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ETHICAL DIMENSION OF INDIGENOUS KNOWLEDGE SYSTEMS

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Abstract

Indigenous people around the world both in developed and developing countries have long been marginalized by governments and /or by other privileged social groups from main stream social, political and economic activities. As a result they suffer indignity because their legitimate human rights are violated by way of social exclusion, linguistic marginalization, erosion of cultural identity, preference for foreign to local content, low literacy levels, intellectual property exploitation, and push/pull factors. The World Summit on Information Society (WSIS) provided an opportunity for indigenous people to become part of an inclusive information society where everybody without distinction would have access to enhanced services including information and knowledge resources to improve their livelihood. Indeed WSIS Action Lines (ALs) 1, 2, 3 6 and 8 discuss the various legitimate rights that are pertinent to indigenous people and their information and knowledge systems. However, Action Line 10 (ethical dimension of information society) which should enforce the provisions of the rest of WSIS Actions Lines instead offers omnibus and overarching ethical prescriptions of an information society. This we submit cannot effectively serve the needs and aspirations of indigenous people or promote and protect their knowledge systems that have long been marginalized. This article assesses the ethical dimension of indigenous knowledge and outlines the legitimate rights that indigenous communities and their associated knowledge systems must enjoy in an inclusive information society. The following research questions are addressed in this article: What are the legitimate rights of indigenous people? What is the ethical dimension of indigenous knowledge? What push and pull factors are contributing to violations of rights of indigenous people and their information/knowledge systems? Are indigenous people's legitimate rights unique? A review of literature is used to respond to each of the research questions. The subject matter discussed has practical and policy implications for the implementation of Action Line 10 of WSIS on ethical dimension of the information society.

Keywords

Introduction

Indigenous people around the world both in developed and developing countries have long been marginalized by governments and /or by other privileged social groups from main stream social, political and economic activities. As a result they suffer indignity because their legitimate human rights are violated by way of social exclusion, linguistic marginalization, erosion of cultural identity, preference for foreign to local content, low literacy levels, intellectual property exploitation, and push/pull factors. The WSIS provided an opportunity for indigenous people to become part of an inclusive information society where everybody without distinction would have access to enhanced services including information and knowledge resources to improve their livelihood. Indeed WSIS Action Lines 1, 2, 3 6 and 8 discuss the various legitimate rights that are pertinent to indigenous people and their information and knowledge systems (World Summit on Information Society 2005). However, Action Line 10 (ethical dimension of information society) which should enforce the provisions of the rest of Actions Lines instead offers omnibus and overarching ethical prescriptions of an information society. This we submit cannot effectively serve the needs and aspirations of indigenous people or promote and protect their knowledge systems that have long been marginalized.

WSIS Action Lines AL1 (establishes multi-stakeholder portals for indigenous people), AL2 (promotes access, accessibility, affordability, assistive technologies, digital inclusion, services to

remote and marginalized areas), AL3 (establishes multipurpose community public access points), AL 6 (aims to protect intellectual property) and AL 8 (engenders cultural diversity; cultural exchange and information; cultural heritage; cultural policy; service to disadvantage and vulnerable groups, linguistic diversity, local languages and traditional knowledge) (World Summit on Information Society 2005).

This article assesses the ethical dimension of indigenous knowledge and outlines the legitimate rights that indigenous communities and their associated knowledge systems must enjoy in an inclusive information society. The following research questions are addressed: What are the legitimate rights of indigenous people? What is the ethical dimension of indigenous knowledge? What push and pull factors contribute to the violations of rights of indigenous people and their information/knowledge systems? Are indigenous people's legitimate rights unique? A review of literature is used to respond to each of the research questions. The subject matter discussed has practical and policy implications for the implementation of Action Line 10 of WSIS on ethical dimension of the information society.

Conceptual framework

The World Summit on Information Society (WSIS) in 2003 and 2005 respectively provided a framework for international debate aimed at creating an all inclusive information society (Souter 2007). The WSIS Declaration of Principles and the Plan of Action underscored the need for community-based access points to be strengthened so as to promote free and equitable access to information (World Summit of Information Society 2005). The International Federation of Library Association (IFLA) in similar breath recognized the extent to which indigenous knowledge needed to be harnessed in the information society through connecting villages and establishing community access points; connecting schools, public libraries, cultural centres, museums, and similar agencies with ICT. IFLA stressed the need for special attention to be paid to rural and underserved areas (International Federation of Library Associations 2003) where majority of the people especially indigenous communities lived. Indigenous communities are characterized by tremendous diversity and often function at the periphery of the political, social, cultural, and economic systems of the dominant or mainstream society. They may have also unique cultures, histories, language, area of interest, occupies a certain geographic space and are removed from the mainstream of urban life (Kawooya 2006).

In the context of this article indigenous knowledge, services and goods is connoted with local content –i.e. locally-owned and adapted goods and services which are often generated within the scope of local resources such as human capital and technology. This definition resonates to some degree with UNESCO's (2008) perception of local content as the expression and communication of a community's locally owned and adapted knowledge and experience that is relevant to the community's situation. The knowledge and experience may be expressed in the form of services, goods, occupations, etc. Because of the background and geographic space where they are domiciled, indigenous people's legitimate rights along with their information/knowledge systems on which they depend for livelihood and decision making, are often violated.

Legitimate rights and indigenousness

Legitimate right infers legal and moral rights – for example, valid claims by individuals on society to protect them from being denied the fundamentals of human well-being on grounds of their utility through the force of law, or by education (Mill 1969). Hart (1994) and Wellman (1995)

concur that the concept of 'legitimate rights' is both legal and moral and is something common to the law and morality. Among the legitimate rights include but are not limited to privacy, confidentiality, intellectual property rights, dignity, access and accessibility (World Summit of Information Society 2005). Cappuro (2008) outlines legitimate rights to include: universally held values, the common good, the fundamental values of freedom, equality, solidarity, tolerance, and shared responsibility. The 1948 UN Charter recognizes access to information as a fundamental human right that must be enjoyed by all people on the globe (Office of the High Commission for Human Rights 2003). Capurro (2008) expresses the need for information society to have respect for peace; respect for nature; foster justice, and the dignity and worth of human person; ensure that the use of ICTs and content respects human rights and fundamental freedoms of others including freedom of thought, conscience, and religion in conformity with relevant international instruments. He asserts that all actors in information society should take appropriate measures as determined by the law against abusive uses of ICT such as racism, racial discrimination, xenophobia and more.

The virtues of the American Revolution as expressed in the Revolution's documents of freedom declare:

> …all Men are created equal, that they are endowed by their Creator with certain unalienable Rights that among these are Life, Liberty, and the Pursuit of Happiness. That to secure these Rights, Governments are instituted among Men, deriving their just Powers from the Consent of the Governed, that whenever any Form of Government becomes destructive of these Ends, it is the Right of the People to alter or abolish it, and to institute a new Government, laying its Foundations on such Principles and organizing its Powers in such Form, as to Them shall seem most likely to affect their Safety and Happiness (Colonial Williamsburg Foundation 2005).

Though the subject of legitimate rights was given impetus during WSIS meetings, early scholarly engagement with regard to protecting legitimate rights is traced to utilitarianism/deontological traditions (Giles 2006; Boyd 2007). The dawn of new information technologies have meant that utilitarian and deontological ethical traditions alone are not sufficient to illuminate the ethical implications of emerging information societies. Kaplan and Haenlein (2010) therefore argue that the contemporary ethical traditions founded on computer ethics and philosophies of technology are needed to analyze how particular moral issues are embedded in the specific technologies. Such contemporary ethical traditions include among others; pragmatism (van de Eede 2010); and intercultural information ethics (Capurro 2010). Contemporary ethical traditions largely define ethical standards in technological environments and consequently expand the scope and milieu of 'legitimate rights' beyond those proffered by deontological and utilitarian frameworks (Kaplan and Haenlein 2010; Mason 1986; World Summit of Information Society 2005).

Several authors have discussed extensively legitimate rights that individuals are entitled to from both the classical and contemporary traditions. Kaplan and Haenlein (2010) outline the legitimate rights to include privacy, ownership and access. They point out that adequate provision must be made to protect the privacy of subjects and maintain the confidentiality of any data that are collected about them. They also state that a violation of privacy or breach of confidentiality presents a risk of serious harm to [the individuals] arising from exposure of personal or sensitive information, the divulgence of embarrassing or illegal conduct or the release of data protected under the law. Though legitimate rights are applicable to all individuals, they assume special dimension when looked at from the indigenous perspectives. For example, the measures employed for data security, data integrity and protection of intellectual property in formal information systems cannot be similar to those applied to indigenous knowledge that is

communally owned, sometimes tacit and that which may not be documented. Mason (1986) poses questions that must be addressed in an electronic age in order to protect the users' legitimate rights. However, some of these questions do not seem amenable to information/ knowledge (e.g. indigenous or tacit knowledge) resident outside formal information systems. Mason's questions include: What information about one's self or one's associations should a person reveal to others and under what conditions and safeguards? Who has the responsibility for the authenticity, fidelity and accuracy of information? Who is to be held accountable for the errors in the information? How can the injured party be made whole? Who has the ownership of [content] and the channels through which the information is transmitted? How should access to this [channels] be allocated? What kinds of information can a person or an organization have a right to or a privilege to obtain, under certain conditions and safeguards? Indigenous knowledge is often communally owned, hardly documented, sometimes tacit and transmitted from generation to generation through families.

Ethical dimension of indigenous knowledge systems

This section discusses some of the legitimate rights and their implications for indigenous people and their information/knowledge systems. In particular, social exclusion and xenophobia, linguistic diversity, local content, literacy, intellectual property rights, push/ pull factors and how they impact on legitimate rights of indigenous people and their information/knowledge systems are presented. These aspects are chosen because they are hardly addressed by WSIS Action Line 10.

Social exclusion and xenophobia

Most disenchantment of natives with foreign migrants arise because of competition for limited resources and the capitalist mode of economic development that creates serious disparities to accessing jobs and other basic services for the people. For example, in Botswana the exploitation of diamonds is reported to have resulted in demand for expatriate skilled labour in various sectors including technology, management, education, engineering, law, and healthcare. The government and the private sectors responded by recruiting professionals from across the African continent and beyond. Consequently, the number of legal non-nationals living in Botswana tripled between 1971 and 1991 from 10,861 to 29,557, and had increased by six-fold to 60,716 by 2001 (Lefko-Everett 2004). The foreign skilled migrants were offered competitive salaries, subsidized housing, cars, health insurance, and free education for their children. As the in-flow of skilled labour into Botswana continued illegal immigrants especially from neighbouring countries such as Zimbabwe, Zambia and Malawi also followed. The inflow of migrant workers in Botswana created tensions with citizens of the country and in some cases resulted in xenophobic attacks and name calling and use of derogatory language such as '*Ma kwere kwere*' (translated to mean people who speak foreign language') against the foreigners.

Similarly, South Africa has since 2008 experienced sporadic xenophobic attacks in which a number of foreign nationals have been killed, tortured and abducted. The Centre for Human Rights (2011) attributes xenophobic attacks in South Africa to socio-economic imbalances in the society. The attacks are mainly directed at destroying the means of livelihood of xenophobia victims. In North Africa particularly in Libya there was an estimated 1.8 million migrant workers or 10% of the Libyan population in 2012. By and large, Libya's economy until the revolution in 2011 that overthrew President Muammar Gaddafi was dependent on migrant workers. Moreover, the country was seen as a transit for migrants attempting to reach Europe (Foster-Bowser and Moseley 2012). It is estimated that a total of 796,915 migrants left Libya to flee violence in 2011 (Foster-Bowser and Moseley 2012) when the uprising against Gaddafi and

following his assassination. Consequently, 214,773 West African nationals returned to their country of origin (Foster-Bowser and Moseley 2012).

Though many incidences of xenophobia have widely been reported in Africa; xenophobia is a global phenomenon. Since 2008, following the global financial crisis in Europe, governments in the European Union (EU) region have come under constant pressure to create jobs, stimulate their economies and crack down on irregular migration. In a number of EU Member States, xenophobic practices have gained momentum. Following the Arab Spring, there was increased migration pressures on Europe, mostly Malta, Italy and, Greece because of their proximity to the Mediterranean Sea. The French and Italian governments asked EU Commission to put forward proposals to control internal borders from influx of illegal immigrants. Similarly, the Danish government introduced enhanced customs controls at its land borders with Germany and Sweden (Weforum.org 2012). Steffen (2012) observed that in Greece, migrants have been left afraid to walk the streets because Greek authorities are failing to tackle the rise in xenophobic violence. Though these countries have well developed infrastructure compared to Africa, the xenophobic tendencies may be attributed to national pride, but also pressure put on resources such as education facilities, libraries, jobs, water, electricity and social grants by foreign immigrants. The World Summit on Information Society in 2003 and 2005 called for steps to be taken to uphold the fundamental values of equality, tolerance, promote the common good, and take appropriate actions and preventive measures, against acts such as racism, racial discrimination, xenophobia, and related intolerance…" (World Summit of Information Society 2005). The solution to addressing xenophobia may lie in improving service delivery to the people by governments, non-governmental organizations (NGOs) and other development agencies.

Linguistic diversity, orality and cultural identity

The issue of promoting linguistic diversity has been advocated for by the United Nations Economic, Scientific and Cultural Organisation (UNESCO) for many years but remain a challenge in many countries. For example, Botswana is multiethnic society with 26 different linguistic dialects. Each ethnic group believes that its language should be mainstreamed in the officialdom of the state and used in education as the media of instruction and also in governance (Monaka and Mutula 2010). However, the government of Botswana since its attainment of independence in 1966 has continually advocated for a bilingual policy with Setswana being the national language while English is the official language. The second president of the Republic of Botswana, Sir Ketumile Masire, asked Botswana citizens "not to spoil the prevailing peace and unity in the country by fighting for ethnic language groupings to take precedence over Setswana (Nyati-Ramahobo 2004:19). In 2005, the then Minister of Education Mr. Jacob Nkate in his opening speech at the Regional Mother Tongue Conference in Gaborone Botswana, acknowledged the issues of language in Botswana and expressed a willingness to work on the development of minority languages in the country.

Minister Nkate recognized the importance of mother tongue education in the intellectual, mental and social development of a child, and the potential benefits to the nation as a whole saying:

> Mother tongue … the language a child acquires from the family, is crucial in the intellectual and mental development of a child. It is also true that the development of languages and the associated cultures in any country are the best to promote and ensure indigenization of knowledge and the creation of a national identity in the globalizing world (Minister of Education 2005).

The Minister acknowledged that Botswana has a long way to go in providing access to mother tongue education for its minority language speakers. The policy that recognizes *Setswana* as the

national language is discriminatory and often creates tension between government and some ethnic groups (Monaka and Mutula 2010). One high court judge who comes from the Kalanga one of the largest ethnic groups in Botswana and whose language is not part of the officialdom Justice John Mosojane called on the Kalanga people to demand, as a matter of right, the restoration of Ikalanga as a medium of instruction in schools. He blamed the government for taking away the dignity of the Kalanga by denying them the inalienable right of using their language at school and other public places (Johanness 2010). It would seem the government of Botswana in this regard is violating Action Line 8 of WSIS which focuses on promoting cultural diversity and identity, linguistic diversity and local content. Botswana can borrow a leaf from South Africa where 12 local languages are designated national languages.

Orality in most African countries is pervasive and part of the culture of the people. In Botswana like in many African countries, cultural values are perpetuated largely through orality where trusted information and knowledge is passed on by word of mouth. In the past, elders used to sit with children around the fire and tell stories (*mainane*) and riddles (*dithamalakane*). This gathering of children and elders served to teach and pass on values among generations. Today, the indigenous or traditional knowledge and information systems that empowered children to develop and appreciate cultural values at the various stages of development have been lost through modernization. Furthermore, schooling has been de-linked from local knowledge systems and teaching methods thus, devaluing discussion or action as basis for learning. The WSIS Action Lines are emphatic about promoting multilingual content and linguistic diversity but provide little direction about orality which is an important aspect of communicating indigenous knowledge.

With regard to promoting cultural identity of indigenous people, the cultures and values of communities must be preserved. This would help ensure that the identity of indigenous communities is not stolen or lost. Heritage preservation is needed for bequeathing present and future generations the treasures of a nation for their socio-economic development. In this regard Article 3 of UNESCO's (2003) charter on digital heritage is illuminating. It asserts that the world's digital heritage is at risk of loss to posterity due to among other factors the rapid obsolescence of the hardware and software, uncertainties about resources, responsibility and methods for maintenance and preservation, and the lack of supportive legislation. Ngulube (2005) in a study on environmental monitoring and control in east Africa reported that, libraries and archives lacked written preservation policies. It is therefore important that the WSIS Action Line 8 which is on cultural diversity and identity, linguistic diversity and local content should be addressed alongside WSIS Action Line 10 that deals with the ethical dimension of the information society (World Summit of Information Society 2003).

Local content and indigenousness

Xenophobia is characterised by WSIS Action Line 10 as unethical behaviour (World Summit of Information Society 2003). In this article local content is contrasted with indigenousness. In this regard local content has significant value because it provides opportunities for members of the community to interact and communicate with each other, expressing their own ideas, knowledge and culture in their own language. Moreover, locally generated content is more relevant to the indigenous people, easily accessible, cheaper, promotes communality identity and culture, enhances social inclusion, and facilitates universal access. ComDev (2008) points out that local content program, enhances economic development through local procurement of goods and services, employment, and related initiatives.

Local content is a significant factor in determining overall competitive advantage in the expanding global markets. The hostility by indigenous communities to foreigners can partly be attributed to competing interests to control local content. Through local content, local communities receive immediate benefits such as employment skills development, technology and skills transfer through training and direct experience. In addition, successful local content programs create an 'economic multiplier' effect that can help to broaden and diversify the local economy (ComDev 2008). Local content draws on resources in the immediate neighborhood and makes people less dependent on outside supplies, which may be costly, scarce and irregularly available. It provides the means of satisfying internal needs, enhancing self reliance, helping bridge intra and extra divides. For these reasons migrants may be perceived by indigenous communities as people who are adulterating the purity of a community and scavenging on the limited resources. The WSIS Action Line 10 does not offer any ethical provision for local content to stave xenophobic attacks against foreigners. Ofcom (2006), the UK Office of Communications (the local telecom regulator), notes that local issues continue to matter to people and digital local content could, in this respect, deliver a range of benefits, including: more relevant local news; improved access to local services; stronger involvement in community affairs; enhanced democratic participation; greater capacity for individuals and local organizations to make and distribute their own content; support local production and training, and access to local markets.

Indigenous communities are vulnerable to social exclusion because they do not form part of the main stream players in the socio-economic development of their countries. Smith's 1909 social exclusion or inequality in society metaphors remains relevant and instructive. He posited that among the savage nations of hunters and fishers, every individual who is able to work, is more or less employed in useful labour, and endeavours to provide, as well as he can, the necessaries and conveniences of life, for himself, or such of his family or tribe as they are either too old, or too young, or too infirm to go a hunting and fishing. Such nations, however, are so miserably poor that, from mere want, they are frequently reduced, or, at least, think themselves reduced, to the necessity sometimes of directly destroying, and sometimes of abandoning their infants, their old people, and those afflicted with lingering diseases, to perish with hunger, or to be devoured by wild beasts. Among civilized and thriving nations, on the contrary, though a great number of people do not labour at all, many of whom consume the produce of ten times, frequently of a hundred times more labour than the greater part of those who work; yet the produce of the whole labour of the society is so great, that all are often abundantly supplied, and a workman, even of the lowest and poorest order, if he is frugal and industrious, may enjoy a greater share of the necessaries and conveniences of life than it is possible for any savage to acquire (Smith 1909).

Governments have a responsibility to provide for the marginalized in society so that they can live a dignified and decent life. In this regard, Bill Gates observed that community centres or similar ventures are distractions from real problems of development, and noted that 99% of the benefits of having access to a PC come when the person who is to sit down and use it has been provided with reasonable levels of healthcare and education (*Economist Newspaper* and The Economist Group 2005). Similarly, Warschauer (2002) asserted that a social inclusion framework redirects the focus from providing access to technology to the effective integration of ICT into communities and institutions for social development.

Literacy

Literacy competency is important for learning cultural values and promoting indigenousness. In most African countries Botswana children and youths who have dropped out of school graduate into adulthood without acquiring the necessary information seeking skills. They also generally

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lack a reading culture (excluding reading for passing examinations) with most of them easily relapsing into illiteracy. This is exacerbated by the lack of a national mechanism to enhance lifelong learning among youths who drop out of school (Mutula and Raseroka 2006). Governments that do not have effective literacy interventions are in contravention of WSIS Action Line 4 which deals with capacity building (in this regard providing basic literacy, combating illiteracy and providing lifelong learning).

Intellectual property rights

Africa is in general endowed with rich indigenous knowledge resources however; the documentation of such knowledge to make it available in modern information systems for wider accessibility remains the greatest challenge. Because of poor documentation and weak intellectual property infrastructure, most of knowledge resources generated in Africa such as artifacts, are pirated to western cities and patented at the expense of the indigenous people. Before colonization, Africa depended on endogenous development characterized by reliance by people on their own resources, values, knowledge and organizations that were locally designed for their survival. These local resources were developed and shared to strengthen the resource base of local population, enhance their ability to integrate selected external elements into local practices and broaden the options available to the people, without diluting the local views and practices (Menchu 2007). The absence of laws to govern the practice and use of IK has contributed to the marginalization of IK in favour of conventional knowledge.

Push and pull factors

External push and internal pull factors have been partly responsible for the marginalization of indigenous knowledge systems in Africa. UNESCO (2006) attributed the lack of local content to overwhelming presence of content coming from providers in the developed countries, reflecting language, values and lifestyles which are often vastly different from those of the community "consuming" the content. The agencies that 'push' global or non-local content are more powerful and resourceful than those disseminating local content. Moreover, the advent of globalization driven by international politics, advancement in technology and the flexible mobility of human capital across borders, whilst providing opportunities for Africa, threatens the foundation of indigenous knowledge (Menchu 2007). Consequently, Africa's capacity to compete in the global knowledge age is in effect diminished. Ballantyne (2002) observes that evidence of non-local content can be seen in research, in the dissemination of 'reliable' scientific information, and even in the reliance on foreign technical assistance, television programming, in advertising, in the spread of global brands, in classrooms using imported curricula and examinations, and in the use of foreign languages in schools and universities. Lor (1998) laments about difficulties faced by academia and researchers in scholarly publication in Africa and points out that "filtering out" of articles submitted by authors from less developed countries (LDCs) to journals in the developed world is common.

ICT is a major content that has successfully been pushed and adopted by people in Africa. Woherem (1993) noted that the application of information and communication technology especially the computer has not be re-engineered for effective utilization at grassroots level among communities that are not highly literate in Africa. He noted that unless ICTs were integrated into the cultural milieu of African communities, the people would stand fewer chances of benefiting and therefore accepting such technologies. He observed that much of the technology in Africa was transplanted without any re-engineering to suit local conditions. Push factors from developed world come in different forms such as products and policies. For example, the US amended its law – the Copyright Extension Act 1998 increasing the duration of

copyright to 70 years (House and Senate 1998). This gives the US leverage to allow its powerful multinational corporations to reap continuing profits at the expense of poor countries. This situation is exacerbated by the fact that content publishers insist on the inclusion of clauses in the contractual terms which override traditional exceptions to copyright as contained in national legislations, such as fair use and fair dealing.

With regard to pull factors, Africa's own indigenous systems help promote foreign content at the expense of local content. Lor (1998) observes that in South Africa for example, government insists that academic authors should publish their work in high-ranking journals in order for their (authors') affiliate institutions to qualify for state subsidies. However, such high ranking journals are largely found in developed world and are expensive to procure by local institutions.

Uniqueness or universality of legitimate rights for indigenous people

Mason (1986) while underscoring the importance of intellectual property rights regrets that legitimate rights of the people have not effectively espoused indigenous knowledge. By and large, technological capacity in Africa is largely imported and often such technology is implanted rather than transferred because of several constraints including inadequate or complete lack of indigenous mechanism to adapt such technologies (Woherem 1993). Capurro (2010) observes that sensitivity to a diversity of cultural traditions and local contexts are needed when considering the impact of ICT on information societies. Gorniak-Kocikowska (1996) argues that the diverse ethical systems embedded in other cultures of the world all derive from local histories and customs and are unlikely to be applicable worldwide.

Ocholla (2011) poses the question, should African information ethics or ethical values for that matter be unique? Gordana and Hofkirchner (2011) in similar breath raised the question - are computing ethics issues unique or are they simply moral issues that happen to involve ICT?. Carbo (n.d.) reminds us that each individual belongs to a number of different cultures at different levels such as living in one country, speaking different languages, adhering to policies and practices of different religions, political parties, and more. Gorniak-Kocikowska (1996) argues that the diverse ethical systems embedded in other culture of the world all derive from local histories and customs and are unlikely to be applicable worldwide.

Hoesle (1992) is of the view that computerized information systems use requires people to act and think in prescribed ways that privilege western cultural traditions while marginalizing the cultural traditions of others. This line of arguments suggests the need for context specific curricula. Care should however, be taken not to perpetuate injustices that have been meted to the people by autocratic African leaders through systems they conveniently refer to as home grown democratic governance. Global initiatives such as UN Charter that recognises access to information as a fundamental human right that must be enjoyed by all people (Office of the High Commission for Human Rights 2003). Floridi (1999) information ethics theory known as macroethics was meant to address all ethical situations in all traditions.

The industrial and knowledge economy now expects all universities to be part of knowledge generation, innovation and production processes. Consequently, as the global and national economies evolve, African universities need to become more responsive to meet the demand of the knowledge economy in terms of skills needs as well as technology innovation and transfer. The ethical dimension of indigenous knowledge as it pertains to Africa should be based on African values that can give the continent an opportunity for re/validating indigenous ways of thinking which hitherto have been overshadowed and negated by way of hegemonic practices that riddled the continent's colonial past. Therefore, the solidification of a knowledge system

based on African realities should be an important result of the efforts to promote ethical values for indigenous knowledge systems in Africa. The ethical model for IK for Africa should resonate with universal fundamental human values and rights. The model should also take cognizance of diversity of African culture while addressing individual country needs. Capurro (2008) says that *ubuntu* principles should be foundational to the African information ethics because they .have been used successfully in African renaissance, black economic empowerment, corporate governance and conflict resolution on the continent.

Conclusion

The article sought to investigate the ethical dimension of indigenous people and their associated information and knowledge systems. Four research questions were addressed namely: What are the legitimate rights of indigenous people? What is the ethical dimension of indigenous knowledge? What push and push factors are contributing to violations of rights of indigenous people and their information/knowledge systems? A review of literature was used to respond to each of the research questions. The article adduced that indigenous people around the world have long suffered marginalization and been excluded from main stream social, political and economic activities and as a result their legitimate human rights are violated. The author submitted that WSIS Action Line 10 does not effectively address the ethical dimension of indigenous knowledge. The author points out that WSIS Action Line 10 should enforce the provisions of the rest of the WSIS Actions Lines and not offer an omnibus and overarching ethical prescription of an information society. If this was to happen, ethical aspects of information society related to social exclusion, linguistic marginalization, erosion of local content, loss of cultural identity, orality, low literacy levels, exploitation of intellectual property, push and pull factors would be addressed. The subject matter discussed in this article has practical and policy implications for the implementation of Action Line 10 of WSIS on ethical dimension of the information society.

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