

PERCEPTIONS OF LECTURERS IN THE FACULTIES OF EDUCATION AND  
AGRICULTURAL AND NATURAL RESOURCES AT THE UNIVERSITY OF  
NAMIBIA TOWARDS PROSPECTS AND CHALLENGES OF INTEGRATING  
INDIGENOUS KNOWLEDGE (IK) INTO THE UNIVERSITY CURRICULA

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR  
THE MASTER DEGREE IN EDUCATION (ADULT EDUCATION)

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BY

Grace MusangaMukumboChinsebu (200322125)

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Supervisor: Dr. M. Hamunyela

## **ABSTRACT**

The study set out to analyse the perceptions of lecturers of the faculties of Education, Agriculture and Natural Resources at the University of Namibia towards the prospects and challenges of integrating Indigenous Knowledge into the university curricula. Convenience sampling was used to select the respondents, and the study was descriptive in nature. The findings of the study indicated that 27.0% of the lecturers equated IK to community and cultural knowledge. Majority (81.1%) of the lecturers supported the inclusion of IK into the curricula. Similarly, the perceptions on the type of content reviewed that many lecturers opted for traditional medicine and traditional education.

Lecturers perceived that the integration of IK into the university curricula should be done through research, policy formulation, introduction a degree programme on IK, and infusion of IK into the already existing curricula. The mechanisms for preserving IK were documentation and informal education. Prospects of integrating IK into the curricula were very high. However, the challenges of integrating IK into the curricula included the following: unskilled person-power, lack of documentation, non-scientific nature of IK, and different cultural backgrounds. The results of this study make a strong case for the teaching and learning of IK at the University of Namibia. The University of Namibia should either integrate IK into existing curricula or implement new IK degree programme and courses.

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## **LIST OF ABBREVIATIONS/ACRONYMS**

IK – Indigenous Knowledge

IKS – Indigenous Knowledge Systems

MRC – Multidisciplinary Research Centre

NEPAD - New Partnership for Africa's Development

UNESCO – United Nations Educational, Scientific and Cultural Organization

WHO – World Health Organisation

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## **DEDICATION**

This thesis is dedicated to my husband Kazhila and our two lovely daughters Wana and Lusa.

Thank you so much for your support, encouraging words, and understanding during the time I was writing this thesis. May God bless you.

## **DECLARATIONS**

I, Grace M. Mukumbo Musanga Chinsebu, declare that this study is a true reflection of my own research, and that this work, or part thereof has not been submitted for a degree in any other institutions of higher education.

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Grace Musanga Mukumbo Chinsebu

April 2013

# **1. INTRODUCTION**

## **1.1 Orientation to the study**

The study investigated the perceptions of lecturers in the faculties of Education and Agriculture and Natural Resources at the University of Namibia towards prospects challenges and of integrating Indigenous Knowledge (IK) into the university curricula.

The concept of IK has recently emerged more prominently in the scholarly literature and conferences (Warren, 1990). According to Burger (1990), IK refers to the knowledge and practices which accumulated over years and used by the first or natives of a given territory before the intrusion of other cultures. He further states that such knowledge would normally be based on the indigenous peoples' interaction with their physical environment, including fauna and flora, and interaction between themselves and the interaction with their super-natural world. Such interactions would therefore provide them with knowledge and skills about their environment, customs and traditions on how to run their community. Interactions would also provide indigenous people with understanding of super-natural beliefs on how to relate with the super-natural world.

Indigenous Knowledge is often referred to as indigenous wisdom, as it is a result of human observation of patterns happening in nature and society. This knowledge is transmitted through narratives that are told from the heart and in voices of the indigenous people themselves (Burger, 1990). According to Burger (1990), there are about two hundred and fifty million indigenous peoples in the world, making about 4% of the worlds' population, but this could be seen in a larger context because all accumulated knowledge and practices in a place over many centuries should be considered as IK. The most important element in the study of IK is that such knowledge is based on the principle that land is the backbone of knowledge and livelihood, a source of life, history, spirituality, dreaming and teaching (Warren, 1991).

In Africa, IK is accumulated wisdom that people use to carry out their socio-economic life, their social interactions, their spiritual connections, their healing rituals and their life aspirations (Burger, 1990). There is a close relationship between the people, the land and the super-natural world represented by the ancestors and the whole creation. This perception is vivid in many of the African languages, not only in the content of their vocabularies but also some of the structural realities such as the nature-based noun class system.

According to Muya (2006), in traditional African societies, children acquire their IK through their constant interaction with both the adult world and the physical environment around them. This knowledge includes the understanding of ecological systems, the methods of exploitation, the physical environment without depleting or significantly damaging it, the acquisition of skills in the use of the various tools and devices, the familiarisation with the customs and practices of the relevant society, the coming to grips with their societal values or beliefs, and the formation of a world view that reflects the experiences of the society in which they live.

Le Roux (2000) alluded that this traditional mode of linguistic, cultural and nature-based knowledge has been affected in recent years by the reduced bio-cultural diversity and the adoption of western-based life-styles in most African societies. He further stated that there is a reduced contact between nature and children, even in their home environment, due to the new trends in the lifestyles of most African societies. As a result of their lack of contact with nature and cultural environments, younger generations are rapidly losing their competencies in African IK. At the same time, they are losing interest in their cultural backgrounds and traditions because their current lives are focused on the western-oriented school system, urban living, and the Internet.

Indigenous knowledge is the local knowledge that is unique to a given culture or society. It is a basis for local-level decision-making in agriculture, health-care, food preparation,

education, conflict resolution, natural resource management, environmental problems and other activities in local communities (Warren, 1991). Others have stated Rajasekan, Warren and Babu (1990), that IK is a systematic body of knowledge acquired by local people through accumulation of informal experiences and intimate understanding of the environment in a given culture. The same author argued that IK refers to the knowledge, innovations and practices of indigenous people and local communities that represent traditional lifestyles as well as indigenous traditional technologies. The main characteristic of such knowledge is that it is held collectively by community members and is largely undocumented, hence transmitted orally from one generation to another (Kalua, Awoteldu, Kamwanja & Saka, 2009).

According to Rajasekan and Warren (1993), Africa has a relatively rich body of indigenous knowledge. Here, African IK has been used for thousands of years to solve specific developmental programs including fighting human and livestock diseases, and stemming environmental degradation. However, Rajasekan *et al.* (1993) voiced concern that despite the contributions and importance of IK, it has not been adequately promoted and protected in most African countries because most western-educated people believe it is unscientific.

Institutions that are supposed to safeguard the rights of IK holders are weak in most African countries. Indeed, Rajasekan, Warren and Babu (1990) agreed that there are weak links between the formal institutions and local communities that hold and use IK. This has denied Africans the opportunity to better understand and use their IK base. However, African leaders are now recognizing the importance of protecting and promoting IK in order to solve specific problems and improve the continent's economies. Muya (2006) stated that culture is an integral part of development. Given this understanding, it is essential to protect and nurture all tradition-based innovations and creations.

Studies conducted in South Africa for the New Partnership for Africa's Development (NEPAD) reveal that the majority of people in Africa, especially the poor, depend on IK for survival (Muya, 2006). The World Health Organisation (2000) further showed that IK contributes to problem solving strategies for local communities, helps the poor meet their food requirements, and offers opportunities for strengthening local experiences, judgements and practices.

Recent research conducted in sub-Saharan Africa shows that nearly 65% of the poor in this region depend on knowledge of traditional medicine and food for their basic health care needs (Kaya & Materechera, 2007). A World Bank (2004) show that in most African countries, traditional medicine is used by nearly 70-80% of the local populations to deal with their basic health care needs. There is scientific evidence to support that over 120 pharmaceutical products are derived from plants, and 74% were first utilised by indigenous cultures (World Bank, 2004).

For example, the San people of southern Africa have for many centuries used the *Hoodia* plant as an appetite suppressant, especially during hunting expeditions where little food is available for many days (Rodolo, 2007). Following the San people's ethnomedicinal knowledge of the plant, a British Biotech Company, Phytopharm, confirmed the appetite-suppressing properties of *Hoodia* (Rodolo, 2007). Phytopharm makes huge profits by selling *Hoodia* tablets without paying the San people, the original IK holders of the appetite-suppressing properties of plant (Roodia, 2007).

According to World Bank (2004), the National Institute for Pharmaceutical Research and Development, Abuja, Nigeria conducted scientific and clinical investigation on the use of standardized herbal extract for treating sickle-cell disorder. The herbal medicine called Niprisan showed very good efficacy and safety profiles such that it was subsequently licensed

to an American company for multiplication. These examples highlight the importance of IK in health care.

According to Kimenyi (2003), conventional curricula and achievement tests in many countries do not support learners' IK base. Learning environments need to be adapted to help students build on their community knowledge because learning based on IK would encourage students to learn from their parents, grandparents and other adults; by so doing, students will appreciate and respect their community knowledge. Such a relationship between the young and the older generations could help to mitigate the generation gap and help develop inter-generational harmony (Muya, 2006).

According to Kalua *et al.* (2009), the dominance of western knowledge systems has led to the marginalisation of African indigenous knowledge systems in the search for sustainable solutions to development and poverty eradication. Yet currently, there is an increasing interest and realization among policy makers, researchers, and academics that any developmental strategy which is not based on local experiences, knowledge and culture will not be sustainable (World Bank, 1998). However, one of the major challenges facing the promotion of IK for sustainable development is the lack of trained person-power. It is argued that, in order to meet this challenge, IK should be integrated into educational curricula.

Seleti (2007) stated that indigenous people have broad knowledge of how to live sustainably. He contended that formal education systems have disrupted the practical everyday life aspects of IK and ways of learning, replacing them with abstract knowledge and academic ways of learning. He also bemoaned that there is a grave risk that much of the IK is being lost because it is not documented. According to Kalua *et al.* (2009), there are pertinent issues with regard to the management of IK systems in Africa, and one of them is the threat of IK

becoming extinct. As it has been revealed earlier, most IK practices are not in written form. The knowledge is transmitted orally from one generation to the next (Kimenya, 2003).

Among the leading factors that explain the possible extinction of IK is the fact that concentration has been on IK that has direct cash-value, ignoring the non-cash knowledge. In the area of research for example, attempts have been made to research on medicinal plants, since such initiatives lead to the discovery of new drugs that can be sold by multinational pharmaceutical industries. However, not much has been done in areas such as traditional dances, rituals, language, as these areas do not contribute directly to cash productivity (Kalua et al., 2009).

Yet, Kalua *et al.* (2009) indicated that IK can act as a powerful tool in the learning environment to teach students, because teaching students base on IK increases students schemas to grasp material taught to them. In addition, when students find relevance in the material they are learning, they are more apt to retain information (Kalua *et al.*, 2009). Johnson (1992) also suggested that since IK is stored in various forms such as traditions, customs, folk stories, legends, proverbs and natural resources management. The use of these cultural items as resources in schools can be effective in bringing IK to students.

Evidence from the reviewed literature indicates that although IK is readily shared among members within a community, sharing across communities is limited (Muya, 2006). Further, since IK is predominantly tacit or embedded in practices and experiences, it is mostly exchanged through personal communication and demonstration. Thus, the process of recording, transferring and disseminating this form of knowledge is still a challenge (World Bank, 2004).

Correa (2000) emphasizes that local, regional and international institutions have important roles to play in facilitating the effective and sustainable use of IK. African governments should develop policies and appropriate legislative frameworks to protect and support IK.

The researcher supports recommendations from Correa (2000) which suggest that some of the best ways to sustain IK are: streamlining IK into formal education systems at all levels, creating appropriate benefit-sharing mechanisms, and developing correct regimes of intellectual property rights. Based on Correa's (2000) recommendations, the researcher strongly believed that one way to sustain or preserve IK in Namibia for sustainable development is to integrate it into the University of Namibia curricula.

## **1.2. Statement of the problem**

Despite the importance of IK, there have been few attempts by formal educational systems to integrate IK into educational curricula (Muya, 2006). IK should be integrated into the educational curricula, in order to capture the ideas before the few people that possess the knowledge may die with it. However, according to Ohenja (2006), some South African universities such as Venda, Zululand, and the North-West have integrated IK into their curricula through the introduction of Bachelor of IK degree programmes. Whilst educational and development agencies hailed the South African Bachelor's degree in IK, the concept of teaching IK at the University of Namibia has not yet been explored.

Be that as it may, a study on the role of customary law in biodiversity management clearly showed that the management of natural resources in different communities all over Namibia was dependent on IK (Hinz & Ruppel, 2008). That study did not, however, investigate how IK could be integrated into educational curricula. An analysis conducted by the researcher found that the revised curricula in the Faculty of Education did not include IK content. It was not clear whether academic staff in the Faculty of Education was unaware of the IK content available for integration into the degree programmes, or whether they did not understand the different approaches of how to integrate IK into the curricula.

However, a review of the literature showed that some IK had been integrated into the curricula for the Faculty of Agriculture and Natural Resources at the Ogongo campus. For instance, the Department of Integrated Environmental Science at Ogongo campus conducted research on traditional propagation methods aimed at improving the husbandry and yields of indigenous fruit trees ([www.unam.na](http://www.unam.na), accessed 20th June 2010). But, there was no evidence that IK had been integrated into the different modules taught to students.

In both the Faculties of Education, and Agriculture and Natural Resources, the situation was compounded by the lack of empirical data pertaining to the lecturers' perceptions and understandings of IK. The prospects and challenges of integrating IK into the university curricula were also unknown. The purpose of this study was to ascertain the lecturers' perceptions to IK, IK content, integration approaches, and prospects/challenges of integrating IK into the curricula for the Faculties of Education (main campus), and Agriculture and Natural Resources (Neudam and Ogongo campuses) at the University of Namibia.

### **1.3. Research questions**

Research questions of the study must clearly reflect all aspects contained in the statement of the problem (Monette, 1998). The answering of the research questions results in answering the statement of the problem. With respect to the Faculties of Education, and Agriculture and Natural Resources, the following research questions guided the study:

1. What are the perceptions of the lecturers towards the integration of IK into the university curricula?
  - 1.1 What type of IK content could be integrated into the curricula?
  - 1.2 How can IK be integrated into the curricula?
  - 1.3 What are the prospects of integrating IK into the curricula?
  - 1.4 What are the challenges of integrating IK into the curricula?

#### **1.4 Significance of the study**

There is no doubt that IK is very important in the development process. That is why today, more efforts are devoted towards documenting it before it disappears. However, much still remains to be done to document IK. Since IK is largely undocumented, it is not readily available for use in development efforts. Indigenous Knowledge is also increasingly disappearing with the death of older people who are the bearers and libraries of IK. Therefore measures should be adopted for documentation and this can be done through the integration of IK into the educational curricula. The views that will be sought by the study among the lecturers in the Faculties of Education and Agriculture and Natural Resources at the University of Namibia will help develop a framework on how IK will be brought on board into the curricula.

The results from the study might enable the faculties of Education and Agriculture and Natural Resources (Neudam and Ogongo) at the University of Namibia to act as agencies for transferring some of the IK inherent in Namibian society from one generation to the next through formal education. This study aims to contribute to the dissemination of IK by integrating it into educational curricula. The outcome from the study might also create a relationship between the younger and older generations; this may help mitigate the generational gap and help develop intergenerational harmony. The study might benefit the local people to get an opportunity to participate in curriculum development, and this could form a platform for empowerment of the local people, which may improve their quality of life.

The findings from this study will form first-hand information with regard to embracing IK in the university. This might encourage academic staff and students to gain enhanced respect for local culture, its wisdom and its ethics, and provide ways of teaching and learning locally-

relevant knowledge and skills. Thus, recommendations from the study may help form a framework to sustain IK in Namibia and beyond.

### **1.5 Limitations of the study**

A limitation refers to “something that limits [restricts] how good or effective someone or something can be” (Longman Active Study Dictionary, 2004: 431). In this study, limitations address the restrictions within the study which made the study difficult to be totally effective. In other words, limitations are aspects that made the study challenging, or had an influence on the accuracy of and the ability to generalize the findings. In the opinion of the researcher, the limitations of this study included the following:

In Namibia, not much research has been carried out in the area of this study. This limited the researcher with regard to literature. Due to practical reasons, it was not feasible to undertake the study in all the eight faculties of the University, because it would have been too wide, time consuming and expensive. Hence, the study was only conducted among the lecturers in two faculties only: Education (main campus and, Agriculture and Natural Resources (Neudam and Ogongo campuses). The researcher limited the study faculty of Agriculture and Natural Resources because some IK had been integrated into the curricula at the Ogongo campus. Further the researcher limited the study in the faculty of Education because the researcher is a student from the faculty of Education.

This study was limited in the fact that only the lectures that were available at the time the interviews/questionnaires were conducted took part in the study. Participants were chosen based solely on the convenience method, in this way results are not generalizable.

Given that the sample was relatively small, there was a possibility that the responses which were obtained from the Faculties of Education and Agriculture and Natural Resources were

not reflective of a broader range of all the lecturers in the university. Hence, it was difficult to generalise the findings to all the lecturers in the university of Namibia.

Furthermore, the researcher initially intended to use a tape recorder during the interviews, but the respondents did not want the interview to be recorded; this made the interviews very slow as the researcher had to write down all the points. This also affected the data collected because the data was not as accurate compared to if it was recorded.

Initially, the researcher intended to have forty respondents but the number reduced to thirty-seven because some questionnaires were not returned to the researcher.

## **1.6 Summary**

The aim of this chapter was to introduce the reader to the study. The chapter also presented the statement of the problem, research questions and the significance of the study. The limitations and delimitations of the study were also mentioned. The following chapter will delve into the pertinent literature of the study.



## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

De vos (2005) states that a literature review must be done in order to measure new-found research against current literature concerning the same topic. This chapter includes the many dimensions and aspects embedded in the research topic. These include the meaning of IK, importance of IK, integrating IK into the formal education system, uses of IK in Namibia, prospects of integrating IK into the university curricula as well as the challenges of preservation of IK. This was done by incorporating theoretical background, as well as defining relevant and important concepts from current literature. In this chapter the constructivism theory will be explored to gain further insight and to contextualise the study. However, it is important to note that all of the above concepts and frameworks are discussed in relation to IK.

#### **2.2 Meaning of indigenous knowledge**

IK is unique to a given culture or society. It forms part of agriculture, health care, food preparation, education, environmental conservation and a host of other activities (Warren, 1987). Much of this knowledge is passed down from generation to generation, usually by word of mouth because it is usually not documented (Rajasakeran, 1992). IK is dynamic, changing through local mechanisms of creativity and innovativeness as well as through contact with other traditional and international knowledge systems (Warren, 1991). IK systems may appear simple to outsiders but they represent mechanisms to ensure minimal livelihood of the local people.

IK systems are often elaborate and they are adapted to the local cultural environment and conditions (Warren, 1991). According to Pretty and Sandrook (1991), IK systems are tuned to

the needs of the local people and the quality and quantity of available resources. They pertain to various cultural norms and social roles or physical conditions. Their efficiency lies in the capacity to adapt to the changing circumstances.

IK can be defined as a set of perceptions, information, and behaviors that guide local community members' uses of land and natural resources; therefore, it is created and sustained by local community members as a means to meet their needs for food, shelter, health, spirituality, and savings (Burger, 1990). IK is usually adapted and specific to local ecological conditions and to the community's socio-economic situations and cultural beliefs (Piso, 2008).

IK can be simple or complex. But it is not static, because it evolves in response to changing ecological, economic, and socio-political circumstances, based on the creativity and innovation of community members, and as a result of the influence of other cultures and outside technologies (World Bank, 2000). IK reflects a set of resource-use strategies that may be sustainable in certain contexts and therefore can help promote biodiversity conservation by characterizing resource uses that are appropriate for the particular local landscape. Piso (2008) stresses that incorporating IK into conservation and development activities is believed to be an important mechanism for ensuring its sustainability.

### **2.3 Importance of Indigenous Knowledge**

Evidence from the literature has shown that IK is particularly important to modern environmental management. According to Hall, Sefa, and Rosenberg (2000), indigenous cultures usually live in a particular bioregion for many generations; thus they have learned how to live there sustainably. These same authors noted that in modern times, this ability

often puts truly indigenous cultures in a unique position of understanding the interrelationships, needs, resources, and dangers of their bioregion. However, they cautioned that this is not true of indigenous cultures that have been eroded through colonialism, genocide, or that have been displaced.

The promotion of indigenous methods of education and the inclusion of IK also enables those in the western and post-colonial societies to re-evaluate the inherent hierarchy of knowledge systems. Indigenous Knowledge Systems (IKS) were historically denigrated by western educators; however, there is a current shift towards recognizing the value of IKS (Semali & Kincheloe, 1999). They further added that the inclusion of different aspects of indigenous education requires us to acknowledge the existence of multiple forms of knowledge rather than one standard benchmark system.

Many scholars in the field assert that indigenous education and knowledge has a transformative power for indigenous communities that can be used to foster empowerment and justice. The shift to recognizing indigenous models of education as legitimate forms is therefore important in the ongoing effort for indigenous rights on the global scale (World Indigenous Nations Higher Education, accessed 8 April 2012).

IKS provide the basis for grassroots decision-making. Posey (1995) argued that indigenous ecological zones, natural resources, agriculture, aquaculture, forest and game management was far more sophisticated than previously assumed. Posey further stated that IK offers new models for development that are both ecologically and socially sound. Posey (1995) further alludes that it is a well known fact that development activities that work with and through IKS have several important advantages over projects that operate outside them.

One such classic example is the shift from 'green revolution' monoculture to indigenous multi-cropping or mixed cropping systems (Obomswain, 1988). According to Obomswain (1988), the characteristics of traditional polycultures that make them desirable were ignored

by agricultural researchers in developed and developing countries. Research concerning polycultures has blossomed and some of their benefits are becoming clear. Indigenous multi-cropping or mixed cropping systems have many sustainable characteristics such as diet diversity, diversified income generation, production stability, minimization of risk, low incidences of pest and diseases, efficient use of labor, intensification of production with limited natural resources and maximization of returns under low level of technology (Obomswain, 1988; Posey, 1995).

According to Eyford (1990), the value of IK is not only limited to agriculture, environment and biodiversity. IK has an immense value in education and medicine as well. Indigenous peoples' traditional framework of education is a balanced and complementary model acceptable to the local community. It leads to the development of a whole person in a dynamic family and community context. It incorporates principles of holism, integration, respect for the spiritual and natural world order and balance. On an individual scale, IK encompasses total preparation of the whole person for living a complete life (Obomswain, 1988).

In fact, some education experts realized the value of holistic nature of indigenous education systems and introduced the same into modern education systems with a title called "affective learning" (Eyford, 1990). The concept of affective learning is to follow a holistic approach to develop character, conscience, attitudes and moral values. According to Eyford (1990), affective learning contains the forces that determine the nature of an individual's life and ultimately the life of an entire people. Neglect of affective learning has contributed to escalating crime, drug dependency, and family social breakdown in the west (Eyford, 1990).

Here, the researcher concurs with Ntuli (2002) that indigenous knowledge systems are a counter-hegemonic discourse in the context of the African Renaissance. Ntuli defines the African Renaissance as a rebirth or renewal to overcome Africa's current challenges and

problems. This, according to Ntuli, “requires of us to re-examine our knowledge systems anew, with a view to extracting some lessons from our past to distill what can be used at this current moment and what has to be jettisoned” (Ntuli, 2002, p. 54).

From the reviewed literature, it cannot be over-emphasized that there is much to learn from the IKS of local people. Therefore, all the academics, policy makers and planners should treasure this invaluable knowledge that is threatened with extinction.

#### **2.4 Integrating indigenous knowledge into formal education**

Evidence from the reviewed literature indicates that despite the importance of IK, there not many programmes designed to collect, document, develop and disseminate such knowledge. Thus, Kitula (2007) voiced concern that there have been few attempts by formal educational systems to integrate IK into educational curricula. Muya (2006) also observed that conventional curricula and achievement tests in many countries do not support students’ learning based on their IK. This is despite the fact that IK can act as a powerful tool in the teaching and learning environments.

According to Kaya and Materechera (2009), integration of IK into the educational curricula will ensure that the value and importance of IK is understood and appreciated among learners who will be equipped with necessary intellectual and research tools to recognise, conserve and develop IK. However, in South Africa, the Universities of Venda, Zululand and North-West have shown how to integrate IK into their educational systems and Bachelor of IK degrees have been introduced (Kaya *et al.*, 2009). Additionally the National IKS policy was adopted in 2004 and the policy mandated the Department of Science and Technology to establish a National Indigenous Knowledge Systems Office. Its strategic objective was to co-ordinate the South African Research Agenda on IKS within the Department of Science and technology and through out the country (Munya, 2006). As a result, the University of

Zululand (unizulu) and the Department of Science and Technology established IKS documentation centre at the University of Zululand. According to Munya (2006) the documentation centre was established as a vehicle through which indigenous knowledge wealth located in various communities can be captured and stored. Munya points out the following as the objectives the of the documentation centre which includes:

Mobilising resources in order to realise the goals and objectives IKS; integrate IKs in the research agenda of the university; enhance the partnership between the university and the community with regard to IKS; explore collaborative activities particularly within the continent of Africa.

While the focus is on South Africa, it could be suggested that some of the ideas discussed are relevant to Namibia. If IKS is to be captured from various communities, the University of Namibia should establish a documentation centre which should work in close collaboration with rural communities. Learning environments however, need to be adapted to help students build on their IK and thus recognise the students' culture and value systems. Educators can further this type of education by combining appropriate pedagogical techniques.

Overall, it is imperative for educators to recognise the various forms of IK that students bring with them to the school learning environments; this will serve as a stepping-stone to help students succeed academically. According to Piso (2008), there are different forms of knowledge students gain from living and working in their communities and homes or from other local activities. Educational research on forms of learning has shown that teaching supported by prior knowledge increases students' ability to form schemas and grasp material taught to them ( Rodolo, 2007).

Integrating IK into the learning environments can also help students feel a sense of ownership of the knowledge they bring to the learning environments. For example, in the pedagogy of the oppressed, Freire suggests that allowing learners to have ownership of their knowledge is

equivalent to respecting their culture, tradition, and identity (Freire, 1970). He further warned that educators should avoid the misconception that learners are ‘empty vessels’- the education goal of ‘deposit-making’. When education is taught merely as ‘banking’ information, learners do not have the opportunity to understand the relevance and meaning of the knowledge they are being taught (Freire, 1970).

Furthermore, educators should use student’s prior knowledge as a foundation to build on and teach new concepts. This process, according to Fasokun, Katahoire and Oduaran (2005) is known as constructivist learning. This type of learning creates a systematic process that allows students to slowly grasp the concepts accurately.

On the other hand, Sillitoe (1998) argued that the incorporation of IK into the university curricula at a larger scale should not only depend on the attitude of the African governments but also on the results of further research into the characteristic features of indigenous cultures and knowledge systems. Sillitoe pointed out that while the potential of IK has been grossly under-utilised in the past, the contributions of indigenous culture and knowledge systems in relation to sustainability and development should not lead to the temptation “to overvalue our heritage”, because we should bear in mind that IK “can be less systematic than scientific knowledge” (Sillitoe, 1998). Sillitoe also advised that “we need to guard against any romantic tendency to idealise IK. It may be inadequate, especially in situations of rapid change” (Sillitoe, 1998, p. 227).

## **2.5 Uses of indigenous knowledge in Namibia**

Indigenous plants have multiple uses and functions. For example, they are used as medicines, food, shade, energy, construction, etc. A growing wave of action in the region is that of identifying useful plants from communities and bringing them under domestic cultivation. These include fruit trees, oilseed, medicinal, and indigenous vegetables (Du Plessis, 2004).

Wild indigenous vegetables are now considered as the 'crops of the future'. Indigenous plants that act as antidotes to snake bites are also of great national and international interest.

One other important function for which indigenous knowledge is very important is in recognizing (and even use of) poisonous plants. This is very important for animal and human health. There are many poisonous plants in Namibia, many of which are yet to be examined. Communities realize that plants growing on different soils may have different toxicity, and that toxicity also varies with the organ of the plant (Von Koenen, 2001).

The San communities use a variety of poisons on their arrows to kill animals during hunting. Some of the poisons are, however, not derived from plants but animals, (e.g. they use a highly effective poison derived from the pupal cases of certain beetles which are often host-specific) (Leffers (2003). Preparation of arrow poison is highly complex, with many variations regarding additives (Story, 1958).

A large proportion of the literature deals with the use of IK in identification, harvesting and processing of food plants. Local communities still heavily depend on wild (natural) plants for food but sometimes get supplements from the 'unnatural' sectors. In Tsumkwe, Leffers (2003) reported that hardly any member of the San community depends on hunting and gathering alone because they also raise livestock. Many indigenous plants are also eaten as fruits, seeds, leaves, roots, gum, flowers, stalks, stems, rhizomes, corms and bulbs. Leffers (2003) stressed that the San collect different plants in various seasons, yet in the dry season, the San people's knowledge and uses of plants that can provide water are amongst the peculiarities and special adaptations that make life in the Kalahari desert possible.

The Topnaar people in Namibia are considered one of the most marginalized and remote people in the world. The !nara plant is one of the most important bush foods in the Namib Desert, used by the Topnaars for their nutritional, medicinal and agricultural needs. A melon-like fruit that has provided a livelihood to these people for generations, the !nara plant is

considered to be the foster mother of these people. However, the !nara is under threat and the !nara fields have decreased. According to a World Bank (2009) case study conducted among the Topnaar people, the destruction of IK is not necessarily always from outside the traditional communities alone but is sometimes attributed to the same indigenous communities that development workers are concerned about.

One notable research project in the Faculty of Agriculture and Natural Resources at the University of Namibia is investigating indigenous strategies for livestock rearing (NEPA, 2010). By interviewing IK holders, researchers have documented poisonous plants that harm animals when they graze, especially during the dry season when non-poisonous plants have actually dried up and domestic animals do not have access to plants they would normally eat.

## **2.6 Prospects of integrating Indigenous Knowledge into the educational curricula.**

According to Nakashima and Rou'e (2002), there is a growing recognition of the value of IK for sustainable development. It should, therefore, be wise not only to sustain IK in traditional communities but also to integrate it into the school curriculum. There are several ways in which IK can help enhance the curriculum. For instance, students can learn from fieldwork in local areas; this will call for some prior knowledge and understanding. To be able to understand the relationship between indigenous people, soils, and plants, students need to identify the plants and soil types in the local area. One way to get a preliminary knowledge of plants and soil types in the local environment is to consult indigenous people and invite them to teach students in the field (Nakashima *et.al.*, 2002).

The teaching principle of the “known to the unknown” should be adapted if education is to be effective, Therefore, it is imperative to start with knowledge of the local area that students are familiar with, and gradually move to the knowledge pertaining to regional, national and

global environments. IK can play a significant role in education about the local area. Muya (2006) posited that in most societies, indigenous people have developed enormous volumes of knowledge over centuries by directly interacting with their local environment. This ready-made knowledge system may easily be used in formal education as long as appropriate measures are taken to tap it from the memories of the local people.

For indigenous learners and instructors, the inclusion of IK into schools often enhances educational effectiveness by providing an education that adheres to an indigenous person's own inherent perspectives, experiences, language, and customs. IK makes it easier for children to transmit into the realm of adulthood. For non-indigenous students and teachers, such education often has the effect of raising awareness of individual and collective traditions surrounding indigenous communities and peoples, thereby promoting greater respect for and appreciation of various cultural realities. Suffice to state that, in terms of educational content, the inclusion of IK into instructional materials such as textbooks enriches the preparation of students for the greater world.

## **2.7 Challenges of integrating Indigenous Knowledge into Education**

There are numerous practical challenges to implement indigenous knowledge into education. According to May and Aikman (2003), incorporating IK into formal western education models can prove to be difficult. However, the discourse surrounding indigenous education and knowledge suggests that integrating IK content into formal schooling is an on-going process of cultural negotiation and compromise.

As highlighted earlier, IK has been practiced in Africa since time immemorial. With the advent of globalization whereby countries of the world are now open and connected in all spheres of life, there are a number of challenges with regard to the preservation of African IK. One of such challenges, according to Johnson (1992), is the ownership of research

findings or discovery. To illustrate this point, Johnson asked: if research on IK is conducted in a certain remote village in Africa, with information provided by the villagers themselves as respondents, then who owns the findings of that research or any ensuing innovation for that matter?

The tendency has been that researcher's conduct research and after data collection, they are not seen any more. The ownership remains to the researcher who patents the findings. Johnson (1992) voiced a concern that the indigenous people are only used to generate data and have no knowledge of the outcome of the data they divulge. If the innovation that comes out of the research findings is say a resource with economic value, then it is patented by the researcher without involving the respondents. This issue is a great challenge in the preservation of IK. This challenge not only highlights the fact that IK is under the constant threat of bio-piracy but also talks to the lack of national laws that ensure that researchers enter into benefit-sharing agreements with holders of the IK.

Seleti (1997) stressed that Africa is very rich in IK; hence protection of Africa's IK is currently a topical issue. However, he lamented that there is less appreciation of IK today than it used to be in the past because western knowledge has taken over the education system. The idea above is further emphasized in Kimenyi (2003), anyone practicing IK as a means to solve problems such as local medical technology is looked down as outdated and considered as primitive. The western medical technology has taken over. The issue therefore is how to ensure that IK is integrated in the world knowledge system for its survival.

As pointed out earlier, most of the IK is not in written form, it is mainly transmitted orally from one generation to the next. This makes it difficult to preserve (Kaya et al., 2009). According to Nuar (2001), not many research studies have been conducted on IK and findings documented. It is therefore difficult to obtain the knowledge and incorporate it into

an educational curricula, even the development and subsequent improvement of the knowledge is apparently difficult. Thus, Kimenyi (2003), observed that IK is not known by development professions, because today it is only in the memory of local groups in the remote areas. It is highly fragmented, dispersed and not always documented. Thus, such knowledge is increasingly lost with each succeeding generation, because the younger generation may not be prepared to adapt IK systems which have been practiced by their ancestors. Indigenous Knowledge is being forgotten as its place is taken by modern technology and education; it is also often condemned by many claiming that it is not scientific (Kimenyi, 2003). Indigenous technologies according to Convin et al. (1997), are in some cases, less effective and incapable of dealing with modern problems. He further notes that, all people who are already accustomed to modern technologies which are more comfortable are unlikely to return to Indigenous technologies

Another challenge with regard to IK is that owing to its local environmentally specific in nature, IK has traditionally not been viewed in the business sense as 'capital'. It has tended to be exclusive at times, susceptible to suspicion, and its use has been abused (Kanika & Mphahlele, 2002). Thus, IK has not effectively been managed because it is taken as knowledge that can be interpreted as capital value or taken as profit.

Johnson (1992) notes that, it is understandable that knowledge generated from universities and research institutes is considered a resource just like any other resource that can be used for development. It is well organised, preserved in libraries and information units and disseminated for wider access to user community. This is not the case with IK.

There is sufficient evidence (Covin and Strivers, 1997) that IK is drawn from many disciplines such as: environmental conservation, traditional education systems, health practices and prevention, medical technology, sustainable agriculture practices, local industry and technology to mention a few. The problem however, is how these local practices,

principles, and methodologies cannot be appreciated and applied. Whereas modern scientific knowledge generated through scientific research/publications process is highly appreciated and made known and available, IK is still questionable because not much research has been conducted and papers published.

A case study conducted by Rajasekan (1992) indicates that the erosion of African knowledge is largely associated with absence of mechanisms to ensure that the knowledge and related practices are passed on from one generation to another. Often old generations are dying without endowing new ones with wealth of information and skills on the use and management of IK. This threatens the future cultural well being of African communities (Rajasekan & Warren, 1993).

From the reviewed literature there was evidence that there is a threat of IK extinction due to lack of recording and problems associated with preservation and protection. Very little or nothing has been done on the integration of IK into the educational curricula. This gap must be addressed. Therefore, if IK is to be promoted and utilized for sustainable development, there should be a systematic programme designed to collect, document, develop and disseminate it. The study would therefore fill the gaps which exist in the literature.

## **2.8 Theoretical framework**

A theory, according to the Longman Active Study dictionary (2004), is “an idea that tries to explain something”. Within the context of this study, the researcher incorporated the constructivism theoretical approach. Constructivism views learning as a process in which the learner actively constructs or builds new ideas or concepts based upon current and past knowledge (Morris and Maisto, 1999). It follows that learning is an active process of constructing knowledge rather than receiving it. Rodgers (2003), notes that the learner is not a “blank slate” but bring past experience and cultural factors to the learning situations.

Furthermore, he stated that learners come to the learning situation with already formulated ideas and understanding and the teacher should take into account learners' current conceptions and build from there. This previous knowledge would be the raw material for the new knowledge they will create (Hartley, 1998). Teaching/learning is effective to the extent that it acknowledges learners and teachers' experience and brings the two together into a continuous process of dynamic interaction. According Oduaran (2000) constructivism transforms the learner from a passive recipient of information to an active participant in the learning process. In most cases, guided by the teacher, learners construct their knowledge actively rather than just ingesting knowledge from the teacher or text book. In the constructivist classroom, the learners control their own learning process and they lead the way by reflecting on their experiences (Oduaran, 2000). This process makes them experts of their own learning. Rogers (2003) stated that the primary goal of the constructivism learning theory is to help learners to learn how to learn. The teacher functions more as a facilitator who coaches, mediates, prompts and help learners to develop and assess their understanding and thereby their learning (Merriam and Caffarella, 1999). It should be pointed out that in the constructivist classroom, both the teacher and learner think of knowledge not as facts to be memorised but as a dynamic, ever changing view of the world we live in and the ability to be successfully stretch and explore that view (Newman and Holzman, 1997). Neither teachers nor learners can be passive in the ongoing, active process of their exploration of the physical and social world in which they are involved. Contrary to the criticism by some educators, constructivism does not dismiss the teacher or the value of expert knowledge (Hartley, 1998). It simply modifies the role of the teachers to help learners construct knowledge rather than reproduce a series of facts.

Learners who are taught through the constructivism theory of learning are believed to learn more and enjoy learning more because they are actively involved rather than passive listeners

(Marek and Cavallo, 1997). Constructivism gives learners ownership of what they learn, since learning is based on learners' questions and explorations. Hartely (1998) noted that through a sense of ownership, learners, parents and teachers can really come to care about the education process which they feel they own. It should be noted that the sense of ownership motivates learners to learn and hence helps cultivate a culture of learning for all learners. Teachers have the role to engage parents and learners and establish a flexible, relevant and caring approach to learning for all learners regardless of their back ground or circumstances (Chilisa and Preece, 2005).

According to Fasokun, Katahoire and Oduaran (2005), this theory describes how human beings attempt to understand the world around them. In adult learning, constructivism is the theory of knowledge in which the facilitator tries to appreciate and form a better understanding of how learners construct, deconstruct and reconstruct ideas and beliefs as they experience the world around them (Fasokun et al., 2005). Constructivism involves both deep reflection and perception of learners on things and events that are happening around them (Taylor, Marienau & Fiddler, 2000).

Constructivism theory was therefore relevant to this study, since learning in general is interwoven with cultural influences and culture and learning according to Chilisa and Preece (2005) are inseparable. They further argue that one cannot discuss learning without understanding the cultural knowledge, application, and how one learns.

A constructivist theory was used in the study because this view of learning encourages learners to bring prior knowledge and experiences to class. This is further supported by Taylor, et al.,(2000) who state that, the teaching principle of from the "known to the unknown" should be adapted if education is to be effective. The researcher strongly supports the teaching principle of from the "known to the unknown". It is therefore, wise to start with

knowledge about the local area that the students are familiar with, and gradually move to the knowledge about regional, national and the global environment.

Constructivism as a theory of learning according to Fasokun et al, (2005) deals with social processes, contexts (especially our culture and environments) and individual learners as they construe or interpret ideals and events about learning and build frameworks of meaning. The idea outlined above is further emphasized in Indabawa and Mpofu (2006) which state that knowledge should be seen as a creative construction in which the individual learner is an actor or active participant or subject rather than a passive object, because the way in which people make or construe meaning can change over time on the basis of prevailing experiences.

Taylor et al.,(2000) notes that the constructivism theory is not new or unknown to Africans. Africans have their own ways of knowing. They have always used environmentally relevant objects in constructing ideas and knowledge. For example, in traditional African communities farmers could tell the time of the day by simply listening to the chanting of a particular bird in the bush.

The study used the constructivism theory in order to incorporate African ways of knowing, constructing, deconstructing and reconstructing knowledge that has not been thoroughly studied and mentioned in the available literature into the educational curricula.

## **2.9 Definition of concepts**

This section will discuss different concepts as used in this study:

**Curriculum:** A curriculum is a statement of intended objectives, content, experiences, outcomes and processes of an educational programme. This includes a description of the training structure and description of expected methods of learning, teaching, feedback, and

supervision (Urevbu, 1985). In this study, it refers to the guidelines, expected methods of learning, teaching, feedback, and supervision.

**Indigenous Knowledge:** In general, IK is a systematic body of knowledge acquired by local people through accumulation of informal experiences and intimate understanding of the environment in a given culture (Rajasakeran, 1992). In the context of this study, IK is local or traditional knowledge that is unique to every culture or society in Namibia. This knowledge influences day to day planning, as well as decision-making.

**Constructivism:** Constructivism is the type of learning approach which allows students to bring prior knowledge and experience with them to class in order to learn knowledge and concepts accurately (Fasokun et al., 2005). In the context of this study constructivism means knowledge and skills that are best acquired in context, because context is critical for understanding and thus, for learning, context gives meaning to learning.

## **2.10 Summary**

In this chapter the researcher aimed to explore the current literature as it pertains to the title of the study. In order for the researcher to understand the constructs of the specific research, the following concepts had to be addressed: the meaning of IK, the importance of IK, the uses of IK in Namibia, integration of IK into formal education, prospects of integrating IK into a formal education system, as well as challenges of preservation of IK. Further more, the researcher discussed constructivism theory, which the study was based on. Additional different concepts were defined as used in the context of this study.

Chapter 3 will focus on the methodology that was used during the study.

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 Introduction**

This chapter looks at the research methodology that was used in the study. The chapter specifically details the research strategy, the preparation for the research, the process of gathering the data as well as the data analysis and the ethical considerations which were observed during the study.

#### **3.2 Research design**

Research design is defined as a plan on how one intends to conduct the research, the structure and procedure followed to answer research questions (Hamunyela, 2008). Based on this premise, the plan of how the researcher conducted the study was through a qualitative mode of enquiry. The primary goal of studies using qualitative design is to interpret, define and describe with understanding what is under study (Akinpelu, Okedara & Omolewa, 1988;

Johnson & Christensen, 2004).

Further, the qualitative method is useful when seeking to describe an individual's opinions, perceptions, attitudes, beliefs, views, and feelings or experience (Patton, 1990). The study was descriptive in nature to gain insights into the phenomena, because the data that was collected would help contribute to understanding of the phenomenon, since data collection is largely determined by the problem as stated by (Gay et al., 2009). The study was descriptive because it involved the collection of numerical data to test the hypothesis or answered questions about the study.

### **3.3 Population**

The population refers to the participants of the study with whom the research problem is concern (Strydom, 2005). The population of this study included 38 lecturers from the Faculty of Education (main campus) and 27 from the faculty of Agriculture and Natural Resources (Neudam campus) and 10 from Ogongo from the University of Namibia, which came to a total of 75.

### **3.4 Sample**

Gravetter and Forzano (2003) stated that a sample is a set of individuals selected from a population and usually is intended to represent the population in a research study. The sample is thus taken from a population. In this study, the sample consisted of 21 lecturers from the Faculty of Education, 11 from Neudam campus, and 5 from Ogongo campus.

### **3.5 Sampling procedure**

Sampling can be explained as the process of selecting a portion of the population for a study

(Leary, 2004; Nieuwenhuis, 2007). Convenience sampling was used to select the respondents to participate in this study so as to involve whoever was available at the time the interviews were being conducted/the questionnaires were being distributed. Within this qualitative study, the sampling method used for the two faculties, (i.e. lecturers in the faculties of Education, Agriculture and Natural Resources) was convenience sampling. According to Marree (2007), convenience sampling is the process of including whoever happens to be available in the sample. Within this study, the researcher selected the sample based on whoever was available or whoever volunteered to participate in the study.

The researcher chose to do convenience sampling. Convenience sampling according Gay *et al.*, (2009) is the process of including whoever happens to be available in the sample. The sampling criteria used to select the lecturers in the two faculties were based on the following:

The lecturers who were available the time the questionnaires were being distributed/the time the interviews were being conducted; the lecturers that were willing to answer the questionnaire/being interviewed; and all the lecturers from the faculties of Education, Agriculture and Natural Resources. After the potential participants were identified, the researcher met the participants individually to obtain their consent and discuss the study.

### **3.6 Research instruments**

The main instrument used to collect data for answering the research questions of the study were by both semi-structured questionnaires and interviews. An interview according to Gay *et al.* (2009) is a purposeful interaction in which one obtains information from another.

Interviews were used in the study for the following reasons:

Clarification of questions; collecting additional information through observing respondents' and non-verbal behaviors; probing; assuring return rate; and collecting personalized data (Greef, 2005; Maree, 2007; Robson, 2007).

Lecturers from the faculty of Education (main campus) were interviewed, while lecturers from Agriculture and Natural Resources were given questionnaires to complete due to time constraints.

Both interviews and questionnaires instruments consisted the same questions that were meant to collect data on:

- The perceptions of lecturers towards the integration of indigenous knowledge into the university curricula;
- The type of indigenous knowledge content to be integrated into the university curricula;
- How indigenous knowledge can be integrated into the university curricula;
- The prospects of integrating indigenous knowledge into the curricula;
- The challenges of integrating indigenous knowledge into the university curricula.

### **3.7 Data collection procedures**

Permission to conduct the study was obtained from the office of the Vice-Chancellor, through a written letter (Appendix C and D) copied to the Pro-Vice Chancellor (PVC) Academic Affairs and Research, and to the Deans of both Faculties (Education, Agriculture and Natural Resources). The letter explained the intention of the study. After permission was obtained and selection of participants was done, the researcher was ready to begin field work. Field work involved spending considerable time in the setting under study, being immersed in the setting, and collecting as much relevant information as possible. The researcher collected descriptive-narrative and visual nonnumeric data to gain insights into the phenomena. The data that was collected contributed to the understanding of the nature of the problem.

Both the questionnaires and interviews were semi structured and consisted of 12 questions in order to keep the interview to an ideal length of between 20-30 minutes. Data from the

interviews were recorded in a notebook during the interview and after the interview through reflection. Questions in the interview guide and questionnaire were pilot tested with a small group of 5 respondents from the Department of Biological Sciences at the Windhoek main campus who shared similar characteristics with the participants of the main study in order to ensure validity and trustworthiness (Creswell, 2009). A pilot study according to Higson-Smith (2000) is a small study conducted prior to a larger piece of research to determine if the methodology, sampling, and instruments analysis are adequate and appropriate. The researcher therefore, conducted a pilot study in this study in order to investigate the feasibility of the planned project, and to bring possible deficiencies in the measurement procedure to the fore. This allowed the researcher to test certain questions and thereafter the researcher was able to make modifications to improve the quality of interviewing during the main investigation.

Furthermore, Golafshani (2003) stated that in order for the researcher to guarantee validity and trustworthiness, he/she should be able to generalize the research. According to De Vos et al., (2005), the trustworthiness of a study should reveal the truth of the findings. The latter should correlate with those of another study which is conducted within the same context and the same participants and not the result of the researchers' prejudice (De Vos *et al.*, 2005).

### **3.8 Data analysis**

According to Creswell (2009), the process of data analysis includes making sense of the text and visual data, as well as preparing data to move deeper into the understanding of what the data represent. This is done in order to interpret the meaning of the data. Creswell further adds that data analysis helps to order, structure and give meaning to the data obtained. The qualitative data collected was carried out in an inductive analytical procedure (Hamunyela, 2008). The study's data analysis followed the general procedure of data transcription, data

organization for retrieval, coding, identification of themes and developing categories, analysis, incorporating theory from the literature, and writing a report (Hamunyela, 2008).

The following steps were carried out:

The notes that were written down during the interviews were transcribed and read several times in order to identify common corresponding themes. An examination of the transcribed data was done, and the researcher took notes and identified common themes and ideas expressed by the participants. The researcher used codes to represent specific themes and ideas identified in the data (Creswell, 2009). The themes were identified by comparing answers collected by semi-structured interviews and questionnaires and connecting the themes that emerged these data. The different themes gained from the data were organized and then categorized according to patterns of codes (Nieuwenhuis, 2007). According to De Vos (2005), the data obtained and the themes observed have to be tested by searching through the data and challenging the understanding that have developed. The themes that emerge were highlighted, grouped together and then organized under the theme headings.

### **3.9 Ethical considerations**

Ethics can be defined as “rules or ideas about what is morally right and wrong” (Longman Active Study Dictionary, 2004). Ethics look at the moral issues within research. Therefore, in this study ethics were considered by making sure that the participants were not treated humanely and morally correct.

The first ethical consideration employed by this study was participants’ right to privacy and voluntary participation. In this instance, the researcher asked every participant individually whether or not they would volunteer to take part in the study (Bless and Higson- Smith, 2000).

Concerning privacy, the participants were informed that any information that was obtained in connection with this study by which any individual participant could be identified would remain confidential and would only be disclosed with permission or as required by law. Anonymity in this study was maintained by not using participants' names. According to Bless & Higson-Smith (2000) anonymity refers to not using names of participants and using a numbering system instead. This is regarded as essential by many respondents and helps to avoid biased responses from participants.

Moreover, Bless & Higson-Smith (2000) advise that for confidentiality purposes the data should only be used for the purpose as stated by the researcher and will not be given to any other person for any reason. Within this study, the researcher was the only one who worked with the data. The participants were informed about the purpose of the study to investigate their perceptions towards the prospects and challenges of integrating IK into the university curricula.

### **3.10 Summary**

This chapter introduced the reader to the methodology behind the research. The chapter also delved into the ethical considerations that were relevant to this study in order to safeguard the participants. The next chapter will look at data presentation, analysis and interpretation.

## **CHAPTER 4**

### **DATA PRESENTATION, ANALYSIS AND INTERPRETATION**

#### **4.1 Introduction**

In this chapter the collected data, data analysis, and interpretation are presented according to the research questions that guided the study. The data was analysed to learn and understand the perceptions of the lecturers in the Faculties of Education, Agriculture and Natural Resources towards the integration of Indigenous Knowledge into the university curricula; type of IK content that could be integrated into the university curricula; how can IK be integrated into the university curricula; the prospects of integrating IK into the university curricula; and the challenges of integrating IK into the university curricula.

The collected data includes demographic characteristics of lecturers from the faculties of Education, and Agriculture and Natural Resources. The demographic data consists of lecturers' gender, experience, discipline, name of faculties, and departments. The presentation of the data further consists of the lecturers' definition and understanding of IK, the importance of IK, the possibility of integrating of IK into the university curricula, IK content to be integrated into the university curricula, the prospects of integrating IK into the university curricula, and the challenges of integrating IK into the University curricula.

The data collected from all the three campuses, were analyzed as one unit (the University of Namibia).

#### **4.2 Data Presentation and Analysis**

##### **4.2.1 Demographic characteristics of lecturers who participated in the study**

A total of 37 lecturers participated in the study. Sixteen (43.2%) were from the Departments of the Faculty of Agriculture and Natural Resources: Four were from Animal Science (10.8%), Three were from Agriculture Economics (8.1%), Four were from Food Science (10.8%), Two were from Crops Department (5.4%), and three were from the Department of Integrated Environmental Science (8.1%).

Twenty one (56.7%) lecturers were from the Faculty of Education and they were from the following departments: three (8.1%) were from the Department of Curriculum Studies, Instruction and Assessment; four (10.8%) were from the Department of Educational Foundation and Management; five (13.5%) were from the Department of Mathematics, Science and Sports Education; four (10.8%) were from the Department of Educational Psychology and Inclusive Education; and five (13.5%) were from the Department of Lifelong Learning and Community Education.

The number of respondents who participated in the study was determined by the following criteria: Availability of lecturers at the time the interviews were being conducted/the time the questionnaires were being distributed; and the willingness of the lecturers to participate in the study.

#### **4.3 Lecturers' definition and understanding of IK**

All 37 respondents answered the question (questionnaires and interviews) that asked them to explain how they understand IK. Five (13.5%) respondents understand IK as a traditional knowledge. Nine (24.3%) understand it as local knowledge, while 10 (27.0%) believed that IK means community knowledge. Another ten (27.0%) respondents share the understanding of IK as culture, while two (5.4 %) regarded IK as native intelligence.

The respondents' understanding of IK reflected it as cultural and historical knowledge, thus unique to a given culture or society. Respondents' definitions show IK as knowledge derived from a specific culture or society. Lecturers understand IK as home grown and local, undocumented, and based on people's experiences and tested over centuries. Respondents' further refer to IK as community practice of medicine, technology, and psychology towards people's well-being.

Below are some of the respondents' exact words that describe their understanding of IK:

1. Indigenous Knowledge as home grown and local but undocumented knowledge.

*“Indigenous Knowledge is local knowledge derived from specific culture or society.”*

*“Indigenous Knowledge is home grown and local.”*

*“Indigenous Knowledge is existing knowledge from the local people on how to deal, solve certain issues and has been passed on from one generation to generation and mostly undocumented.”*

*“Indigenous Knowledge is knowledge which a particular community has developed over a period of time and continues to develop based on experiences, and tested over centuries.”*

2. Indigenous Knowledge as Cultural Knowledge

*“Indigenous Knowledge is cultural knowledge accumulated over generations by a community; knowledge about*

*implements, medicine, exercise, and technology, social-cultural and psychological well-being.”*

3. Indigenous Knowledge as traditional and native intelligence

*“Indigenous Knowledge is knowledge that indigenous people possess. It might not be scientifically verified but useful and beneficial to the local people.”*

Indigenous Knowledge is knowledge that includes the understanding of the ecological system, the physical environment, the acquisition of skills, the familiarisation with customs and practices of relevant society, the coming to grips with the societal values and beliefs and the formation of a worldview that reflects the experiences of the society in which people live. It is evident from the data that IK is perceived as accumulated wisdom that local people use in carrying out their socio-economic life, social interactions, spiritual connections, healing rituals and life aspirations. The results also revealed that IK includes understanding of the ecological system, utilisation of physical environment without depleting or damaging it, acquisition of skills in the use of the various tools and devices of Agriculture and Education, familiarization with the customs and practices of the community coming to grips with the community and societal values and beliefs, and formation of a view that reflected the experiences of the society in which they lived.

#### **4.4 Lecturers’ explanations of the importance of IK**

All the 37 lecturers answered the question which asked them to explain the importance of IK. Two (5.4%) of the respondents indicated that IK is used to facilitate decision-making among communities. Three (8.1%) of the respondents indicated that IK is used for interaction

between people and the community. Seven (29.1%) of the lecturers believed that IK form a basis for survival and livelihoods of local communities. Five (13.5%) of the respondents defeated IK as a basis for new knowledge that provides useful information on which modern science can be based on. Six (16.2%) of the respondents indicated that IK provides solutions to problems. Three (8.1%) of the lecturers believed that IK is used to keep people in touch with their native technology. Lastly, 10 (27.0%) of the respondents indicated that IK helps preserve local peoples' culture and tradition that makes them unique.

The above mentioned analyses were reflected in the respondents' responses as follows:

Two (5.4%) respondents indicated that IK is used for decision-making among communities.

*“Indigenous Knowledge is important because decisions are made based on the experiences which people have acquired over time.”*

While three (8.1%) respondents were of the view that IK is used to facilitate interaction between people and the environment.

*“It is used for interaction between people and the environment, in the sense that it shapes peoples' understanding about their environment e.g. when certain grass grows, that means that it might rain so much that year.”*

Eleven (29.7 %) respondents indicated that IK is used for survival:

*“Communities in all parts of the world evolved ways of survival based on a particular knowledge system. It is important for survival.”*

*“It forms the basis for survival and livelihoods of local communities e.g. in human health, animal health, development programmes etc.”*

Five (13.5%) respondents indicated that IK is a basis of new knowledge.

*“This knowledge provides useful information on which modern science can be based on e.g. the screening of traditional medicinal plants for validation of their purposed use and may provide break through to cure some of the current devastating diseases.”*

Six (16.2%) respondents defended the importance of IK as it is used for problem solving:

*“It helps us to overcome or find answers to some questions that we might have failed to prove. It is also sustainable with challenges of environmental change now; IK would help to overcome some of the obstacles being faced now. It can complement scientific knowledge.”*

Three (8.1%) respondents indicated that IK is used as native local technology.

*“Because our forefathers used it for their livelihood and development. Knowledge that is being used today for development originated from the indigenous native technology e.g. the smelting of copper.”*

*“Includes within it life experiences for many generations to come. But it has been lost because of lack of documentation after and during colonization e.g. the use of natural fertilisers using IK, but lost now (native technology) completely lost.”*

Ten (27.0%) responded that IK is used for preservation of culture.

*“IK helps preserve local people’s culture and tradition that makes us unique.”*

*“IK contains a reservoir from past generations, acquired by millenia of experimentation.”*

It is clear from the data that IK is needed in various aspects of life e.g. decision making, communication, survival, problem solving, useful information, native local technology and preservation. This can be interpreted that IK is part of the lives of the traditional communities as their livelihood depends almost on indigenous skills and knowledge essential for survival, thus IK provide them with knowledge and skills about their environment, customs and traditions on how to run their community and super-natural beliefs on how to relate with the supernatural world. This finding is supported by Florey (2001), who states that in Africa, African IK was the accumulated wisdom that societies used in carrying out their social-economic life, their social interactions, their spiritual connections, their healing rituals, and their life aspirations. There was a close relationship between the people, the land, and the super-natural world represented by ancestors and the whole creation.

The data further showed that IK is used for the preservation of cultural values:

*“Indigenous Knowledge is used for preservation of culture and traditional values, because it uses the skills and experiences of local people when handling issues.”*

This is because IK is believed to be stored in culture in various forms, such as traditions, customs, folk stories, folk songs, legends, and proverbs. The fact that the least number (8.1%) of lecturers equated IK as native local technology and a means of facilitating interaction among community members shows that IK is not yet fully utilized in the development process. Conventional approaches of teaching imply that development processes always require technology transfers from locations that are perceived as more advanced (Oduol, 1992). This has led often to overlooking the potential in local experiences and practices.

#### **4.5 Lecturers’ perceptions on the possibility of integration of IK into the university curricula**

All 37 respondents answered the question which asked them about their perceptions on integrating IK into the university curricula. Thirty (81.1%) respondents’ perceptions were found to be positive as they consider IK as a good idea which needs to be developed properly into a body of knowledge. The results support the inclusion of IK into the University of Namibia curricula. Integration of IK into the curricula will greatly contribute to the preservation of traditional knowledge and skills, help prevent IK from being lost, and ensure IK becomes the fulcrum for people and environmental development. The positive perceptions of lecturers on the integration of IK into the university curricula were shown by the following responses:

*“It is a good idea; it would need to be developed properly as a body of knowledge, challenge of documentation references might arise though.”*

*“It is good since it is based on local-level decision-making in local areas e.g. agriculture, health, etc.”*

*“No objection, however, it goes with a lot of research.”*

On the other hand, four (10.8%) of the respondents were not in support of the idea of integrating IK into the university curricula. They indicated that the inclusion of IK into the university curricula is not necessary because it is valueless and unappreciative; is a difficult exercise as one has to incorporate IK aspects from different Namibian cultures; and IK is not in existence yet. According to these lecturers, they did not support the inclusion of IK into the university curricula because it might be a challenge since indigenous knowledge/education often takes different forms from a typical western model of education.

Negative perceptions of a few lecturers on the integration of IK into the university curricula were as follows:

*“The idea of integrating IK into the university curricula could be valueless since many people may not appreciate it, especially the young generation.”*

*“It would be difficult to incorporate all aspects of IK from different indigenous set-ups of Namibia into the university*

*curricula, since IK systems are peculiar to a group of people in a locality.”*

*“Indigenous Education often takes different forms than a typical Western model of education because children learn through example; traditional education is less formal than the standard western model. In contrast to structured hours and a classroom setting, learning takes place throughout the day, both in the home and in adults’ work place.”*

Two (5.4%) of the respondents indicated that IK was already integrated into the university curricula at a limited level. They said that the teaching of languages and linguistics includes IK:

*“The idea is already included in teaching (e.g.linguistics and lecture courses). It is incorporated already because IK is very useful. At the Language Centre for instance a doctorate degree in the khoekhoe language is offered, a number of Namibian local languages are being offered at the Language Centre, for example Oshindonga, Oshikwanyama and Otjiheroro .*

*“As far as I know it is already integrated in linguistic syllabi at a very limited level, because much of Western and Asian knowledge is emphasized over Namibian IK.”*

Overall, the results indicate that the majority of the lecturers at the University of Namibia supported the inclusion of IK into the university curricula. Lecturers value IK's potential for sustainable development, and its necessity for its preservation for the future generation.

#### **4.6 Lecturer's perceptions on the type of IK content to be integrated into the university curricula**

All the 37 lecturers answered the questions which asked them to explain the type of IK to be integrated into the university curricula. Eighteen (48.6%) respondents suggested tradition education as the type of IK content to be integrated into the university curricula. They indicated that tradition education is the type of education that is stored orally in cultural practices and has been passed down from generation to generation. This includes adults teaching practical knowledge of culture, the environment and survival through demonstrations and through a wide range of ceremonies, stories, songs, village meetings, and taboos. Twenty (54.1%) of the respondents were for the idea that the type of IK content to be integrated into the curricula is traditional medicine. However, 9(24.1%) of the respondents suggested agricultural management practices as the type of IK content to be integrated. Eleven (29.7%) respondents regarded environmental conservation as the type of IK content to be included into the university curricula. the same number of respondents (29.7%) indicated that cultural heritage is the type of IK content to be integrated into the university curricula, while 10 (27.0%) respondents believed that traditional food is the type of IK content to be integrated into the university curricula. The least number of respondents 4 (10.8%) had no idea on the type of content to be integrated into the curricula.

The above mentioned analyses were reflected in the respondents' responses as follows:

Eighteen (48.6%) respondents suggested traditional education as the type of IK to be integrated.

*“Type of IK which is relevant to the needs of learners to uplift their lives (e.g. teaching practical knowledge of culture, the environment and survival through demonstrations and through a wide range of ceremonies, stories, songs, village meetings and taboos).”*

*“Depends on various field of study e.g. Geology, local knowledge people have which is lost.”*

*African innovation in biotechnology by using Africans who have done it.”*

Twenty (54.1%) indicated traditional medicine as the type of IK to be integrated into the university curricula.

*“Traditional medicine, the research area focuses on validation of traditional medicine for integration into modern medicine”.*

*“Traditional medicine has great significant contributions to global knowledge which originated from the indigenous people. For example medicine and veterinary medicine with their intimate understanding of their environment.”*

*“Traditional herbal treatment for animals, plants species in relation to soil types, climate and rainfall patterns, etc.”*

*“Herbal medicine, ethno-veterinary medicine, these can then be developed into modern practices and help people through accessing cheaper and available remedies.”*

Nine (24.3%) respondents suggested agriculture management practices, such as traditional farming methods, which are effective to prevent over-exploitation of the resources and environmental disaster as the type of IK to be included into the university curricula.

*“Agricultural technology, I think these must be introduced because they are crucial for human survival.”*

*“Crop and animal husbandry methods used are effective and more environmentally friendly.”*

The same number of lecturers, 11 (29.7%), were for the idea that environmental conservation and cultural heritage would be the type of IK content to be integrated into the university curricula. Cultural heritage is the legacy of physical artefacts (cultural property) and intangible attributes of a group of society that are inherited from past generations, maintained in the present, and bestowed for the benefit of the future generations (Hoffman, 2006). Examples of cultural heritage include tangible culture (such as buildings, monuments, landscapes, books, works of art and artefacts) and intangible culture (such as folklore, traditions, language, and knowledge). Environmental conservation are traditional practices that are effective to conserve the environment. For example, this knowledge includes the understanding of ecological system.

*“IK on the management of natural resources, this is important because people need to know how our fore fathers managed the environment with their knowledge.”*

*“Agriculture and soil conservation and management of natural resources.”*

*“Cultural heritages of different groups focus on indigenous languages to be taught in order to be transferred to schools, study of indigenous plants and animals”.*

*“Knowledge about the environment and management of natural resources and cultural heritage.”*

Ten (27.0%) respondents suggested traditional food as the type of IK content to be integrated into the university curricula.

*“Traditional technology on how to store food, (natural conservation).”*

*“Food technology and food development of dishes that are preferred by those of a particular region but not commercially available”.*

Four (10.8%) respondents had no idea in regard to the type of content to be integrated into the university curricula.

*“I have no idea of the different types of Indigenous Knowledge.”*

*“No specific content, how language is trying to portray Indigenous Knowledge”.*

*“Knowledge cannot be classified, depending on the field of study it is not easy to categorize knowledge.”*

It is clear from the data that IK is mostly linked to traditional education, because IK is believed to be knowledge that has been passed from generation to generation through traditional education. The data further clearly indicate that IK is linked to traditional medicine. This is in view with its significant contributions to the global knowledge that originated from indigenous people. For instance, it has contributed in medicine and veterinary medicine with their intimate understanding of their environment.

#### **4.7. Lecturers’ explanation on how IK can be integrated into the university curricula**

All 37 respondents answered the question that asked them to explain how IK can be integrated into the curricula. The lecturers’ explanations indicated various strategies the university can embark upon to make sure that IK is part of its curricula. Strategies that emerged from the lecturers’ explanations were:

- a) Fusing IK into already existing content (27%);
- b) Research and publication (24.3%);
- c) Use of a resource person (13.5%);
- d) Stand-alone subject (10.8%);
- e) Awareness campaigns (8%);
- f) Policy formulation (5.4%)

g) introduction of a degree program in IK (5.4%); and

h) Exposure visits (5.4%)

Another 2.7% had no idea about how IK can be integrated into the university curricula.

The strategies listed above have further been explained as follows:

Research and publications: the respondents indicated that it can be done by collecting key examples of IK and its application and using this as a basis;

Awareness campaigns: the respondents suggested that awareness campaigns on the importance of integrating IK into the university curricula should be done by publishing either in local papers or national papers;

Degree program in IK: the respondents suggested a degree program in IK should be introduced, so that students learn what is relevant to their local experiences and practices;

Policy formulation: the respondents were for the idea that policies should be formulated to support the importance of IK;

Use of resource people: the respondents indicated that a resource person from the community should be identified to present lessons to the community;

Creation of a module for IK (stand alone subject): the respondents suggested that modules should be introduced at various levels and in relevant faculties;

Infuse IK in existing content: the respondents suggested that it can be included in the content of relevant modules which are already existing in order to cut down on cost;

Exposure visits: the lecturers reported that it can be done by visits to natural sites, traditional communities, traditional authorities, and field attachments to traditional keepers of IK.

The above mentioned analyses were reflected in the respondents' responses as follows:

Research and publications:

*“Researcher goes out to find how IK functions, because different cultures have different systems. They will see what is common in every culture and bring them together.”*

*“Approach appropriate topics to be integrated e.g. compliment western knowledge, checking it in chronological manner e.g. from IK perspectives to modern”.*

Awareness campaigns:

*“Raising awareness about need for integration, academics doing research. Policies to be formulated.”*

*“Organise seminars with traditional people on how various topics come up and draft modules that can further be refined and incorporated into the present curricula.”*

A degree programme in IK:

*“It can form part of the learning outcome where relevant.”*

*“Introduce a degree in this field (BIKS).”*

*“By incorporating it in curricula so that students learn what is relevant especially to rural communities, local experiences and practices.”*

Policy formulation:

*“Formulate policy by the best agency, put up deadline on its implementation.”*

Use of resource persons:

*“Go to original sources and document it from that end. It is with people, and recognises that we have knowledge that is to be captured.”*

*“Start with stakeholders’ workshop, design curriculum based on workshop inputs. Start implementation initially using experts in IK.”*

*“Use resource people from the community to present lessons at the university; create a module for IK in the university curricula.”*

Infusion of IK into the curricula:

*“Can be included in the content of relevant modules or can be in modules of its own at various levels and in the relevant faculties.”*

Stand-alone subject:

*“There are two approaches of integration of curriculum: Stand alone subject/ separate subject approach.”*

*“I think an audit of the curriculum needs to be carried out first to identify gaps. I feel the formulation course or core courses should be the main subjects to integrate.”*

*“The more IK there is available in the university courses the more we expose it to the community at large. Integrate in History (Namibian history) and in botanical and animal sciences.”*

*“Almost every subject has got the so-called modern knowledge and IK from different societies. It will always be good to combine them and see how they differ from each other.”*

*“Ensure that all new programmes in all faculties have elements of IK.”*

*“Deliberate inclusion of IKS topics in particular curricula.”*

Two (5.4%) respondents were for the idea that it could be done through exposure visits, whilst one (2.7%) respondents had no idea how IK can be integrated into the university curricula.

*“Through popular communication channels between community members and university.”*

*“Exposure visits to natural sites and traditional communities and authorities, field attachments to holders of IK.”*

*“I have absolutely no idea on how IK can be integrated into the university curricula.”*

#### **4.8. Lecturer’s perceptions on other ways of preserving IK apart from integrating it into the university curricula.**

All 37 lecturers answered the question which asked them to explain different ways to preserve IK apart from integrating it into the university curricula. Their responses indicated that IK can be preserved through: documentation, documentations of all oral knowledge in the community (e.g. codification of language in such a way that it is well described and kept for use by communities and other interested users). Other responses were: research and publications, IK cannot be integrated unless it is obtained through research from relevant communities and then the findings are integrated into in the curriculum; informal education; social marketing, (e.g. introduce radio and TV programmes in which IK is discussed and debated about); focus group discussion, have regular forums with discussions on the importance of IK; no need to preserve it, because IK must be allowed to transform and develop with time; training in various IK activities, graduates from other countries must be compelled to go through a certificate course of local knowledge before they work or teach. Twelve (33.4%) respondents were for the idea that IK should be documented in order to preserve it:

*“Writing about it (e.g. articles, journals, books) then pass it on to the future generation.”*

*“It has to be written down, every culture has their own way of keeping it and it can get lost in the long run if not written down”.*

*“Documentation of all oral knowledge existing in the community, codification of language in such a way that it is well described and kept for use by communities and other interested users.”*

Four (10.8%) respondents suggested that research and publications would be one of the ways to preserve IK, yet another 4 (10.8%) respondents were for the idea that social marketing would be ideal to preserve IK.

*“Research it, to find out more about it , write about it to disseminate and make it known, then incorporate it in a lot of activities to make people aware and appreciate it.”*

*“Conduct research on IK to test its applicability in the modern world.”*

*“Academicians must carry out research projects which include aspects of it and include research students, these will then learn.”*

*“It must be documented in order to have patent, that way it can be protected and preserved.”*

*“Awareness campaigns among the larger population, road shows etc”.*

*Organise international expos, seminars, conferences, cultural festivals, heritage day- a day when people celebrate their cultures.”*

*“Introduce radio programmes in which IK is discussed and debated about.”*

*“Social marketing (e.g. programmes on TV, radios, newspapers) where people can write about IK.” Social marketing helps disseminate IK and people don’t have to use curricula”.*

Five (13.5%) respondents opted for informal education as a way to preserve IK:

*“Traditional authorities should encourage their subjects to practice IK. Government should also encourage the use of IK.”*

*“Parents should teach their children; this way it can then be preserved from one generation to the next.”*

*“Informal education in families, youth centres, music, and mass media programmes targeting the transfer of IK.”*

Two (5.4%) respondents suggested focus group discussions, while another two (5.5%) respondents suggested cultural heritage:

*“Focus on African contributions, form forums every year to discuss African contributions.”*

*“Create platforms where people from all walks of life meet and traditional leaders are invited to address the importance of IK.”*

*“Preserve culture, because cultural heritage expresses the knowledge of indigenous communities.”*

*“People must stand up and be proud of their cultural heritage and indigenous knowledge and not to shy away from traditions, because culture is what makes up a complete person.”*

Two (5.4 %) respondents suggested trainings in various IK activities:

*“Training people in their respective communities on various Indigenous Knowledge activities”.*

*“Graduates from other countries must be compelled to go through a certificate course of local knowledge before they work or teach. Interviews may also be implemented. The USA for example does it. That is a national pride and true citizenship.”*

One (2.7%) respondent indicated that there was no need to preserve IK and another one respondent (2.7%) seemed to have no idea on other ways to preserve IK apart from integrating it into the university curricula.

*“There is no need to preserve it. Indigenous Knowledge must be allowed to transform and develop with time.”*

*“I have no idea on other ways to preserve IK apart from integrating it into the university curricula.”*

The results clearly indicate that, apart from integrating IK into the university curricula, it could also be preserved through documentation (e.g., writing it down and keeping it in libraries for the future generations). It is also clear in the data that IK can be preserved through informal education, (e.g. adults teaching practical knowledge of culture, the environment through demonstrations to the young generation and the community at large). Care must be taken so that IK recorded and kept in databases that will not be stolen.

#### **4.9 Lecturers’ responses on the prospects of integrating IK into the university curricula.**

All the 37 lecturers answered the question which asked them to discuss the prospects of integrating IK into the university curricula. Their responses indicate that the prospects of

integrating IK into the curricula are high as people will appreciate each other's culture in order to bring out a better co-existence; slim chances of integration, as there is no political will to drive it; prospects of integration are average since there is no one to spearhead it.

The above mentioned analyses were reflected in the respondents' responses as follows:

Seventeen (45.9%) respondents were for the idea that the prospects of integrating IK into the university curricula are high, as they consider IK as a source of wisdom to be shared.

*“Prospects are high, will enable learners to compare what is new and what is old, and know it as source of wisdom to be shared.”*

*“Prospects are huge; we need to go back to our roots”.*

*“Prospects are high, we have an opportunity right now with the revision of the curricula.”*

*“It is a good thing because we need to see how certain things were done in the past and see how this will affect the current situation.”*

Twelve (32.4%) respondents indicated that the chances of integrating IK into the university curricula were low because it will not be easy as it should be strengthened by political will.

*“It depends on how the university views the importance of IK, and there is no political will to drive it.”*

*“May take some time ten (10 years), a lot of convincing seeing as science and technology is at the core of exposure.”*

*“Likely to face inflexible single minded academicians schooled in western knowledge. Hence a lot of mind change is required especially among physical scientists.”*

*“It depends on which faculty is being addressed, some people may feel what they have is enough.”*

Two (5.4 %) respondents suggested that the prospects of integrating IK into the curricula were average since there is no one to spearhead the process:

*“There is no one spear heading it, but some lecturers discuss with students on topics on IK, they are aware of it. However, it is possible to integrate it into the university system though the chances are average.”*

*“Average, especially when most lecturers are not Namibians.”*

Five (13.5%) seemed not to know the prospects of integrating IK into the curricula.

*“I have no clue on the prospects of integrating IK into the university curricula.”*

*“First of all there is nothing like Indigenous Knowledge, because all knowledge is the same and since there is nothing like IK in existence, there are no prospects.”*

The data revealed that 45.9% of the lecturers supported the idea of integrating IK into the university curricula; this is in line with the increasing attention IK is receiving by academic and development institutions. The findings further reveal that (32.4%) of the lecturers indicated that the chances of integrating IK into the university curricula were slim, as they expressed that there was no political will to strengthen and drive the idea. This finding might imply that the integration of IK into the university curricula might not be easy since there is no political will to spearhead the idea of integration. Two (5.4%) respondents felt that the prospects of integrating IK into the curricula were average. They indicated that there was no one to spearhead the inclusion since there is no skilled manpower. They further reported that it was not possible since some of the lecturers are not Namibians, therefore implementing the idea would be impossible.

Five (5.4%) of the respondents had no idea on the prospects if integrating IK into the university curricula. These findings indicate that there needs to be, a lot of mind set change in regards to the importance of IK.

#### **4.10 Lecturers’ responses on the challenges of integrating IK into the university**

##### **Curricula**

All the 37 lecturers answered the question that asked them to discuss the challenges of integrating IK into the university curricula. Their responses were reflected as: unskilled man power, (for instance there is lack of capacity at university of Namibia to understand and

impart IK); undocumented, much of IK is not documented (passed down orally) so will be a challenge to list it down, hence what is not documented will be left out; unscientific knowledge, stigma and stereotypes may be stereotyped as poor peoples' ideas; lack of funding, the availability of resources to develop such a programme will be a challenge; different cultures, acceptance, because of different cultures, It will be a challenge since it would be difficult for people to accept other peoples' cultures; not uniform, IK knowledge practices may not be uniform among the Namibian communities and other communities from parts of the globe.

All the 37 respondents answered the question which asked them to explain the challenges of integrating IK into the curricula. Nine (24.3%) respondents indicated that unskilled man power would be a challenge to integrate IK into the curricula. Some of the challenges were:

*“What type of curricula is to be integrated, how it is being integrated, expertise, etc.”*

*“Content, material, the syllabus and availability of qualified staff to handle the course.”*

*“Locating examples of IK, finding people who would share IK with UNAM, lack of capacity at UNAM to understand and impart it.”*

Twelve (32.4%) respondents felt that since IK is undocumented it would be a big challenge to integrate it into the university curricula.

*“Much of IK is not documented, so it will be a challenge to list down what is not documented. Hence a lot will be missed.”*

*“Encounter resistance, especially from youths. IK not documented, do research first, interview people to have it documented”.*

*“Documentation will be a challenge because those who possess the knowledge can resist sharing it.”*

Ten (27.0%) respondents indicated that IK is not scientific; therefore it will be difficult to integrate it into the university curricula.

*“Stigma and stereotypes- may be stereotyped as poor peoples’ ideas.”*

*“Some people think it is outdated knowledge and it’s irrelevant but if made compulsory in some subjects, knowledge can be turned into power.”*

*“Our educators are too focused on science and technology, which greatly focuses on western ideas and technology.”*

Four (10.8%) respondents suggested that lack of funding will be a challenge to integrate IK into the university curricula.

*“The challenge is to convince UNAM management and academic staff of the value of IK; secondly there is the non-availability of resources to develop such a programme or curricula.”*

*“Resources are needed for forums and seminars to take place, research dissemination needs funding.”*

Four (10.8%) respondents alluded to the fact that IK varies from culture to culture and therefore it will be a challenge to integrate it into the university curricula.

*“Consolidating different values, beliefs and practices will be a big challenge.”*

*“A nation like Namibia with many different cultures, which one will be chosen and which one can be left out.”*

*“Acceptance, because of different cultures, time, a lot of people to accept other IK from other cultures.”*

One (2.7%) respondent noted that IK is not uniform; therefore it will be a challenge to integrate it into the university curricula. The same respondents (2.7%) as previous respondent had no idea in regard to the challenges of integrating IK into the curricula.

*“IK knowledge practices may not be uniform among Namibian communities from parts of the globe, scanty or no research done on subject of IK systems.”*

*“Because of many different cultures and tribes in Namibia therefore it will be difficult incorporate the different IK from the different cultures and tribes into the university curricula.”*

*“I don’t think there any challenges of integrating IK into the university curricula.”*

The data shows that, challenges such as lack of documentation may hamper the integration of IK into the university curricula, since there are no records to refer to. It is also clear from the data that IK is perceived as unscientific knowledge; therefore it will be very difficult for people to appreciate it, since leaders give too much emphasis on modern science.

#### **4.11 Summary**

This chapter presents a descriptive summary on the collected data and its analysis, according to the research questions that guided the study. The following chapter will look at the interpretation and discussion of findings.

## **CHAPTER 5**

### **DISCUSSION OF FINDINGS**

#### **5.1 Introduction**

In this chapter, the interpretation and discussion of the findings are presented.

#### **5.2 Discussion of the findings**

##### **5.2.1 Demographic characteristics of respondents**

The majority (67.5%) of the respondents in this study were male. This finding mirrors the fact that the number of male lecturers at the University of Namibia is more than that of the female lecturers. Still, male academic staff, unlike their female counterparts, may have been more willing to participate in the study. Therefore, most of the lecturers who participated in the study were male.

##### **5.2.2 Definition and understanding of Indigenous Knowledge**

In this study, a number of lecturers (27.0%) equated IK to community knowledge and cultural knowledge. The fact that the majority of lecturers equated IK to community knowledge is an indication that IK is a community and cultural resource which is a result of many years of accumulation of knowledge and skills. This finding echoes Burger's (1990) definition that IK

is synonymous to community cultural wealth. This involves the interaction of the human community with its physical world, including fauna and flora, medical spheres, knowledge preservation and transmission, and methods of predicting or balancing the various forces in the ecosystem (Burger, 1990).

One out of four lecturers associated IK to local knowledge that is unique to a given culture or society. They further indicated that IK helps the local people to deal with various local issues. In many parts of Namibia, local people depend on IK for survival. From these findings, one could deduce that IK is the accumulated wisdom that local people use in carrying out their socio-economic life, social interactions, spiritual connections, healing rituals, and life aspirations. This finding agrees with the view expressed by Warren (1990) that IK is the basis for local level decision making in agriculture, health care, food preparation, education, natural resource management, and a host of other activities in rural communities.

The study's findings also suggest that IK is about understanding the ecological systems, the utilisation of physical environment without depleting or damaging it (Warren, 1990), the acquisition of skills in the use of various tools and devices of agriculture and education, the familiarization with customs and practices of the community and societal values and beliefs, and the formation of a worldview that reflects the experiences of the society in which local people live.

Some researchers (Sillitoe, 2000, and Chivaura, 2006) argue that local knowledge is different from international knowledge generated by universities, research institutions and private firms. Contrary to what a western discourse often seems to assume, local knowledge is often flexible, adaptable, and innovative. Indigenous people possess knowledge that might not be scientifically verified but is useful to their local niches. In support, the World Bank (1998)

also states that one of the most important features of IK is that it is local, meaning it is rooted in a particular community and situated within broader cultural traditions. It is a set of experiences generated by people living in those communities. Therefore, when transferred to other places, there is a potential risk of dislocating IK.

A small number of respondents likened IK to traditions and native languages. This finding was not farfetched given that Namibia consists of various ethnic groups: About (60%) of the white population speak Afrikaans (a language derived from the 17<sup>th</sup> century Dutch), Ovawambo (50%), German (32%), Damara-Nama (12%), Kavango (9%), Ovaherero (7%), English (7%), Lozi (4%), San (3%), Baster (2%), and Tswana (0.5%). (Ministry of Health and Social Services & Macro International Inc., 2008). People in different ethnic groups have unique cultures. For example, in old Oshiwambo culture, there were pre-initiation sexual traditions such as *ewilo* whereby girls and boys sleep together without engaging in sexual intercourse (Mufune, 2003). Such traditions were thought to delay coital behaviour among young people.

The findings further suggested that the potential of indigenous knowledge is often overlooked. This finding is similar to Burger (1990) who states that IK is not yet fully utilized in the development processes. Convention approaches to learning and teaching imply that development processes always require technology transfers from locations that are perceived as more advanced, and this often lead to overlooking the potential in local experiences and practices.

These findings are in line with Nakashima *et. al* (2002, p. 314-324), who understands IK as a way to encompass the sophisticated arrays of information, understandings and interpretations that guide human societies around the globe in their innumerable interactions with the natural milieu: in agriculture and animal husbandry; hunting, fishing, and gatherings; struggles

against disease and injury; naming and explanation of natural phenomena; and strategies to cope with fluctuating environments.

### **5.2.3 Importance of IK**

According to the 1998/99 World Development Report, knowledge, not capital, is the key to sustainable social and economic development. Building on local knowledge, the basic component of any country's knowledge system, is the first step to mobilize such capital. Both scholars and public policy makers are recognizing the importance of various local or culture-based knowledge systems in addressing the pressing problems of development and the environment (World Bank, 1998).

About 5.4% of the lecturers indicated that indigenous knowledge is used for decision-making among communities. They regard IK as important because decisions are made based on the experiences which people have acquired over time. This could be understood that IK provides and facilitates communication and decision-making in most local communities in Namibia.

Hinz and Ruppel (2008) indicates that customary law and tradition authorities mattered when it came to management of a wide range of natural resources in different communities all over Namibia and decisions were made based on different circumstances. For example community members were aware of social norms which were aimed to ensure the sustainable use of pastures, trees, medical plants, fish, and land in general and the traditional norms controlled access to resources; limited the amount of resource extraction; regulated the technologies of resource use; and prescribed clear consequences for non-compliant behaviour (Hinz and Ruppel, 2008, p. 48).

Three (8.1%) of the lecturers were of the view that IK is used to facilitate interaction between people and the environment. They reported that most local communities use IK for

interaction between people and the environment, in the sense that it shapes peoples' understanding about their environment. These findings are similar to what (Muya, 2006) reported, that in most traditional societies children acquire their indigenous knowledge through constant interaction with both the adult world and the physical environment around them. For example, most local communities in Namibia people interact with the environment around them in various ways, which includes: prediction of events and methods of balancing the various forces in the ecosystems. For example when certain type of grass grows, they are able to predict that it might rain so much that year. Eleven (29.7%) lecturers reported that IK forms the basis for survival and livelihoods of local communities (e.g. in human health, animal health, and development programmes). They further indicated that communities in all parts of the world evolved ways of survival based on a particular knowledge system. This view is an extension of Warren's (1991) thoughts that say that IK is part of the lives of the rural poor, and their livelihood depends almost entirely on specific skills and knowledge essential for their survival in agriculture, primary health care, poverty alleviation, animal husbandry, and community development programmes.

Moreover, 6 (16.2%) lecturers indicated that IK is used for problem solving. Respondents felt that IK is sustainable with challenges of environmental change (in that it helps to overcome some of the obstacles being faced) and it can complement scientific knowledge.

This finding might suggest that IK provides ways and means of addressing challenges confronted by traditional communities in a cost effective and efficient way. It is also an indication that IK helps local people use the skills and experiences they have to solve/handle challenging issues, and this helps preserve local peoples' cultural values, knowledge and traditions.

The findings further revealed that 10 (27.0%) of the lecturers indicated that IK is used for the preservation of culture. Indigenous Knowledge acts as a reservoir of local peoples' knowledge from past generations and acquired by millennia of experimentation which helps them preserve culture and tradition, which makes them unique. Three lecturers (8.1%) perceived IK as a native local technology. They indicated that most of the knowledge that is being used today in modern technology originated from the indigenous native technology. For example, most of the medicines used in pharmaceutical companies originate from indigenous plants. This finding is in line with the World Bank (2004) report which shows that in African countries, traditional medicine is used by nearly 70-80% of the local populations to deal with their basic health care needs, and there is scientific evidence to support that over 120 pharmaceuticals products are derived from plants, and 74% were first utilised by indigenous cultures.

Looking at the data, one could easily see that most lecturers were for the view that IK is mostly used for survival purposes, preservation of culture, and is needed in various aspects of life in order to survive on a daily basis: food, medicine, shelter, conservation, preservations of farming methods, hunting, and fishing. This finding is in line with the World Health Organisation's (2000) claim that IK contributes to problem solving strategies for local communities, especially the poor; helps the poor meet their food requirements and offers local opportunities for strengthening local experiences, judgements, and practices and there by increasing the impact of development programmes in order for them to survive on a day to day basis.

Elsewhere, the World Bank (2000) enumerates other uses of IK. For example: herbal medicines; midwives' treatment of cattle ticks by the Fulani people of Nigeria using *Tephrosia* plants; soil and land classifications in Nigeria; water catching stone bunds in

Burkina Faso; construction of buildings with natural “air conditioning” in the Sudan; Kpelle artisans' steel making technology in Liberia; agroforestry systems emulating the natural climax vegetation on the Kilimanjaro; settlement for land disputes between farmers and nomads in Togo; communal use and individual allocation of land by the Washambaa in Tanzania; transfer of knowledge through elders, rituals, initiation, and story tellers in West Africa; systems to control power and distribute wealth among the Maasai in East Africa; and local healers' role in post-conflict resolution in Mozambique (World Bank, 1998).

Therefore, the importance of IK can be emphasized because IK can provide problem-solving strategies for local communities, especially the poor. Applying IK can improve understanding of local condition can enhance his/her experiences, judgments, and practices; can increase the impact of a development program; can help to create a sense of ownership that may have a longer lasting impact on relations between the local population and the local administration, giving the former a means of monitoring the actions of the latter; and can provide a building block for the empowerment of the poor.

#### **5.2.4 Possibility of integration of IK into the university curricula**

With regard to the lecturers' perceptions on the possibility of the integration of IK into the university curricula, the findings have provided evidence that the majority of the lecturers (81.1%) supported the inclusion of IK into the University of Namibia curricula. The lecturers felt that the inclusion of IK into the university curricula is a good idea that would need to be developed properly as a body of knowledge, though challenges of documentation references might arise. Findings from the lecturers further indicate that inclusion of IK into the university curricula is good since IK is based on local level decision making in local areas (e.g. agriculture and health). This claim can be interpreted that the inclusion of IK into the university curricula is important since the purpose of a university is to foster intellectual and

cultural values and norms, of which research could be a vehicle to improve indigenous knowledge.

In support of this finding the Polytechnic of Namibia hosted a three day Indigenous Knowledge Technological Conference under the theme “Embracing indigenous knowledge system into a new technology design paradigm”. During this conference, it was pointed out that Namibia as a nation should embrace the knowledge of their ancestors and ensure that it is protected and preserved. It was further stressed that for IK to survive on its own terms, the social and economic context in which it develops and survives has to be nurtured and protected as it is imperative to recognise and respect the rights of holders and practitioners as living libraries of indigenous knowledge (<http://www.economist.com.na/general-news-2011>, accessed, 7<sup>th</sup> June 2012).

The findings further show that 10.8% of the lecturers felt that the inclusion of IK into the university curricula is not necessary because it might be a difficult to incorporate IK aspects from different Namibian cultures. Lecturers believed that including IK into the curricula might be complex since there are different indigenous Namibian set-ups, and it would be difficult to incorporate all aspects of IK from the different set-ups. Therefore, they perceived the inclusion of IK into the university curricula as a valueless idea that they did not support. This finding implies that dominance of western knowledge systems has led to the marginalisation of African indigenous knowledge systems. The other side of this finding might be understood that the apartheid era in Namibia had left a mark on most peoples’ mind that they regard IK as inferior to the western knowledge. This perspective evident in Convin et al.s’ (1997) statement that says that indigenous technologies are in some cases less effective and incapable of dealing with modern problems.

The minority of the lecturers (5.4%) indicated that IK was already integrated into the university curricula at a limited level. They reported that the teaching of linguistics involves

teaching of IK and they gave examples of different local languages taught at the University of Namibia Language Centre. This finding demonstrates the various efforts aimed at embracing IK at the University of Namibia. For example, since 2011, the Multidisciplinary Research Centre (MRC) conducts an annual IK symposium. The MRC also has a research programme on Indigenous Knowledge Systems (IKS). This IKS research programme is funded by the Ministry of Education. In the teaching of pharmacy, (Indigenous Knowledge) of herbal medicines is also taught in a pharmacognosy course (Multidisciplinary Research and Consultant Centre, 2010).

The majority (81.1%) of lecturers supported the inclusion of IK into the university curricula. This is not surprising given the growing recognition that IK is an important paradigm for sustainable development (Bredlid, 2009). There is an increasing interest and realization among policy makers, researchers and academics that any development strategy which is not based on local experiences, knowledge and culture will not be sustainable (World Bank, 2004). Warren (1991) also emphasizes that the basic component of any country's knowledge system is its IK because it encompasses the skills, experiences and, insights of local people.

### **5.2.5 Indigenous Knowledge content to be integrated into the university curricula**

The findings in relation to the lecturers' perceptions on the type of content to be integrated into the university curricula revealed the following:

Eighteen (48.6%) lecturers suggested traditional education as the type of content to be integrated into the university curricula. They reported that IK is believed to be the knowledge that has been passed on from generation to generation through traditional education (i.e. story telling, folktales, myths and traditional ceremonies). They further indicate that any type of IK which is relevant to the needs of learners to uplift their lives (e.g. teaching practical knowledge of culture, the environment and survival through demonstrations and through a

wide range of ceremonies, stories, songs, village meetings and taboo) is the type of content to be integrated into the university curricula.

Most lecturers (54.1%) want IK of traditional medicines to be integrated into the university curricula. Lecturers expressed that traditional medicine should be integrated into modern medicine because modern medicine originated from indigenous plants. Already, researchers at the University of Namibia are using IK to discover new anti-HIV compounds from plants in the Caprivi and Ohangwena regions (Hedimbi and Chinsebu, 2012; Chinsebu and Hedimbi, 2010).

The importance of traditional medicine as a type of IK content which has been integrated into the university curricula indicates IK's value contributions to global knowledge. This finding is in line with (World Bank, 2000) research that has shown that in most African countries, traditional medicine is used by nearly 70-80 percent of the local population for their basic health care needs. There is scientific evidence to support that over 120 pharmaceutical products are derived from plants, and 74% were first utilised by indigenous cultures.

Nine (24.3%) of the lecturers suggested IK of agricultural management practices should be integrated into the curricula. They believed that traditional agricultural practices do not deplete the environment as compared to the modern agriculture management practices. They further reported that indigenous agricultural technology and crop and animal husbandry methods should be introduced because they are crucial for human survival and are more environmentally friendly. Another 29.7% of the lecturers wanted environmental conservation and cultural heritage as the type of IK to be integrated into the university curricula. This may be attributed to the fact that these two types of IK deal with management of natural resources and physical artefacts.

The findings further show that 10 (27.0%) of the lecturers suggested traditional food as the type of IK content to be integrated into the curricula. Examples such as traditional technology on how to store food and, food preparation were sighted. The findings from the minority (10.8%) of the lecturers who had no idea regarding the type of IK content to be integrated into the university curricula implies their belief that knowledge cannot be classified and therefore it is not easy to break down IK into various categories.

### **5.2.6 How IK can be integrated into the university curricula**

When data on how IK can be integrated into the university curricula were analysed, the findings indicate that 9 (24.3%) of the lecturers supported the idea that IK can be integrated into the curricula through research, since not many research studies have been conducted on IK. They reported that research should be carried out to find out how IK functions, because different cultures have different systems. They would then see what is common in every culture and bring them together and document the findings. They further expressed that topics to be integrated should be complement with western knowledge. This finding is evident in Nuar's (2001) statement which says that not many research studies have been conducted in IK and findings documented. It is therefore difficult to obtain the knowledge and incorporate it into the educational curricula.

This finding might suggest that IK cannot be integrated into the university curricula, unless it is obtained first through research from relevant communities and then findings are integrated into the curricula. The study's finding further suggests that research should involve the community more when the syllabi are designed and developed (e.g. elders, traditional leaders, and research visits that document knowledge).

Three (8.3%) of the lecturers suggested awareness campaigns. They reported that the campaigns could be done by organising seminars with traditional people on various topics,

and then they could come up with draft modules that can further be refined and be incorporated into the present curricula.

The finding on awareness campaigns, as a way to integrate IK into the university curricula, indicates the importance of raising awareness campaigns on the need for integrating IK into the University curricula. This could be accomplished by publishing either in local papers or national papers. From this finding one could deduce that before IK can be integrated into the university curricula, people have to first be sensitized to appreciate the role of (Indigenous Knowledge) and traditional ways of learning in maintaining the sustainability of a community. They also have to understand the role of IK and ways of teaching and learning because it makes a complete person to live a full life. This view is in line with the thoughts of Obomsawsawin (1988) who states that, on an individual scale, IK encompassed total preparations of a total person for living a total life.

It was further found that two (5.5%) lecturers suggested the introduction of a degree programme in IK. They indicated that a Bachelors degree in (indigenous knowledge) should be introduced so that students learn relevant things about local experiences and practices. This finding might suggest that there is a need for the University of Namibia to revise its curricula and thereafter introduce a Bachelors degree in Indigenous Knowledge in all the relevant faculties. This finding is in agreement with Kaya *et al.* (2009) who indicated that the universities of Venda, Zululand and North West have shown how to integrate IK into their educational systems and a Bachelor of IK Degrees have been introduced.

Five (13.8%) of the lecturers proposed the use of a resource person. They suggested systematic steps of identifying experts in various knowledge systems. There should be documentation and data base created that will allow lecturers, and teachers and educators to tap into the knowledge. This finding is in agreement with Ntuli (2000) who suggests that

systematic steps of indentifying experts in various knowledge systems who speak to academicians has to be done, if IK is to be appreciated.

The findings about a resource person as a way to integrate IK into the university curricula might imply that the University of Namibia should put mechanisms in place to encourage people from different local communities with special talents or natural gifts like traditional healers, rain-makers and diviners to share their skills to academicians and younger generations so these skills can be well documented.

Another 5 (13.8%) of the lecturers supported the idea of a stand-alone subject as a way to integrate IK into the curricula. They indicated that a module in IK should be introduced at various levels and in relevant faculties. This claim can be interpreted that IK should be streamlined into all the formal educational systems at all levels to ensure its sustainability.

The findings further, reveal that 10 (27.0%) of the lecturers reported that IK can be fused in the already existing content. They reported that it would be easier, and more effective to infuse IK into already existing content compared to stand alone subject.

Ten (27.0%) of the lecturers opted for the infusion of IK into the existing content. This may be due to the fact that there are no specialists or experts to teach IK as a stand alone subject. Yet, if IK was infused into the already existing curricula, there would be no need for extra person-power. One would therefore conclude that the integration of IK into the already existing curricula is the most cost-effective option. Still, the findings revealed that further research should be conducted on the applicability of IK in the modern world.

Two (5.5%) of the lecturers indicated exposure visits as a way to integrate IK into the university curricula. They expressed that exposure visits should be done through popular communication channels between community members and the university and students,

which would encourage research on IK issues. This study finding might suggest that the University of Namibia should put in place measures where by exposure visits to natural sites and traditional community authorities, field attachment to traditional keepers of IK are done. The fewest number of lecturers (2.7%) had no idea about the type of IK to be integrated into the university curricula. They indicated that they didn't understand how IK can be integrated into the university curricula. This study's finding might suggest that some lecturers still have negative perceptions towards IK and this might also imply that they lack understanding on the importance of IK.

### **5.2.7 Other ways of preserving IK**

The findings in regards to the perceptions on other ways of preserving IK apart from integrating it into the university curricula showed that IK can be preserved through documentation, which has to be written down by writing articles, journals, and books which will then be passed on to future generations. Twelve (32.4%) of the lecturers further indicated that IK should be documented in order to have a patent. That way it cannot be lost. This could imply that documentation is essential in the sense that whatever is documented can easily be accessed by generations and generations to come. This finding is confirmed in the case study done by Rajasekan (1992), who claims that the erosion of African knowledge is largely associated with absence of mechanisms to ensure that the knowledge and related practices are passed on from generation to another. Often old generation are dying without endowing the new generation with the wealth of information and skills on the use and management of IK,

which threatens the future cultural well being of African communities. The findings further show that 4 (10.8%) of the lecturers suggested research and publications as a way to preserve IK. They indicated that academics must carry out research projects which should include aspects of IK and involve students in the research projects and test IK's applicability in the modern world. This finding would imply that IK can only be disseminated and made known through research and publications, after being incorporated into the university curricula, because conducting research would help to find out how IK functions. Since there are different cultures in Namibia, research needs to be conducted to identify what is common in all the different Namibian cultures and what brings them together. This could also imply that lecturers should engage in research and publish findings into academic articles, and books and make it available to the larger community.

Five (13.5%) of the lecturers opted for informal education as a way to preserve IK. They reported that informal education is learning through culture, and the use of cultural items in schools will bring IK alive for the learners. As the researcher mentioned earlier, (indigenous knowledge) is stored in culture in various forms, such as customs, folk stories, folk dramas, legends, proverbs, and myths, and the use of these cultural items as resources in schools can be very effective in bringing indigenous knowledge alive for the students. This learning would allow them to conceptualise places and issues not only in the local area but also beyond their immediate experience. Students will already be familiar with some aspects of IK culture and, therefore, may find it interesting to learn more about it through these cultural forms.

Two (5.4%) lecturers suggested cultural heritage as a way to preserve IK. The finding on cultural heritage as a way to preserve IK might suggest that the University of Namibia should

have a museum or art gallery where objects such as artwork and other cultural masterpieces are collected and stored. This finding is in line with Tanselle & Thomas (1998) research which states that objects are important to the study of human history because they provide a concrete basis for ideas, and can validate them. Their preservation demonstrates recognition of the necessity of the past and things that tell its story.

Another 2 (5.4%) of lecturers suggested focus group discussion as a way to IK. They indicated that the discussions should focus on African contributions on IK, in order to get different opinions from different people at the same time. This finding is in agreement with Robson (2007) who supports the opinion that a focus group interview/discussion can be an efficient way of gaining data from various people at the same time. Focus group discussion refers to a method which collects data through group interactions based on a specific topic determined by the researcher (Greef, 2006). This finding might imply that the University of Namibia should have regular focus group discussions on IK, where different stake holders are invited to attend and get involved and build up a core of knowledge through triangular studies and research on IK. The finding might further imply that focus group discussions can be good strategy of gaining data from various people at the same time.

Two (5.4%) of the lecturers opted for training people in their respective communities on various IK activities. The lecturers further felt that graduates from other countries must be compelled to go through a certificate course of local knowledge before they work or teach in Namibia. One would deduce from this finding that there is a need to include all aspects of IK in all educational institutions as a National pride and true citizenship.

Moreover, the findings clearly show that majority of the lecturers opted for documentation and informal education as ways to preserve IK. This might imply that IK is not preserved because it is not documented, and if IK is to be integrated into the University of Namibia curricula, it has to be sourced and documented first because one can't integrate something

which is not available. Therefore IK has to be made available before it can be integrated into the curricula.

According to the World Bank (1998), the international community established gene banks to preserve genetic information of local varieties and indigenous species. Genetic traits of these species and the knowledge of cultivators may prove instrumental in future breeding programs to introduce resistance against pests diseases or harsh climatic conditions. However, preserving genetic traits without preserving the knowledge of their husbandry may prove futile as the seeds and clones stored in seed banks do not carry the instructions on how to grow them. Hence, gene banks cooperate with farmers and communities who still cultivate local varieties to preserve such essential knowledge and skills *in situ* (World Bank, 1998).

#### **5.2.8 Prospects of integrating IK into the university curricula**

Findings with regard to lecturers' responses on prospects of integrating IK into the university curricula showed that 17 (45.9%) of the lecturers supported the idea that the prospects of integrating IK into the university curricula are high as they consider IK as a source of accumulated wisdom that local people use in carrying out their day to day activities. Twelve (32.4%) of the lecturers indicated that the chances of integrating IK into the university curricula are slim, because it will not be easy there since there is no political will to strengthen it. The minority (5.4%) of the lecturers suggested that the prospects of integrating IK into the curricula are average, as they reported that there is no one to spear head the process. Lecturers further claimed that the University of Namibia is a multinational institution with different lecturers from different countries; therefore it might be difficult to integrate IK into the university curricula. Five (13.5%) of the lecturers seemed not to know the prospects of integrating IK into the university curricula.

The findings show that 45.9% of the lecturers showed that the prospects of integrating IK into the university curricula are very high. This is in line with the increasing attention IK is receiving by academics and development institutions. Though there is an increasing interest and realization about IK among policy makers, researchers, and academics, locally and internationally, some lecturers do not seem to understand IK and its importance in the academic cycles and developmental processes. The deduction could be that IK is not systematically documented and it is predominantly embedded in practices and experiences and mostly exchanged through communication and demonstrations and therefore, cannot easily readily available to most people. This is in agreement with (Kimenyi, 2003) who states that IK is not known by some development professions today because it is only in the memory of local groups in remote areas. One may conclude that IK is highly fragmented, dispersed, and undocumented and as a result, such knowledge is being lost with each succeeding generation.

#### **5.2.9 Challenges of integrating IK into the university curricula**

One in every four lecturers reported that unskilled man-power would be a challenge because the university lacks qualified staff to handle the courses, and there is also a lack of capacity at the university to understand and impart IK. This finding supports the statement of Seleti (2007) that the major challenge facing the promotion of IK for sustainable development is the lack of trained man-power. In order to meet this challenge, he suggested that IK should be integrated into the university curricula and funds should be made available to train staff to handle new IK courses.

Twelve (32.4%) lecturers felt that since IK is undocumented, it would be a big challenge to list down what is not documented, hence a lot of information will be missed out. The findings further revealed that 10 (27.0%) of the lecturers indicated that IK is not scientific, therefore it

will be difficult to integrate. They further reported that most educators just focus on science and technology, which greatly focuses on western ideas and technology. Lecturers further indicated that lack of understanding about IK has made most people perceive IK as primitive knowledge and practices in relation to western technology and knowledge. This belief would imply that some people still have negative perceptions towards IK because of the lack of awareness on the importance of IK and the opportunity to understand its benefits. There is a need therefore, for the community at large to be sensitized about the importance of IK in Namibia and the need to preserve such an important heritage. Four (10.8%) of the lecturers reported that different cultures will make it a big challenge to integrate IK into the university curricula, because IK varies from culture to culture. Therefore consolidating different values, beliefs, and practices will be a big challenge. Lecturers further expressed that Namibia is a nation with a lot of cultures and beliefs, thus it would be very difficult to choose from some cultures and beliefs and leave out others.

Twelve (32.4%) of the lecturers indicated that the lack of documentation would be the biggest challenge to integrate IK into the university curricula. This finding might imply that since IK is orally transmitted, it is not readily available and the people who possess it might resist sharing it. Therefore, it might be difficult to integrate something which is not available. This is in line with Nuar's (2001) statement that not many research studies have been conducted on IK and it is therefore difficult to obtain the IK that should be incorporated into the educational curricula.

The findings indicate the perception that IK is unscientific knowledge, therefore it would be a very big challenge to have it integrated into the university curricula. This pessimistic viewpoint is not surprising given that Western education characterises IK as inefficient, old-fashioned and insignificant (Bredlid, 2008). Thus, IK is easily stigmatized and stereotyped as

poor people's knowledge. For example, Western scholars dismiss IK holders as 'bare-foot' experts. Rajasekan (1993) also voiced a concern that despite the importance of IK, it is not adequately promoted and protected in most African countries because people believe it is unscientific and inadequate. Hence, the World Bank (1998) stated that "special efforts are, therefore, needed to understand, document and disseminate IK for preservation, transfer and adoption.

### **5.3 Summary**

This chapter aimed at discussing the findings in view of the existing literature. In the next and final chapter the researcher made recommendations and drew conclusions based on the integrated knowledge of chapters 1, 2, 3, 4, and 5.

## **CHAPTER 6**

### **SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION**

#### **6.1 Introduction**

The aim of the study was to investigate perceptions of lecturers in the faculties of Education, Agricultural and Natural Resources at the University of Namibia towards the prospects and challenges of integrating (Indigenous Knowledge) into the university curricula. The study began by providing a theoretical background and then discussed the research methodology

with specific reference to the data collection and analysis. The findings of this research are summarized and distilled into recommendations and conclusion of the thesis.

## **6.2 Summary of the findings**

The summary of the findings are presented in relation to the main research questions of the study:

1. What are the perceptions of the lecturers towards the integration of (Indigenous knowledge) into the university curricula?
2. What type of content could be integrated into the university curricula?
3. How can IK be integrated into the university curricula?
4. What are the prospects of integrating IK into the university curricula?
5. What are the challenges of integrating IK into the university curricula?

## **6.3 Findings according to research questions**

- Twenty-seven percent (27.0%) of the lecturers equated IK to community and cultural knowledge. The fact that the majority of lecturers equated IK to community and cultural knowledge is an indication that IK is considered as community and cultural resources, which has a result of many years of accumulation of knowledge and skills. However, a small number of respondents likened IK to tradition and native language. This finding meant that the potential of IK is still not appreciated by some people.
- Indigenous Knowledge forms the basis of survival and livelihoods of local communities (e.g. in human health, animal health, and development programs. This finding means that

most communities in all parts of the world evolved ways of survival based on a particular knowledge system in different aspects of life e.g. food, medicine, poverty alleviation, and community development programs). This finding could also mean that most of modern technology originated from the indigenous native technology.

- Eighty-one percent of the lecturers supported the inclusion of IK into the curricula. This finding indicates that there is a need for the University of Namibia to include different aspects of IK in their curricula.
- However, 10.8% of the lecturers felt that the inclusion of IK into the university curricula is not necessary, because it might be difficult to incorporate all aspects of IK from different Namibian ethnic groups into the curricula. Also, some lecturers still do not appreciate the value and contributions of IK to national development programs.
- The type of indigenous knowledge and content to be integrated into the university curricula are such as: Traditional education, traditional medicines, agriculture management practices, environmental conservation, cultural heritage and traditional foods. Overall, the majority of the lecturers emphasized traditional medicines and traditional education as the type of content to be integrated into the university curricula.
- Several ways were suggested as a means to integrate IK into the university curricula: Research, awareness campaigns, introduction of a degree program in IK, use of resource people, stand-alone subjects, and infusion of IK into existing content, policy formulation, and exposure visits. Infusion of IK into already existing content was emphasized as the best, cheapest, and most effective option since there is already availability of man-power in various faculties.
- Suggested mechanisms for preserving IK included: Documentation, research, informal education, cultural heritage, focus group discussions, and training people in their respective

communities, Documentation and informal education are the best ways to preserve IK in order to have patent, and in that way it cannot be lost.

- Most lecturers (45.9%) supported the idea that the prospects of integrating IK into the university curricula is high since they consider IK as a source of accumulated wisdom/technology that local people use in carrying out their day to day activities.
- The constraints that may affect the integration of IK into the university curricula include the following: Lack of availability of qualified staff to handle courses, lack of capacity at the university to understand and impart IK, lack of documentation, IK is not scientific, different cultures, and lack of documentation. However, lack of documentation was singled out as the biggest challenge to integrate IK into the university curricula. Lecturers reported that since IK is orally transmitted, it is not readily available and the people who possess it might resist to share it, and therefore it might be difficult to integrate something which is not readily available.

#### **6.4 Contributions of the study to the existing knowledge base of integrating IK into the university curricula**

The study ascertained the perceptions of IK, IK content, integration approaches, and prospects and challenges of integrating IK into the curricula for the faculties of Education, Agricultural, and Natural Resources at the University of Namibia.

The study revealed the perception that IK is mostly used for survival purposes and preservation of culture. This finding meant that IK is important since it is part of most of the communities all over the world and it is needed on a daily basis in different aspects of life (e.g. farming, hunting, food preparation, preservations, conservations, medicines and shelter).

The study's finding concludes that IK should be integrated into the University of Namibia curricula. The study's finding clearly showed that traditional medicine and education should be part of the type of IK content to be integrated into the university curricula. Traditional medicine and education has great value and could contribute to the global knowledge. For example most of modern medicines originated from IK. Reflecting on the findings of the study, I found that the integration of IK into the university curricula should be done through: research, awareness campaigns, policy formulation, a new degree program, a stand-alone subject and infusing IK into already existing content.

The mechanisms for preserving IK were documentation and informal education. Documentation and informal education are the most effective ways in which IK can easily be made available and accessible to the world at large.

The prospects of integrating IK into the university curricula are very high. This finding indicated strong prospects for integrating IK into the university curricula and for teaching and learning IK at the University of Namibia. This is an indication that there is an urgent need for the University of Namibia to either integrate IK in its curricula or introduce a bachelors degree in IK.

The study revealed a number of challenges of integrating IK into the university curricula. The challenges included: Unskilled man-power, lack of documentation, the non-scientific nature of IK, and different cultural backgrounds. Integrating IK into the curricula could come along with some challenges, therefore it is important to address the challenges mentioned before the University of Namibia should embark on integrating IK in its curricula.

## **6.5 Limitations and strength of the study**

The main limitation of this study was that it was essential to cover all the faculties at the University of Namibia in order to generalize the findings, but the researcher only focused on two faculties (Education and Agriculture). This could limit the ability to generalize.

Most of the participants in the study were male. The sample might therefore not be representative in terms of gender. The study was not able to interview/answer questionnaires as in the initial plan (40 lecturers). This was not possible because some of the questionnaires which were given out to the respondents were not returned and some respondents were not available during the time the interviews were being conducted.

However, even though there were some limitations in the study, the study also had some strength. The major strength of the study lies in the fact that the research questions which guided the study were well answered and it captured diverse views.

## **6.6 Future Research**

The study did not capture all the faculties at the University of Namibia, therefore a study should be conducted that covers all the faculties at the University of Namibia. This will bring out different views from different lecturers in various faculties.

Future research is needed to study why significantly more lecturers support the inclusion of IK into the university curricula.

There is a need for more research to understand why the majority of the lecturers opted for traditional medicine and education as the type of IK content to be integrated into the university curricula.

Finally, there is a need for more research to find out the perceptions of University of Namibia students towards the prospects and challenges of integrating IK into the university curricula.

## **6.7 Recommendations**

In line with the findings of the study, several recommendations were made for the University of Namibia to:

1. Analyse curricula structures and systems closely in order to incorporate IK in t existing content.
2. Introduce a degree programme in indigenous knowledge (Bachelors of Indigenous Knowledge Systems).
3. Infuse indigenous knowledge content in the existing curricula.
4. Initiate and conduct needs assessment workshops on IK and come up with relevant training programmes, and subsequently compile information for writing training modules to serve as guidelines.
5. Raise awareness on the need for integrating indigenous knowledge into the university curricula.
6. Use resource people from different communities of Namibia to present IK lessons at the university.
7. Serve as a resource base for indigenous knowledge from various communities in the country.
8. Enhance partnership between the university and the community with regards to IK.
9. Conduct awareness campaigns on the value and importance of IK in enriching the development process.

10. Conduct exposure visits to natural sites and communities, and encourage communication between community members and the university via popular communications channels.

## **6.8 Conclusions**

The study set out to analyse the perceptions of lecturers of the faculties of Education, Agricultural and Natural Resources at the University of Namibia towards the prospects and challenges of integrating Indigenous Knowledge into the university curricula. The findings of the study indicated that the majority of the lecturers equated IK to community and cultural knowledge. Majority (81.1%) of the lecturers supported the inclusion of IK into the university curricula. The lecturers' preferences on the type of IK content to be integrated into the university curricula were traditional medicine and education.

The integration of IK into the university curricula should be done through the following strategies: research, awareness campaigns, policy formulation, a new degree programme, and infusing IK into the already existing content. The mechanisms for preserving IK were associated with documentation and informal education. Prospects of integrating IK into the curricula were very high. However, the challenges of integrating IK into the curricula included the following: unskilled person-power, lack of documentation, the non-scientific nature of IK, and different cultural backgrounds. The results of this study make a strong case for the teaching and learning of IK at the University of Namibia. The University of Namibia should either integrate IK into the existing curricula or implement new IK degree programmes and courses.



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## **APPENDIX A: Interview Guide and Questionnaire**

Dear respondent,

The purpose of this study is to investigate perceptions of lecturers in the of Faculties of Education, Agricultural, and Natural Resources at the University of Namibia towards the prospects and challenges of integrating Indigenous Knowledge into the University curricula.

Please note that this research is purely for academic purposes and that your responses on the questionnaire will be treated strictly confidential and that you will remain anonymous.

Thank you very much for answering the questions in this questionnaire.

### **Instructions**

1. Do not write your name.
2. Please answer all the questions to the best of your ability.
3. Write answers in the spaces provided or an (X) in the box provided.

### **Section A: Demographic information**

1. Gender

Male	
Female	

2. Campus

Neudam	
Ogongo	

**Section B: Questions**

**Perceptions and meaning of indigenous**

3. What is your definition of Indigenous knowledge?

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4. Why do you think Indigenous Knowledge is important? Explain your answer.

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5. What is your perception about the integration of Indigenous Knowledge into the University of Namibia curricula?

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**Type of content to be integrated**

6. What type of Indigenous Knowledge do you think should be integrated into the university curricula? Give reasons for your answer.

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7. How can Indigenous Knowledge be integrated into the university curricula? Explain briefly how it can be done.

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8. Explain other ways to preserve Indigenous Knowledge, apart from integrating it into the educational curricula? Support your answer.

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**Prospects of integrating Indigenous Knowledge into the University curricula**

9. What are the prospects of integrating Indigenous Knowledge into the university curricula?

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**10.** What do you think are the challenges of integrating Indigenous Knowledge into the university curricula?

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**Effective implementation measures**

11. What measures should be put in place to ensure the effective implementation of Indigenous Knowledge into the university curricula?

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12. In your own opinion, what should the government do to preserve Indigenous Knowledge? -----

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Thank you very much for your time.

**APPENDIX B**

**A COPY OF A LETTER OF PERMISSION FROM THE  
PRO-VICE CHANCELLOR TO EDUCATIONAL  
RESEARCH**

## **APPENDIX C**

### **LETTER FOR PERMISSION TO CARRY OUT RESEARCH STUDY**

Grace Mukumbo Chinsembu

Box 30123

WINDHOEK.

3<sup>rd</sup> September, 2010.

The Pro-Vice Chancellor

University of Namibia

Private Bag 13303

WINDHOEK.

**REF: Permission to conduct an Educational Research project at the University of Namibia main campus, Neudam campus and Ogongo campus.**

I am Grace Chinsembu, Master of Education Degree (Adult Education) student at the University of Namibia, student No. 200322125. The purpose of this letter is to seek for a permission from your good office to conduct an educational research which is a requirement for completing my course.

The study intends to investigate perceptions of lecturers in the faculties of Education, Agricultural and Natural Resources at the University of Namibia towards the prospects and challenges of integrating Indigenous Knowledge into the university curricula.

The results of this study will enable the faculties of Education, Agricultural, and Natural Resources at the University of Namibia to act as agencies for transferring some of the inherent Indigenous Knowledge in Namibia from one generation to the next through formal education. The outcome of the study is also expected to benefit the local people by providing them an opportunity to participate in curriculum development, and this might form a platform to empower of the local people, which may improve their quality of life.

I therefore, seek your permission to enter the campuses so that I can collect the relevant data.

The collection of the data will be through interviews that will last 20-30 minutes.

If you need more information, please contact me at 0813389745 or my supervisor:

Dr. M.N. Hamunyela: (Main supervisor) at the department of Life long and Community Education University of Namibia main campus.

I am looking forward to receiving a favourable response.

Yours sincerely,

Grace Mukumbo Chinsebu.