African continent, the local communities had developed traditional indigenous knowledge systems for environmental management and coping strategies making them more resilient to the environmental management changes. This knowledge had and still has a high degree of acceptability and recognition amongst the majority of population in which it has been preserved.

There are many aspects to indigenous people's claim and interest in the natural environment and biological diversity. Therefore, indigenous people seek recognition and protection of their distinct rights in knowledge and practices relating to the management use and conservation of biological diversity (<http://www.idr.ca/en/ev-31090-201-1-1Do-Topic.html>).

Due to indigenous knowledge systems and innovations, there is what one can call Natural pharmacy. In many parts of the world, indigenous societies classify soils, plant and animal species and recognize their special characteristics. Ethopedology for example is the scientific term for indigenous soil classification. Indigenous people have words for plants, and insects that have not yet been identified by world's botanist and entomologists.

To indigenous people, knowledge is not considered independently from its products and expressions, or from actions. These all form part of a closely

intergraded cultural system. The physical products and expressions of indigenous cultures are intimately connected to the knowledge from which they derived, or with which they are associated.

There is no way that the indigenous knowledge can be avoided in poverty alleviation and in bringing development. The indigenous knowledge of medicinal and other plants and practices is a significant contributor to scientific research and development in pharmaceutical, cosmetics, foodstuffs, agricultural products and other biologically based products and processes (www.iccw60.org/home/stament-rules/stament/2001/protecting-traditional...).

As the indigenous knowledge is closely related to survival and subsistence, it provides for local – level decision making in the following:

- Food security
- Human and animal health
- Natural resource management

With regard to science and technology it is argued that traditional knowledge increases the efficiency of screening plants for medical properties by more

than 400 percent. Without the input of indigenous knowledge, many valuable medical products used extensively today, would not exist. According to the Traditional Medicine Strategy of the World Health Organisation (WHO), traditional medicines are widely used. South Africa has an extremely rich biodiversity that is yet to be fully understood. Some if not most of this understanding is to be found in the indigenous knowledge systems that relate to the treatment of diseases through the connections with spirituality and the science of herbs and plants and even animal products. The research projects have to integrate the indigenous taxonomy and systematic, chemical, pharmaceutical and biochemical studies

(<http://www.nrf.ac.za/focusareas/iks/>).

Since healthy mind needs a healthy body, a some scientists now believe that indigenous knowledge may help them to discover important new cures for diseases such as cancer ,diabetes and even Aids .These are some of the disease which cause deaths in most communities. The indigenous herbs that use to cure some of these diseases include among others, garlic and ginger. Even most of the medical supplements from companies such as Nature's health and Nutrihealth are been made from indigenous herbs (<http://www.ens.gu.edu.au/cree/LSE/mod5.htm>).

In the case of Lokaleng the dominant indigenous herb which seems to promote bio-prospecting is Aloe. This herb is most effective in treating most diseases, which may be affecting the agricultural production that the community relies on for of living.

The use of the indigenous knowledge system is also seen in the farming sector. Despite the extremely harsh environment, farming in Africa plays the most important factor in the economy. Farming supports 75 to 90 per cent of the population with food. It also provides million of people with employment (http://www.uaf.edu/rahi/papers/israel_198.html).

There is a believe that today; about hundred of millions of marginalized people all over the world are still being excluded from mainstream of development. These people have not benefited from development efforts which have mostly been based on top- down development model, with the maximization of productivity as its major target. The agricultural sector provides a prime example with Green Revolution. Green Revolution is the term widely used since the 1960's to describe the effort to increase and diversify crop yields in agriculturally less advanced regions of the world.

Generally, the indigenous communities are mostly used subsistence farming. Unlike in commercial farming, the production in subsistence farming is for consumption. Subsistence involves cultivation of crops, breeding of livestock, and the production other farm products, such as wool. Different types of crop farming methods will be looked at. This includes among others; shifting cultivation, mixed cropping, gardening and aquaculture.

Mixed crop farming for an example is typical African indigenous farming system. This is one way of ensuring food supply and nutritional security.

Unlike in commercial farming, in mixed subsistence crop farming the farmer plant variety of crops because the production is for consumption not for market orientated. This farming system is advantageous as it helps to boost the fertility of the soil, for an example, it helps to restore nitrogen in the soil which is necessary for the growth of plants

(<http://www.environmenttimes.net/article.cfm?pageID=132>).

The local community of Lokaleng relies on this type of farming on order to get food. In situation where the production is more than satisfactory they sell so as to earn a living or buy some of their basic needs.

However, for farming to be possible, it calls for land rights. This is because land rights are the best source of economic opportunity for the world's rural poor and an essential part of the fight to eliminate global poverty. That is why the an international land law policy group (RDI) over the past 38years have worked with the governments of 40 developing countries, foreign aid agencies, and other partners to design and implement fundamental legal, policy and programmatic reforms resulting in large –scale transfers of land ownership or ownership rights to the world's rural poor (<http://www.rdiind.org/HOME/HomeOne.html?gad1>).

Most of the indigenous farming system provides with food which are of nutritional value. Aquaculture for example is a farming of aquatic organism often referred to as fish farming, mainly produces protein crops and terrestrial agriculture on the other hand provides with starchy, staple crops. It is estimated that farmed fish is 10 per cent of the annual world fish harvest of some 100 million tones. Many other varieties of fish and shellfish, such as bass, bream, oysters, etc were also found adaptable to farming conditions. Originally conceived almost as cottage industry designed to provide employment and economic growth in difficult or remote areas, fish farming

has become a major industry backed by some of the biggest companies in the world (<http://www.encarta.msn.co.uk>)

In nomadism the farmer moves in response to the availability of food for himself and his livestock. In most cases the movement is seasonal and the animal owned by the nomads provide them with transport, food , shelter, and clothing. The following are some of the examples of nomadism: the Berbers,the Bendoui, the Tungus, and the Mosai (Rix,et al, 1999).

However, it should be noted that without the proper land management the above-mentioned farming system wouldn't be successful. In Africa, land is said to be a key natural resources and it determines development particularly in indigenous communities. Land has been the common denominator of liberation struggle. Most of African countries share a common history of land dispossession.

The following aspects are very much crucial and important in the analysis of land management:

❖ Uses

This involve what do the community using land for, is it for farming or construction purpose.

❖ Access

How do people get land, that is the method used in allocation of land to people.

❖ Quality

The issue of quality is also of most importance. This basically includes the condition of the land as far as fertility is concerned. The quality of the land is one of the deciding factors for production, for eg., in fertile land the production will be good whereas in infertile land the production will less.

❖ Ownership

This involves land ownership that is whether the land is privately owned, owned by the state or leased. The community collectively owns Land in Lokaleng.

The issue of land management and women particularly in indigenous communities is of most importance. Throughout Africa, empowering women to reach at least parity with men is long over due. Aspects such as equal access to land and job creation for women have raised concerns. Women empowerment is nothing more and nothing less than increasing women's control over their own lives. This includes increasing the choices open to women, especially in land ownership and women's access to resources. To women, especially in rural areas land is central to their role in social and domestic economy (<http://www.encarta.msn.co.uk>).

Women throughout the world are the producers of food; hence land is land is important to them. It is also argued that the issue of environmental sustainability is only successful with the involvement of women. In South Africa for example, where land reform is currently ongoing, the concentration is on the needs for land as they apply to men and women differently (<http://www.fao.org/ag/agsse/3ero/namibia1/c5.htm>).

The above-mentioned statement is also applicable in Lokaleng community, where women are the sole producers of food.

Apart from what has been stated, consistent with the United Nations Millennium Development Goals, the church World Service works to end hunger and poverty by.

In the North West province, particularly in Lokaleng IKS are owned buy and provide services to people who are prone to unemployment, and buy so doing it help in poverty alleviation.

1.6.2 Theoretical Perspective

1.6.2.1 Structuralism

This is a sociological theory, which holds that each part of society is necessary for the functioning of the social organism. That is the theory that uses culturally interconnected sign to reconstruct systems of relationship rather than studying isolated material things in themselves. No single element in such a system has a meaning except as an integral part of a set of structural connections. According to this theory, there are several elements, which exclusively explain how society functions to maintain its survival. These elements are cohesion, solidarity and equilibrium (<http://www.inplease.com/ce6/society/A0846980.htm>).

Talcots (2000), emphasized the above mentioned statement by saying that cohesion is the glue that cements the bonds while solidarity are the sentiments common to all within the cohesive group.

All the components of structuralism explain how the society should function as a social organism. This means that even in poverty eradication each structure in the society should work as a unit. This is because each organ in the society, whether the priest, chief, or traditional healers is of most important for the proper functioning of other organs,

Therefore, it means in order for indigenous knowledge to alleviate poverty in Lokaleng village each structure should work as unit for the wellbeing of the community.

1.6.2.2 Development theory

Development theorists stressed the need for rural development. They argue that most people in developing countries live and work in rural areas.

Therefore, instead of trying to promote economic growth through industries,

which are often located in cities and towns, it is important to increase agricultural productivity (Seidman, 1998).

According to this theory, one of the strategies to improve agriculture, which will lead to poverty alleviation, is by giving farmer's new inputs and other assistance. The issue of accessibility of the land which is one of the requirements for IKS, is most importance. This issue is seen in Lokaleng village, where there is good management and utilization of the land. They (development theorist), further believe that until people have equal sharing of the land there will not be improve in agricultural production. The accessibility of the land will therefore encourage the rural communities to use their local knowledge in poverty alleviation (Reed, 1998).

This could improve the lives of people in rural communities like Lokaleng enabling them to feed themselves.

1.7 Hypothesis

The study was based on the following hypothesis:

- The participation of local people with their local knowledge can help in poverty alleviation.

- Poverty in Lokaleng is very high.
- Encourage people to make use of their local natural resource.
- The use of IKS can bring improvement in the quality of human life.

1.8 Significance of the Study

This research should be an 'eye opener' to the government and the local community of Lokaleng on the contribution of the indigenous knowledge on poverty alleviation. This paper will also help communities, in particular the Lokaleng community to realize the use of indigenous knowledge in poverty alleviation and the need to conserve it.

Moreover, the study will increase the knowledge of IKS to students. It is also related to other disciplines such as Science and technology, Social sciences, etc.

1.9 Methodology

This was a case study of the role of indigenous systems in poverty alleviation in Lokaleng village.

A case study is a particular method of research. Rather than using large samples and following a rigid protocol to examine a limited number of variables, case study methods involve an in – depth, examination of a single instance or event (<http://en.wikipedia.org/wiki/case-study>).

According to Yin (2002), a case study should be defined as a research strategy, an empirical inquiry that investigates a phenomenon within its real –life context. Case study research means single – and multiple case studies, can include quantitative evidence and relies on multiple of sources of evidence.

Both the qualitative and quantitative methods were used in order to have a comprehensive understanding of the research problem. These methods also enabled the researcher to capture adequate and required information.

1.9.1 The Scope of the Study

This research was conducted in at Lokaleng village. This is one of the local rural settlements of Mafikeng in North West province. The researcher originated from the area and has an intimate relationship with members of the community. Therefore, this helped the researcher to get the required information.

1.9.2 Subjects

The following were the sources of information for this study:

- Key persons

These included:

- the chief and elders of Lokaleng community.
- social workers.

These were key persons for the study because they are the custodians of Indigenous knowledge in this community.

Social workers were also being interviewed because these are the people who are involved in a daily welfare of the community members.

A stratified random sample of ten (10) men and ten (10). According to Buckingham (2004), a stratified random sampling ensures that certain key categories of people will be included in the sample in a known and predetermined proportion.

1.9.3 Methods of Data Collection

Taking into account the nature of the source of information, the researcher used the following methods in data collection:

Interview

An interview is a direct way of obtaining information. It involves direct personal contact with the participants who are to answer the questions (Bless & Higson-Smith: 1995).

It argued that interview is more advantageous particularly in situation where the interviewee is unable to write or read. It can also help to overcome misunderstanding and misinterpretations of words or questions. The two types of interview that will be used are structured and unstructured interview. In structured interview the interviewer has a much more precise goal and types of questions to be answered by an interviewee and in unstructured interview there is no precise questions to be asked.

With interview, it is possible to ask for explanations and to provide information on the respondent's reactions. In the case of interview, it can be done face to face or telephonically. However, an interview should not be lengthy otherwise the respondent can be saturated and this can affect the cooperation of the respondent.

A Questionnaire

A questionnaire is a method whereby respondents are provided with carefully selected and ordered questions. According to Van Dalen (1999), is

a data collection method whereby respondents are provided with selected and ordered set of questions.

Two types of questionnaire commonly used are, the open and closed – ended questions. Closed questions were used to collect demographic data.

Open ended questions provided the responded with an opportunity to express his/her opinion.

Moreover, a questionnaire can be used without direct personal respondents. These are self-administered questionnaires, to be filled in by respondents themselves, where necessary assistance may be given. This can be done either by distributing the questionnaire and collecting it after it has been filled out, or by mailing it and asking respondents to send it back. It is then called a mail questionnaire (Bless& Higson- Smth,1995).

Focus Group Discussions

A focus group discussion for a random sample of ten (10) communities from the different social groups of the community, that is women, men etc.

Focus groups comprised of individuals assembled to discuss a particular subject. So, for the success use of IKS as an approach to poverty alleviation the community of Lokaleng need to come together to decide on how are they going to implement it.

Focus group discussion is designed to gather information from the lay people. The main goal in organizing focus group discussion is to investigate concerns, experiences or attitude related to a clearly defined topic. For an example, with focus group discussion the researcher could find out the general feeling of the community about the use of IKS in poverty alleviation. The experience that the community has regarding the topic should be considered. (<http://www.amazon.ca/exec/obidos/ASIN/0803933908>).

The use of focus group discussion provides the participants with an opportunity of learning from each other and perhaps most importantly, to resolve the dilemmas they are confronted with (Bless, 2000).

1.9.4 Data Analysis

Data analysis makes sense of the information that the researcher has collected. The purpose of the data analysis is to bridge the logical gap

between the observations and the conclusion. The analysis of data precisely tries to explain what the findings mean.

It should be noted that the way that one use to analyse data depends highly on what one is trying to achieve with his or her project. Therefore, the most appropriate method for displaying data must be used. Maps, graphs, statistical calculations, and tables are mostly used. In this study graphs and tabled will be used. This is because the methods are very much effective than using words alone, for eg. Tables provide surveyors with a check on the information they will be obtaining and to provide data to survey users in a convenient form (Fink &Kosecoff, 1985).

1.9.5 Limitations of the Study

The researcher encountered problems including, the refusal of the some of the respondents to provide information. Moreover, most of the people who used to be holders of the knowledge were late and the information was not documented.

1.9.6 Ethical Consideration

The community was assured of the confidentiality of the information gathered from them. The community was not compelled to participate in the research study that is the participation was voluntary. In gathering the information the researcher considered the cultural values and norms of the community.

1.9.7 Organisation of the Study

Chapter One

It presents the background, aim and objectives and research methodology of the study.

Chapter Two

Provides, the socio- economic and demographic characteristics of the respondents, the extent of poverty in Lokaleng , and the role of Indigenous Knowledge systems in poverty alleviation.

Chapter Three

Presents the attitudes of the community members in Lokaleng village towards the use of IKS in poverty alleviation.

Chapter Four

Provides with the involvement of government in promotion of IKS of poverty alleviation.

Chapter Five

This chapter presents conclusion and recommendations of the study.

CHAPTER TWO

THE SOCIO- ECONOMIC AND DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

The chapter examines the socio- economic and demographic characteristics of the respondents in terms of age, gender, educational level, etc. This will assist the researcher to have a better understanding of them. It also presents the extent of poverty and the role of IKS in poverty alleviation.

2.1 Age and Gender Distribution

Table 2.1 Percentage Distribution of Age and Gender Distribution

	Male	Female
45-55	10	20
56-66	20	10
67-77	40	20
78-88	10	30
89+	20	20
Total	100	100

Table 2.1 shows number of respondents according to gender who were

interviewed. According to table 2.1 most of the respondents (male and female) were in age group 56 years and above.

2.2 Educational Level of the Respondents

Table 2.2 Percentage Distribution Educational Level of Respondents

Educational level	Male	Female
Tertiary	10	0
Secondary	20	20
Primary	30	20
Informal	40	60
Other	0	0
Total	100	100

According to table 2.2, only males respondents (10) had tertiary education. Female respondents attended informal education where they learned about the use of IKS in poverty alleviation. Informal education refers to education which takes place outside of the formally organized institution. Most typically, the term or phrase non-formal education is used to refer to adult

literacy and continuing education for adults

(www.sil.org/lingualinks/literacy/PrepareForALiteracy

Program/FormalVersusNonfo...).

Table 2.3 Percentage Distribution of the Marital Status of Respondents

Marital status	Male	Female
Married	20	30
Single	40	20
Divorced	10	20
Widow	30	30
Other	-	-
Total	100	100

Table 2.3.shows that most of the female respondents were married (30), and more men (40) were single. It also indicates that equal percentage (30) of both men and women were widows.

2.4 Occupational Level of Respondents

The study also wanted to investigate the occupational level of the respondents. The results are shown on the table 2.4

Table 2.4 Percentage Distribution of the Occupational Level of Respondents

Occupational level	Male	Female
Employed	10	20
Unemployed	30	30
Self-employed	20	30
Pensioners	40	20
<i>Total</i>	<i>100</i>	<i>100</i>

Table 2.4 shows that most of male respondents (40) were pensioners and thirty percent of females were self- employed.

2.5 The Extent of poverty in Lokaleng Village and the Role of IKS in Poverty Alleviation

Poverty in Lokaleng like in other village in the North West Province was high. Most of the community members were unemployed. The majority of them being women. Female headed households had a higher rate of

unemployment than male-headed household's. Women had limited opportunities of acquiring high education and training skills. Interview with the elderly respondents in the village indicated that most of them depended on traditional knowledge for survival, eg. Farming and hunting techniques.

Indigenous knowledge systems as a local science, traditional science, and village science, provide the basis for problem – solving strategies for local communities, especially the poor (Williams, 1991).

In the agricultural sector, the use of Indigenous knowledge system provided food security through the development of complex system which involved factors such as diversity of crops, well disperse plantings, varying fallow, as well as sharing of labour and food production. Most of the foods eaten by Lakaleng community members were cultivated within the Lokaleng. These included maize, tomatoes, potatoes, spinach and beans. Besides sharing of products, there is this common practice of exchanging of production. Besides farming, the community of Lokaleng got food from hunting of wild animals. For firewood they cut down the trees and sell.

As Indigenous knowledge was closely related to subsistence and survival, it provided for local –level decision-making in: food security and human health. This was been supported by Ms Sefako who was a respondent in Lokaleng village. She explained that her family depended entirely on mixed crop farming for survival. She told the researcher that she cultivated a variety of crops to support the family.

However, the idea of food security was only feasible if people had access to land. The idea that the land can be owned, belongs to an individual was something that was new to local people.. For the local people, land is collectively owned by for the entire community

(<http://www.scidev.net/dossier/index.cfm?seaction=dossierfulltxt&Dossier=7>).

According to Ms Sefako , the land which they use for farming is collectively owned by the entire community of Lokaleng. The production that they get thereafter is shared amongst them.

With regard to healing, one of the respondents (traditional healer) in Lokaleng community explained that they used plants and animals for healing. For instance they extracted insulin from pigs for diabetes patients.

This helped in alleviation of poverty because he normally sold the medication to herbal shops to earn an income for his household.

CHAPTER THREE

THE ATTITUDES OF THE RESPONDENT COMMUNITY MEMBERS OF LOKALENG TOWARDS THE USE OF IKS IN POVERTY ALLEVIATION

This chapter examines the view of the community members of Lokaleng towards the use of IKS in alleviation.

Lokaleng village is located in Northwest of Mafikeng in North West Province. Most of the community members of this village are unemployed hence poverty is so high.

3.1 The Indigenous Knowledge and Biodiversity in Lokaleng village

One of the community members of Lokaleng said they (members of the community) are trying so much to preserve the indigenous knowledge more so that this knowledge is being passed from one generation to the next by word of mouth. They preserve their knowledge through for an example,

sending their children to initiation schools, and engaging them in indigenous games.

Regarding their relationship with their biodiversity, Ms Ralephaleng explained that the community members of Lokaleng recognizes their close dependence on biological resources and the benefits that come from using traditional knowledge. Biodiversity produces goods and services. These are clean air, fresh water, food, medicines and shelter. She further said that it provides them with recreational, recreational, psychological and spiritual enjoyment.

Since the local people in traditional communities have lived in harmony with the environment, the local community of Lokaleng is trying so much not to harm nature's capacity to regenerate resources for future use.

3.2 The Attitude of the Community Members of Lokaleng Towards the Use of IKS in Poverty Alleviation

Mr Lethoko who had been practicing crop farming for a long time stated that the fundamental measures of riches in Lokaleng village lied in food

production, and thus, agriculture was considered to be an occupational identity and source of social prestige. He further explained that most of the local farming systems such as mixed cropping provided with food, which are of nutritional value. With regard to live stock farming, one of the stock farmers in Lokaleng said that the animals they owned provided with food, shelter and clothing.

On the issue of water management, river water is not easily manageable. However, according to Mr Rantho, the local community of Lokaleng usually drew water from the river and stored them in tanks and covered it (tank) to avoid pollution. Therefore, such water was used particularly during dry periods.

One of the community members emphasized that the community of Lokaleng village appreciated the use of IKS in poverty alleviation. During the interview Mr Tshepe explained that IKS recognizes what the poor have instead of not have. Therefore IKS in Lokaleng was seen by any poverty alleviation programme as a resource. He further stated that in any program aimed at utilizing IKS in poverty alleviation, the local community of Lokaleng village actively participated because they were the knowledge

bearers of such knowledge (that is Indigenous Knowledge). This helped much in the development of self confidence of the community members of Lokaleng.

3.3 Indigenous Knowledge System and Sustainable Development in Lokaleng Village

She (Ms Ralephaleng) further stated that, since the IKS advocates the participation of members of local community in any project, the community members of Lokaleng appreciated the use of such knowledge in poverty alleviation. They (members of the Lokaleng community) believed that this can bring sustainable development in their area, because they best understand their needs.

In conclusion to discussion, Ms Ralephaleng emphasized that the use of IKS in poverty alleviation helped the community of Lokaleng to preserve their identity.

CHAPTER FOUR

THE INVOLVEMENT OF GOVERNMENT IN PROMOTION OF IKS FOR POVERTY ALLEVIATION IN LOKALENG VILLAGE

Amongst issues discussed in this chapter is the view of community members in the role played by the government in promotion of IKS, particularly in poverty alleviation.

During the apartheid era, in South Africa regime the indigenous knowledge has been marginalized and subjected suppression. The local knowledge acquired through informal education was not considered.

Therefore, this had a negative impact on economic development of the country because even the strategies used for poverty alleviation were top-down strategies. The local community with their local knowledge was not involved, and these (local people) who best understand their environment and their needs.

In South Africa, the publication of the IKS policy brought imperative achievements in terms of engaging indigenous knowledge in poverty alleviation.

4.1 Problems that Restrict Growth of IKS in Lokaleng

Ms Lebakeng, who is a crop farmer, stated her view about the involvement of government in promotion of IKS in poverty alleviation in Lokaleng community. She said that the government provided them with the sites to practice farming so as to alleviate poverty in their area. However, according to her, this was not enough.

She further explained that most of the agricultural projects that the community engaged in were not productive because of the lack of agricultural implements. According to her the most problematic factor is the shortage of water. Most of the farmers in this are relied on rain as the source of water, so during dry period their production is highly affected. They also lack funds to finance IKS related activities and without the funds IKS did not grow as it should be.

One of the community member further explained that because of the problems already mentioned some of the community members no longer took part in farming activity, that is why poverty is high in Lokaleng community.

4.2 Some of the Benefits of Using IKS in Lokaleng Village

Without the input of indigenous knowledge, many valuable medical products used extensively today, would not be used. According to the Traditional Medicine Strategy of the World Health Organisation (WHO), traditional medicines are widely used (IKS POLICY, 2004).

Another interviewee was Mr Orapeleng, who is the traditional doctor in Lokaleng community. According to him traditional healers in South Africa used plants for healing purposes and were the only affordable source of health care, particularly for the world's poorest patients. Indigenous plants such as Aloe, African potato, ginger and garlic were abundant in Lokaleng village. Such plants were used for treatment of diseases such as diabetes, high blood pressure, cancer, to name but a few.

He further explains that since the minister of health at national level promoted the use of indigenous plants for healing of most chronic diseases, most people have started to recognize the importance of this medication. Therefore, people from as far as Lichtenberg are consulting his surgery.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion.

Indigenous knowledge is a local knowledge for local communities.

Indeed the use of indigenous knowledge needs to be recognized. The IKS policy in South Africa promotes the integration of the indigenous knowledge into environmental education. This bring the benefits of helping to save the indigenous knowledge, encouraging teachers and students to gain enhanced respect for local culture, its wisdom and its environmental ethics. Moreover, the policy assured the recognition of IKS and its contribution to poverty alleviation particularly in rural communities. However, the government still faces the challenge of ensuring the documentation of IKS.

Indigenous knowledge provides the basis for problem – solving strategies for local communities, especially the poor. This is because IKS is owned by and provide services to people who are very much prone to unemployment. Therefore, consideration should be given to the role that IKS can play in creation of employment.

5.2 Recommendations

After the investigations the following recommendations are made:

- ❖ Since water is a priority particularly in farming projects, the community of Lokaleng need to be supplied with sufficient water system.
- ❖ The financing of IKS activities is crucial for the growth of the economy therefore, the government must ensure that rural communities like Lokaleng be provided with funds.
- ❖ Youths should also be encourage to take part in cultural activities such as poetry and dancing . This will help in promotion of the indigenous knowledge and poverty alleviation particularly if they are taking part in annual cultural festivals such as Taung calabash and Macufe in Bloemfotein.
- ❖ Sufficient attention need to be given to local knowledge within the mainstream of agricultural development and environmental management.
- ❖ Lastly, the government, should note that through both nonformal and formal agricultural education programs and curricula, IKS

need to contribute to the study of sustainable agriculture. Therefore, inservice training training programs can provide opportunities for making professionals conscious of IKS and its contribution to poverty alleviation.

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APPENDICS I

A PLACE WHERE THE LOCAL COMMUNITY OF LOKALENG ATTEND MEETINGS



ALOE PLANT IN LOKALNE VILLAGE



APPENDICS II

THE COMMUNITY MEMBERS OF LOKALENG PREPARES THE LAND FOR CULTIVATION



POVERTY FORCES FARMER TO ENGAGE IN ENVIRONMENTALLY UNSUSTAINABLE PRACTICES LIKE DEFORESTATION AND OVERGRAZING



THE CULTIVATED LAND IN LOKALENG VILLAGE



QUESTIONNAIRE

INSTRUCTION TO RESPONDENTS:

Put a cross (X) on the most appropriate answer

1. DEMOGRAPHIC INFORMATION

1.1 Age: 45- 55 () 55-65 () 65-75 () 75- 85 () 85+ ()

1.2 Gender: Male () Female ()

1.3.Educational Level : Tertiary () Matric (), any other ,specify

1.4 Occupational level : Employed () Unemployed () Self- employed ()

2.What is the main source of food in your community?

Farming () Hunting () Forestry()

2.What is the extent of poverty in Lokaleng community?

Very high () High () Low () Very low ()

3. What are your attitudes towards the use of local knowledge for eg in health care and food security?

Very good () good () poor () Very poor ()

5. How is the use of traditional medicine for healing in Lokaleng community?

Very high () high () average () low ()

6. What local knowledge system in Lokaleng community is used for preservation of the land?

Monoculture () Mixed cropping () Shifting cultivation () Gardening ()

7. Which farming is mostly practiced in your community?

Crop farming () Livestock farming () Aquaculture ()

8. How is the use of local knowledge in conservation, management and utilization of natural resources in Lokaleng community?

Very good () Satisfactory () good () poor ()