

Ethical Issues and Indigenous Knowledge Production and Use in Sub-Saharan Africa in the 21st Century

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Abstract

This paper addresses the ethical issues which relate to the sharing, use, access, research and personal as well as social benefit of indigenous knowledge produced in sub-Saharan Africa. Close to two decades into the 21st century, which supposedly ushered in the "knowledge/information society," communities in sub-Saharan Africa still depend on indigenous knowledge to have access to information which they use for making crucial decisions and solve day-to-day critical problems. In the information age, indigenous knowledge may be the only source of information that communities and individuals in sub-Saharan Africa have control over and are comfortably familiar with. Indigenous knowledge is recognized as having relevance to sub-Saharan Africa's people's daily life, economic development, cultural preservation and political transformation which may lead to poverty reduction in the region that is categorized as one of the least developed, if not the least developed in the world. Important as indigenous knowledge is to communities in sub-Saharan Africa, the issues of ethics relating to access and use of the knowledge do not feature prominently. The broad objectives of this paper include examining the ethics that should be observed when producing indigenous knowledge in sub-Saharan Africa; how the knowledge is shared ethically; who should have access to the knowledge; find out the extent to which research findings in indigenous knowledge may be used to address local concerns such as projects in health, agriculture and education in sub-Saharan Africa; establish how ethical use of the knowledge may lead to sustainable social, economic, technical, cultural and political development in sub-Saharan Africa; and suggest ways of formulating policies which may promote and encourage ethical exploitation and use of indigenous knowledge in sub-Saharan Africa. Methods for collecting data for the paper will include a review of available relevant literature review, seeking views of a few indigenous knowledge practitioners, which will be supplemented by the author's knowledge of indigenous knowledge systems in sub-Saharan Africa. Findings of the study would add value to the existing body knowledge on the ethical issues relating to the management of indigenous knowledge produced in the sub-Saharan Africa region.

Keywords: Ethics; Indigenous knowledge; Sub-Saharan Africa; Access; Intellectual property; Higher education

1. Introduction

For sometimes, academics, corporations, and government agencies have had to take greater interest in conducting Indigenous Knowledge (IK) research in response to environmental issues and failures of "development projects" (Scrangella, 2004). It is no doubt that development professionals treasure indigenous knowledge, finding it extremely useful in solving complex problems of health, agriculture, education, and the environment, both in developed and in developing countries. All over the world, a number of projects involving indigenous knowledge are initiated every single day. Indigenous scholars and communities affected are however concerned about how such research projects may affect their communities and goals towards autonomy. In order to protect their IK and minimize the possibility for misrepresentation and/or misuse, some communities insist on equal control and participation in the entire research project. Indigenous knowledge is not yet fully utilized in the development process (World Bank, 1997). Conventional approaches imply that development processes always require technology transfers from locations that are perceived as more advanced. This has led often to overlooking the potential in local experiences and practices.

The World Bank (1997) acknowledges the relevance of indigenous knowledge but it does not say anything about indigenous knowledge and higher education. According to the World Bank (1997), Indigenous knowledge is relevant on three levels for the development process:

- It is, obviously, most important for the local community in which the bearers of such knowledge live and produce.
- Development agents (CBOs, NGOs, governments, donors, local leaders, and private sector initiatives) need to recognize it, value it and appreciate it in their interaction with the local communities. Before incorporating it in their approaches, they need to understand it – and critically validate it against the usefulness for their intended

objectives.

- Lastly, indigenous knowledge forms part of the global knowledge. In this context, it has a value and relevance in itself. Indigenous knowledge can be preserved, transferred, or adopted and adapted elsewhere.

Indigenous knowledge is collectively owned by communities in sub-Saharan Africa. Many communities in the region may not as yet understand the value of the indigenous knowledge produced locally and collectively owned. For that, the communities may not impose any restrictions on who should access the knowledge, who should be the direct beneficiaries the knowledge, how the knowledge may be transferred and how it should be shared. The broad objectives of this paper include:

- examining the ethics that should be observed when producing indigenous knowledge in sub-Saharan Africa;
- finding out how the indigenous knowledge produced in sub-Saharan Africa should be shared ethically;
- finding out the extent to which research findings in indigenous knowledge may be used to address local concerns such as projects in health, agriculture and education in sub-Saharan Africa;
- establishing how ethical use of the knowledge may lead to sustainable social, economic, technical, cultural and political development in sub-Saharan Africa; and

1.1 Indigenous knowledge

Indigenous knowledge (IK), is knowledge that local people in a given area or community have developed over time and which they continue to develop (Warren, 1991 and Scoones and Thompson 1994). This means that indigenous knowledge is dynamic and is not only confined to the original inhabitants of one area, but rather, is knowledge which is locally developed and continue to grow (Warren, 1992; IIRR, 1996; Grenier, 1998 and Langill, 1999:). Grenier further clarifies that indigenous knowledge: "is...the unique traditional knowledge existing within and developed around specific conditions of women and men indigenous to a particular geographic area" (Grenier 1998). What makes the knowledge indigenous is its inalienable link to the native people of a particular locality. Indigenous knowledge can be structured knowledge which is systematic, with gender and age-specific training taking place, and is stored in people's memories and activities. Indigenous knowledge can be expressed in the form of stories, songs, folklore, proverbs, dances, myths, cultural values, beliefs, rituals, community laws, local language and taxonomy, agricultural practices, equipment, materials, plant species and animal breeds. Indigenous knowledge is usually shared and communicated orally, using specific examples, and through cultural practices. Indigenous knowledge takes different forms of communication and organization, and that is vital to local level decision-making processes, its preservation, development and the manner it spreads in communities (Grenier 1998).

1.2 Indigenous knowledge in the higher education context

In sub-Saharan Africa, not many countries put a lot of emphasis on indigenous knowledge systems in higher education. Indigenous belief systems closely follow traditional knowledge transfer protocols and epistemologies. Nearly all members of the academe in sub-Saharan Africa have been subjected at one time or another to the tradition that traces its beginnings in the "invisible college". In earlier times, when knowledge was thought to be the purview of the privileged, the term was applied to secret societies and even to occult brotherhoods (Flor, 2013). Flor further argues that many of today's grand academic traditions started out in invisible colleges, well-knit and tightly structured brotherhoods of hooded learned men governed by a culture of hierarchy, exclusivity, ritual and secrecy. In Paris, Oxford and Rome, these brotherhoods existed for the purpose of enlightenment. A progressive system of initiation, passing and raising determined the degrees and the level of knowledge of a scholar. Under this system, disciplines began and areas of studies grew. Today, the academe has discarded the secret handshake but still adheres to secret codes through the technical jargon inherent in all academic disciplines. The hood and the robe have been retained in academic costumes. The system of seniority, the degrees and the rituals that accompany them have been maintained. Latin and Greek have been replaced with English as the academe's *lingua franca* (Flor and Sompong, 2011).

Indigenous belief systems covering knowledge transfer, sharing and reuse is likewise guided by this exact same tradition of hierarchy, exclusivity, ritual and secrecy (Flor, 2013). Indigenous communities, as a rule, have invisible colleges composed of tribal elders, chieftains and healers who regard themselves as custodians of knowledge, which may only be shared with prudence, responsibility and, on occasion, sanctity. Like the invisible college of the past, tribal elders regard knowledge as power. Thus, the prevailing belief system dictates that indigenous knowledge on feeding (agriculture) and healing (medicine) cannot just be made openly available to any person who may misuse it or irresponsibly wield the power attendant to it. This may be contrasted with the mainstream practice of sponsoring massive

agricultural extension campaigns to promote food production technologies as well as donor sponsored health campaigns to capacitate rural health workers.

1.3 Ethics

Broadly speaking, ethics is a branch of philosophy concerned with how we ought to act (Allhoff and Vaidya (2005). Allhoff and Vaidya contend that while different philosophers may disagree about what the proper criterion of the right action, they would nevertheless agree that the goal of their discipline is to provide such criterion. Technically, philosophers would divide ethics into three branches of metaethics, normative ethics and applied ethics. The normative ethics concerns itself with the notion of moral obligation. Metaethics covers the metaphysics of morality, moral epistemology, the linguistics analysis of moral claims, the nature of moral motivation, etc. Applied ethics covers a number of different topics such as business and professional ethics, environmental ethics, biomedical ethics, etc. The utilitarian moral theory has it that actions are right if they maximize total aggregate happiness. Because of its nature, knowledge generally and indigenous knowledge in particular may well fall in applied ethics.

Ethics relates to codes of conduct regarded as right and good, based on morality or values, faith or some higher authority. According to Harshman and Harshman (2008), ethical principles are rarely absolute but are "relativistic and arise out of particular situations." As with many discussions of ethics or morals, clear determinations of ethics are complicated by conflicting rights. Determining right from wrong in the indigenous knowledge produced in sub-Saharan Africa would pertain to accessing the indigenous knowledge, sharing it, protecting intellectual capital of individuals and collective intelligence of communities in the region, and social and cultural sensitivity. A teleological approach considers the ultimate consequences of human actions in order to resolve ethical dilemmas, while deontology denotes that some kinds of actions are in themselves wrong, despite the consequences of these actions. Deontology refers to "doing the right thing" while teleology is concerned with achieving the desired outcome from whichever actions (Gordin-Till, 2002). In the teleological approach, actions are right if they have good and desired consequences ('the end justifies the means') and wrong if they have bad and undesired consequences (Macdonald and Beck-Dudley, 1994).

2. Sub-Saharan Africa

Sub-Saharan Africa refers to the countries of the African continent south of the Sahara desert. Geographically, the demarcation line is the southern edge of the Sahara desert. Some countries such as Chad, Mali, Sudan, Niger and Mauritania belong both to the Saharan desert region and sub-Saharan Africa region.



Figure 1: A map showing the boundaries of sub-Saharan Africa — South of the Sahara Desert.

Sub-Saharan Africa is made up of 49 independent nations, South Sudan being the newest independent nation. Of the 49 nations, 43 of which are located on the mainland and six are island nations. The island nations include Madagascar, Seychelles, Comoros, Cape Verde and Sao Tome and Principe. In some quarters, Mauritius is generally not considered a sub-Saharan island nation as the ethnic make-up of the country is predominantly East Indian, Chinese and French. However, it is always counted as one of the sub-Saharan African countries.

The sub-Saharan region has an estimated population of about 900 million (World Bank, 2012). Some countries in the region are very large with large populations. Nigeria for example has a population in the region of 150 million. Some

other countries are small with populations not exceeding 500,000. Cape Verde has an estimated population of 420,979. Djibouti has an estimated population of 486,530. Sub-Saharan Africa is classified as the poorest region of the world. Development agencies describe the region as collectively suffering from the legacies of native corruption, interethnic conflicts, overall ignorance of indigenous populations, violence and perpetual political strife. Life expectancy in sub-Saharan Africa is probably the lowest in the world. The region is well endowed with natural resources but still lags behind in economic development. Literacy rates are low, medical care low and technological development lags behind other regions of the world.

3. Discussion

Indigenous knowledge has always had a presence in sub-Saharan Africa and other regions of the world since time immemorial. Communities in sub-Saharan Africa have always produced, processed and shared indigenous knowledge as part of their cultural practices. Indigenous knowledge is now looked upon as an emerging area of study that focuses on the ways of knowing, seeing, and thinking that are passed down orally from generation to generation. Such ways of understanding reflect thousands of years of experimentation and innovation in diverse areas such as agriculture, animal husbandry, child rearing practices, education systems, medicine, and natural resource management—among many other categories. In sub-Saharan Africa, these are areas which are largely underdeveloped and need to be developed.

Agriculture for example is not well developed in sub-Saharan Africa and food security is a major concern to the governments of the region. In the past, efforts to meet food requirements have centred on strategies that improve employment opportunities and agricultural productivity especially increased agricultural productivity and introduction of cash crops (Ogle & Grivetti, 1985). This has been done mainly through the emphasis of modern agriculture. Such policies in recent years were regarded as undisputed methods for raising the food security status of rural populations in sub-Saharan Africa, yet food insecurity and poverty rates have continued to rise amongst the rural populations of the region.

It is recognized that increased food and fiber production have been observed in some areas due to applications of modern technologies such as mechanization, increased chemical use, specialization, and policies that favour modern methods and production maximization. The changes have had positive effects on food security in modern societies and have reduced many risks in farming but they also induced significant costs (Brown, 2004; Weaver, Rock and Kusterer, 1997). The loss of top soil, contamination of ground water, increased neglect of the living and working conditions of farm workers, increasing costs of production, drastic narrowing of the food base and the disintegration of economic and social conditions in rural communities are some of the notable consequences of modern agriculture in sub-Saharan Africa. The disintegration of economic and social conditions in rural communities has far reaching implications, one of which is the erosion of traditional farming practices which forms the basis of livelihood for most rural families.

Before the introduction of modern agricultural methods, traditional societies in sub-Saharan Africa used farming methods that were suitable for local ecosystems. The traditional agricultural methods were informed by indigenous knowledge systems (IKS) which have been developed over time around specific conditions of the inhabitants through experience. Ogle and Grivetti (1985), contend that traditional agricultural methods ensured a wide variety of indigenous foods which permitted better food security status long before the modern mechanized agricultural methods were introduced in sub-Saharan Africa.

As its value is still not so obvious, indigenous knowledge on agriculture has not been developed and/or widely applied in modern agricultural practices in sub-Saharan Africa. Rather, the knowledge has received disparagement. It has been labeled primordial and not good enough to feed modern societies. While IK is being marginalized, modern agricultural practices built on Western knowledge systems (WKS) have been made universal through the Western education system and modernity which is now entrenched in many cultures, including those of sub-Saharan Africa region (Warren, Slikkerveer and Brokensha, 1995:35).

The World Bank (2004) has tried integrating indigenous knowledge into the World Bank-supported development projects (table 1 below) in some sub-Saharan African countries and apparently, tangible progress has been recorded.

Table 1: Examples of integration of IK into World Bank-supported development projects in some countries in sub-Saharan Africa

Project	Country	IK component
Integrated Early Childhood Development Project	Eritrea	Collecting and disseminating traditional practices with a special reference to post conflict situations
Nutrition and Early Childhood Development (ECD) Project	Uganda	Learning exchange on IK practices in ECD projects in India and Sri Lanka and use of ICTs
Early Childhood Development (ECD) Project	Kenya	Learning exchange on IK practices in ECD projects in India and Sri Lanka and use of ICTs
Women's Development Initiative Project	Ethiopia	Indigenous practices of women collected and synthesized; SEWA's small scale enterprise experience in India transferred to Ethiopia
Agricultural Research and Training Project II	Uganda	Indigenous agricultural practices integrated into outreach and dissemination programs
National Agricultural Advisory Services Project	Uganda	Support for farmer driven extension service
National Agricultural Research Project	Kenya	IK agricultural practices for outreach, verification, and dissemination
Malawi Social Action Fund (MASAF3)	Malawi	IK as a tool for community empowerment and development communication
Northern Uganda Social Action Fund (NUSAF)	Uganda	Use IK to promote post-conflict healing of communities affected by war
National Agricultural Advisory Services Project	Uganda	Building IK-based indicators for farmer satisfaction in farmer-driven extension service
PRSP/CAS Process	Kenya	Identify potential role of local-level institutions to increase transparency and participation
MAP-Multi-Country HIV/AIDS Program	Burundi	Use IK to help local communities combat HIV/AIDS, working with local healers
Use IK to help local communities combat HIV/AIDS, working with local healers	Guinea	Use traditional healers to help reduce opportunistic infections related to HIV/AIDS
Conservation and Sustainable Use of Medicinal Plants Project	Ethiopia	IK component will help collect and analyze data on benefits derived from medicinal plants
IK component will help collect and analyze data on benefits derived from medicinal plants	Ghana	Promote the conservation and sustainable utilization of medicinal plants

Source: World Bank, 2004

4. Problematic Ethical Issues Relating to Indigenous Knowledge

Indigenous Knowledge in sub-Saharan Africa has socio-economic, cultural, spiritual, intellectual and political values. Despite the intellectual efforts of many people to create an ethical order in research in indigenous knowledge, for example by developing ethical guidelines, many contentious issues still remain unresolved. Issues such as the appropriation of knowledge, and collective versus individual ownership of knowledge remain contentious (IPHRC, 2004). Understanding Western social systems, and the role of education in the process of knowledge and cultural transmission and how they impact cross-cultural relations, is a necessity in coming to terms with any research on indigenous knowledge in sub-Saharan Africa. It would be desirable to understand the intellectual undercurrents of unequal power relations and the issues of knowledge contexts so as to clarify the foundation of the ethics problems relating to indigenous knowledge research in sub-Saharan Africa. Indigenous knowledge holders in sub-Saharan Africa, like in other developing regions elsewhere face various difficulties. In some cases, the very survival of the knowledge is at stake, as the cultural survival of communities is under threat. External social and environmental pressures, migration, the encroachment of modern lifestyles and the disruption of traditional ways of life can all contribute to weakening the traditional means of maintaining or passing knowledge on to future generations. There may be a risk of losing the very language that gives the primary voice to a knowledge tradition and the spiritual world-view that sustains this tradition. Either through acculturation or diffusion, many traditional practices and associated beliefs and knowledge have been irretrievably lost. Thus, a primary need is to preserve the knowledge that is held by elders and communities throughout the world.

4.1 Intellectual property rights and indigenous knowledge

The exclusive nature of property rights poses an immediate obstacle to any system of intellectual property rights in indigenous knowledge (Cross, 2010). There is the question of "who exactly should own the underlying property right?" In the case of other intellectual property rights, Cross argues that ownership is straightforward as it usually vests in the person responsible for developing the invention or work. Considering that indigenous knowledge is developed in a particular culture, it would by analogy stand to reason that the culture itself would own and control the property. However, a "culture," unlike other legal fictions like a corporation or a nation, is not fixed and does not necessarily speak with a

single voice. Determining who within the culture can make decisions concerning the property presents intractable difficulties.

The World Intellectual Property Organization (WIPO) 2005) identifies a number of the IK characteristics which have implications on religious, legal, economic, social and ethical issues of indigenous knowledge in sub-Saharan Africa. All the issues are of immense interest, but this paper confines itself to addressing ethical issues. According to WIPO, indigenous and local communities justly cherish indigenous knowledge as a part of their very cultural identities. Maintaining the distinct knowledge systems that give rise to indigenous knowledge can be vital for their future well-being and sustainable development and for their intellectual and cultural vitality. For many communities, indigenous knowledge forms part of a holistic world-view, and is inseparable from their very ways of life and their cultural values, spiritual beliefs and customary legal systems. This means that it is vital to sustain not merely the knowledge but the social and physical environment of which it forms an integral part. Indigenous knowledge also has a strong practical component, since it is often developed in part as an intellectual response to the necessities of life: this means that it can be of direct and indirect benefit to society more broadly.

5. Recommendations

In sub-Saharan Africa, indigenous knowledge is there to stay. It is now close to two decades into the 21st century, yet some communities in sub-Saharan Africa look to the indigenous knowledge systems as the only source of information available to them. It may not be surprising to find out that 80% the rural people in sub-Saharan Africa depend on indigenous knowledge systems for earning a living, rituals, cultural expression, decision-making, health care, farming, justice, etc. So, what should be the way forward regarding ethical access, sharing and use of indigenous knowledge produced in sub-Saharan Africa?

5.1 Minimizing exploitation

An ethical framework should minimize the possibilities of exploiting holders of indigenous knowledge holders in sub-Saharan Africa. In sub-Saharan Africa, the chances of high levels of unfair benefits and risks as a result of subjects interacting with researchers are high. In sub-Saharan Africa, there is no infrastructure to ensure communities and/or individual subjects are not exploited by researchers. There is no infrastructure to ensure that research results translate to economic and social welfare of communities and individual subjects. Individuals and communities in sub-Saharan Africa assume the risks of research while most of the benefits may accrue to developed countries (Benatar, 2000). Poverty, illiteracy, cultural and linguistic differences and limited understanding of the nature of scientific research may be the reasons for exploitation of holders of indigenous knowledge and communities in sub-Saharan Africa. Regulatory infrastructures and independent oversight processes that may minimize exploitation of individual knowledge holders and communities in sub-Saharan Africa are either lacking or not well established, less supported financially, far less effective in sub-Saharan Africa, just like in other developing regions. Under such circumstances, clear guidelines for research should minimize the risk of exploitation of individual knowledge holders and communities in sub-Saharan Africa.

5.2 Empowerment of indigenous knowledge holders and communities

In some cases, indigenous knowledge is held by individuals and in many cases, the knowledge is communally held as part of a community's cultural practices. Empowerment and benefits to individual subjects and communities which hold indigenous knowledge in sub-Saharan Africa must become central features of any research entertained and conducted with respect to the people of sub-Saharan Africa. Governments, international organizations and private institutions should support the development of educational, research and training centers which are controlled by Indigenous communities, and strengthen these communities' capacity to document, protect, teach and apply all aspects of their heritage.

5.3 Negotiations

It is recommended that in recognition of Indigenous jurisdiction in sub-Saharan Africa, research agreements need to be negotiated and formalized with authorities of various Indigenous jurisdictions before any research is conducted with their people. Negotiation would result in respect for the host community's distinctive values, culture, and social practices which under normal circumstances should be incorporated into the design and implementation of any research. Respect should not be understood to mean uncritical acceptance of research practices that may be oppressive or coercive.

5.4 *Developing of ethical space*

Sub-Saharan Africa is a large region with occupied by communities of diverse cultural backgrounds. You would even find several sub-cultures in one culture. For that matter, it is recommended that there is need for conceptual development in regards to an ethical space as the appropriate venue for the expression of an ethical research order that contemplates crossing cultural borders. The conceptual development of the ethical space would require that guiding principles be put into effect by the three granting agencies that cement practices of dialogue, negotiation, and research agreements with Indigenous authorities in any research involving Indigenous Peoples of sub-Saharan Africa.

5.5 *Indigenous social structures and systems*

Researchers conducting research among the indigenous communities in sub-Saharan Africa need to thoroughly understand indigenous social structures and systems, and the role of education in the process of knowledge and cultural transmission, is a vital necessity in coming to terms with research involving Indigenous Peoples of sub-Saharan Africa. Education in these respects must be supported with appropriate funding and resources. Indigenous of social structures and systems of indigenous people are remarkably different from the social structures and systems of the Western world.

5.6 *Control over research*

Ethical research approach should dictate that Indigenous Peoples of sub-Saharan Africa should be allowed to exercise control over all research conducted within their communities, or which uses their peoples as subjects of study. This should include the ownership, control, access, and possession of all data and information obtained from research involving Indigenous Peoples. Many are times when the indigenous peoples do have any control of research conducted within their communities or have access to the data which result from such research.

6. **Concluding Remarks**

Dependency on indigenous knowledge systems in sub-Saharan Africa is a reality in the 21st century as it was a reality several centuries back. Indigenous knowledge systems in sub-Saharan Africa have potential for ensuring its sustainable development. Indigenous knowledge produced in sub-Saharan Africa should be integrated in any development projects as this is the knowledge that communities in the region understand and are familiar with. Indigenous knowledge produced in sub-Saharan Africa should be used in a way that preserves the culture from which it was derived. Ethical approach to research on indigenous knowledge in sub-Saharan Africa should ensure that the use of the knowledge should maintain the integrity of the indigenous people, not disparage the indigenous culture from which the knowledge is derived, and allow for the proper identification or attribution of the indigenous peoples as a source of the knowledge (Britz and Lipinski, 2001). Nearly all the indigenous knowledge in sub-Saharan Africa is not documented. The knowledge should be documented so that it would be easy to transmit it to the future generations in sub-Saharan Africa.

How Indigenous Peoples of sub-Saharan Africa assert their knowledge and the kind of knowledge that should be released from communities to the outside world needs to be understood within perimeters of benefiting sub-Saharan Africa Indigenous communities and the protection of cultural and intellectual property from needless exploitation. As Indigenous Peoples research advances, the more critical it will become and perhaps more recognized for its value in transforming knowledge. However, this tactic alone will not be the legacy that imprints Indigenous research into the ethical history books. Rather, it is how far sub-Saharan Africa Indigenous Peoples research can liberate thought and make the transformations urgent enough for people to want to carry them out and difficult enough to carry out for them to be profoundly rooted to reality that will make the difference. The current order of research established from archaic modes of thought requires radical paradigm shift. This shift in consciousness will not and cannot be manifested through the Western approach alone. It will require models of new knowledge from different worldviews.

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