

Information transformation Africa: Indigenous knowledge – Securing space in the knowledge society

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Summary This paper reflects on factors that need to be considered for establishment of an equitable knowledge society that will secure the Indigenous Knowledge space. While information communication technology facilitates the capture of a predominantly oral-based indigenous knowledge, its contribution to exploitative approaches to information access, also encourages the development of such knowledge as a commodity for competitive advantage, a factor that requires serious consideration. The basis for this consideration should be the World Summit on the Information Society (WSIS) Principles which provide the promise of equitable access to information as a base for creation of the knowledge society through ethically grounded information use and sharing.

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Introduction

This paper will define and discuss Indigenous Knowledge (IK), its context and importance within traditional African society, and consider the threat to its continuity, as it discusses the limitations of transmission through the traditional and electronic information media in the era of globalization. It reviews and analyses factors that have influenced global interest in IK reflected through selected approaches and strategies for preservation and integration of IK into current knowledge spaces. It will explore opportunities for the preservation and conservation of IK as national heritage and its repositioning within the emerging knowledge society, through the exploitation of information communication technologies.

Features of indigenous knowledge

Indigenous knowledge (IK) is defined as knowledge that is unique and traditional to a given culture or society and

communities, particularly in non-literate societies that, by and large, rely on local technologies for its transmission. Traditional African Information and IK is recorded through memory and is embedded in folklore, songs, stories, dances, proverbs, rituals, local language, myths, beliefs, games, cultural values, agricultural knowledge, knowledge of local flora and fauna and their linkage to medicinal and culinary activities, local history of the earth, stars and water systems, etc., as well as through artefacts such as masks, pottery, carvings, etc. Although artefacts may be utilitarian and satisfy aesthetic aspects of culture, they may also reflect a people's philosophy of life (Seloma, 2007), values and experiences, innovations and productivity. IK includes intangible cultural heritage embedded in archaeological knowledge (Segobye, 2006). It is dynamic, it renews itself and it adapts to emerging environments. "Such systems do innovate from within and also will internalise, use and adapt external knowledge to suit the local situation." (idrc).

The transmittal of IK is dependent on memory, shared local language, and the oral tradition and interpretation of

material culture. Information sharing within IK systems in Africa is predominantly dependent on person-to-person communication or through the use of a technology that transmits voice over distances. Such technologies in traditional African societies include horns, water and drums that amplify voice across distances and transmit information from community to community over valleys or across expanses of water, such as lakes and huge rivers. In present times the use of the horn and drum as information transmission technologies has largely been discontinued by modern generations. They may now be encountered in ceremonial activities among healers and story tellers or chroniclers of culture in traditional settings. They are generally perceived as musical instruments among 'schooled' generations. However, there are examples within cultures, such as the Yoruba of Nigeria, of expertise for translating the meaning of drum sounds. Scfowote (2007, xiv) translates the meaning of drumming tones into words and explains it thus, "In the first of the stories herein, this singing and drumming accompaniment is featured. And at the end of the narration, these elements are decoded for those, regrettably including many younger generation Yoruba themselves, who do not understand all that drum speech." The loss of competence to transmit meaning through such technologies provides a lesson in the fragility of memory, when the particular knowledge is no longer of practical use to a community. Without codification of the process, the loss of the skill is permanent.

IK systems transmit information through orality or orality, defined as a characteristic of communication systems that emphasize aural perception in contrast to communication systems with a visual bias, usually referred to as literacy (Louis, 1997, 12). Oral exchange of information relies on people-centred information and trusting relationships (Burton, 2001, 225) that are central to the vibrancy of IK. Such knowledge sharing occurs within the family, clan, village, and community structured according to age cohorts, and within gender divides. Sharing of traditional knowledge also occurs within specialist groupings, such as secret and sacred societies, that are entrusted with competence in trades and esoteric practice that is part of the traditional Africans' worldview (Some, 1994a, 60).

IK sharing is part of the traditional transfer of culture and skills through learning that is facilitated by elders who have competence acquired through practice, experience and wisdom, for the benefit of younger apprentices and continuity of skills over generations. Thus the individual's information needs to determine who will be consulted as the most trusted source of information that is required at any given time. For example health concerns will be referred to the healer, culinary and herbal information sources are generally referred to women, as is information on bringing up of children, including minor illness. The core information sharing process institution in traditional societies, in Southern Africa, is the popular assembly, which Jordan (1973a, 1973b, ix) describes thus, "It breathed the spirit of community life, embracing the economic, political and ethical outlook of the community." Representatives (traditionally males, but gradually changing to include women) of the entire community are expected to make inputs to issues that affect the community, as part of the consultative, conciliatory and palaver processes. Such

community assemblies are named 'Kgotla' in Botswana, 'pitso' in Lesotho and 'imbizo' in South Africa. The underpinning of the traditional custom and process of discussing issues of concern is inter-dependence, a system designed to guarantee not individual rights, but rather the rights of, firstly, the family and, then, the entire community. The culture of communication within such cultures stressed obligations of the individual rather than rights (Hammond-Tooke, 1993a, 85). This custom is based on values that define one's self-identity as being part of a community which provides meaning through collectively formed judgements and decision making as part of humanity (Some, 1994b, 27–28). Such an approach is embedded in the concept of 'Ubuntu' that is defined as a metaphor for ethical, social and legal judgement of human worth and human conduct (Ramose, 2002, 232). It is a value that underpins African IK systems and has implications for the attribution of intellectual property rights, a significant area of contestation in globalization of information and knowledge.

Why is IK becoming an area of interest?

One would like to suggest that the interest in IK systems is on account of a re-awakening of indigenous peoples to the human right to freedom of expression, which entitles people to "hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers" (Universal Declaration of Human Rights Article 19, 1948). Further, IK is being explored as part of cultural processes that seek to enhance human values through learning from experiences that have stood the test of time and may be enhanced through adaptation to meet challenges and opportunities offered by change. It is also being explored as a base for "self-confidence in the present [that] stems from a sense of personal worth that is rooted in the full [understanding] and acceptance of the past" (Hammond-Tooke, 1993b, 8).

However, IK systems, globally and specifically, among Africans have become an area of interest because indigenous communities generally are under threat from the invasion of economic systems that continue to undermine their livelihoods, belief systems, values and interests. This process has its origins in colonialism (Hammond-Tooke, 1993b; Jordan, 1973b) that forcefully brought change and undermined traditional ways of life and cohesion within communities through:

- conquest and imposition of aligned power relations effected through superior technologies of war,
- culture of trade for any commodity ranging from human beings in the form of slaves to dispossession of land, based on divergent concepts of property rights, where Africans considered land as a commodity for shared access and use by all for community survival, whilst colonialists considered it as private property, thus resulting in the alienation of communal access to their ancestral lands,
- devaluing of belief systems and ways of knowing through attribution of such descriptors as 'pagan, savage and ungodly, etc.,' and thus rationalisation of various processes for 'civilizing the conquered natives.'

- migration of Africans from rural areas into cities where constant refreshment or appropriate modification of the IK cannot be sustained,
- lastly, introduction of schooling systems that discount traditional learning, and foster discontinuity, such that most Africans who have been educated in western methods, either forsake indigenous ways of knowing as being non-scientific and therefore invalid, or strive to live dual cultures in parallel, thus switching codes of behaviour depending on the context of operation, or create the unique “cultural Interface” proposed by Nakata (2002) as “a place of constant tension and negotiation of different interests and systems of knowledge (which) means that both must be reflected on and interrogated.”

Langton and Ma Rhea (2005a, 51) summarise this situation as follows, “A cluster of issues are implicated in the vulnerabilities of traditional knowledge systems: land and sea tenure issues and loss of territory that sustains Indigenous peoples and local communities into dominant societies as indicated through language loss; biodiversity loss and its impact on traditional biodiversity related knowledge; and loss of traditional biodiversity knowledge in conflict and post-conflict areas. Many have been disrupted by the imposition of external regimes and by colonial and postcolonial military and civil conflicts. Such disruptions have caused the collapse of rural economic systems in some cases and thereby diminished the capacity of these small scale societies to continue their traditional subsistence activities.”

Such conditions apply to millions within Sub Sahara African societies, which are by no means minorities.

Since IK is organic and thrives within communities symbiotically, it may cease to be of use to a community on account of change in the human or material environment, hence the threat for its sustainability.

Further, as IK is dependent on memory, the significance is brought to mind by the following adage: “In Africa, each time an old person dies, it’s a library that burns down.” Hampate (1987) indicates the urgency for preservation of IK as footprints that may provide paths to future analysis and appreciation of the knowledge and wisdom that sustained local African cultures over time, but are being rapidly eroded by the impermanence of memory and the absence of independent, codified records of the orally transmitted past by traditional community chroniclers.

The global recognition of knowledge as capital requires that local knowledge be recognised as a building block for national development activities that aim to benefit the poor directly (World Bank, 1998, 3). Indigenous communities are thus urged to develop “an awareness of the wealth of the forms of knowledge and capacities it possesses, in order to increase their value and take advantage of what they have to offer” (UNESCO, 2005, 18). However, the concept of knowledge as wealth is problematic as it relates to intellectual property rights conceptualised around codification that does not exist and is not practised within IK systems.

IK and intellectual property

The main characteristics of IK are that it is oral, tacit and invisible. It is sustained through, and protected by,

linguistic diversity and community ownership. Kiggundu (2007, 28) notes that “one of the best ways of protecting intellectual property and indigenous knowledge is by keeping it confidential...if he has a secret recipe for example (such as that of Kentucky Fried Chicken) he can exploit it and protect it indefinitely by keeping it secret.” Thus secrecy may be an effective intellectual property protection, provided that there is no ‘reverse engineering’ that enables others to decipher the secret, thus claim the patent. In the case of oral traditions, where the secret is retained by being tacit knowledge, such secrecy can only be safeguarded by oaths of secrecy or taboo linked safeguards. Indeed, Some (1994b, 60) says, “To the Dagara, the esoteric is a technology that is surrounded by secrecy. Those who know about it can own it only if they do not disclose it, for disclosure takes the power away.” Under these circumstances, when IP is retained in the tacit domain for generations, its continuity is threatened by the demise of the holders of the secret, paradoxically; intellectual property in the western practice is safeguarded through codification and disclosure. Thus global exposure of orally transmitted IK, without it being accessible through documentation, enables appropriation of intellectual property rights through users who lay claim to be the first to discover the uniqueness in a particular knowledge.

IK has become a commodity that attracts investors from the North who benefit financially from the appropriation of the profitable elements of traditional knowledge. These investors capitalise on the traditional knowledge research activities that have been undertaken by generations of practitioners on subjects within the IK systems, without equitable compensation or sharing of benefits, as indicated in the following quote:

“Corporations are well aware of how cost efficient it is to tap the knowledge of communities that live and depend on biodiversity for their survival. Pharmaceutical TNCs have taken plant samples from tropical forests (identified and genetically manipulated by indigenous peoples) to use as raw materials in developing new drugs” (idrc).

The patenting of the usage of Hoodia plant as an appetite suppressant drug provides an excellent case study in the unfair practices for exclusive commercial benefit that may be applied in the bid to secure ownership of Intellectual Property Rights IPR (embedded in the indigenous communities’ knowledge of biodiversity and their beneficial uses) through ‘discovery’ by scientific communities and appropriation of the knowledge practised by the indigenous peoples for centuries. This particular case was resolved through agreements with the San community representatives for the sharing of profits with the patent owner. The fundamental issue is that a patent is granted on the basis of novelty that can be challenged only through documentary evidence of prior knowledge.

IK consists of what is generically termed folklore, defined broadly as “the sum total of human creativity... [including] folk science and technology which includes folk medicines, preparation of dairy products, fertilizers, methods of agriculture, folk architecture, tool making and ornament making and pottery” (Valsala, 2002: 7 & iii as quoted by Morolong, 2007:48–49).

Folklore is recognised by (WIPO) World Intellectual Property Organization as an important element of the cultural heritage of every nation. Thus, "a range of intellectual property tools have been adopted by a number of countries to promote and protect traditional knowledge and folklore, including 'sui generis' systems of protection" (Langton & Ma Rhea, 2005b, 56). In discussing the 'stand alone' legislation specifically tailored to the unique nature of IK, Kiggundu (personal communication e-mail 12/08/08) considers such a categorizing approach, where each mainstream IP (patents, trademarks and designs, copyright) is amended to accommodate various aspects of IK, as reducing the treatment of IK to an appendage, rather than as part of the mainstream IP. Developing countries, such as Botswana, have responded by enacting laws that take into consideration expressions of folklore defined as: "A group oriented and tradition based creation of groups or persons reflecting the expectation of the community as an adequate expression of its cultural and social identity, its standards and values, as transmitted orally, by imitation or by other means." (Copyright and Neighbouring Rights Act, 2000 of Botswana, section 2.)

Thus, all IK of a literary and artistic nature is protected in the Copyright and Neighbouring Rights Act (Cap 68:02). By defining literary and artistic works to cover almost all aspects of IK of a literary and artistic nature (music, drama, paintings, songs, architecture, pottery, weaving, handicrafts, etc.), the Act removes the need for reduction to permanent form (fixation) by providing that these works could be oral or expressed in any form. The Industrial Property Bill 2007, Part 1X protects IK of an industrial nature (manufacturing processes, medicine, food, etc.) and covers all aspects of IK as mainstream (creation, ownership, duration, transfer of rights, infringement, remedies, etc.), thus enabling IK to be part of the mainstream IP.

Since IPR is effective only in the jurisdiction where it has been protected, the question is whether developing nations will achieve the desired goal with "sui generis" laws because developed nations who are guilty of exploiting IK are not interested in protecting IK and are less likely to enact laws that will protect IK. This therefore means that IK, as it is in the African context (and of course those of other developing nations which have a wealth of IK), has lower chances of receiving international protection compared to other IPR where international conventions have been put in place to harmonise their protection internationally. This can be demonstrated by the USA's reluctance to accede to the Convention on Biological Diversity (Monyatsi, personal communication, e-mail:14/8/08). This issue is also pertinent in patenting processes which rely on patent examiners to locate documented evidence of knowledge as a basis for assessment on whether a patent is granted or not. As already stated, IK is generally oral, therefore inventions that are created around some of the IK may be granted patent protection because the information about the prior existence of the knowledge is not available to the examiners. Thus accessibility of the record becomes a significant factor as a basis for demanding recognition of IK as an ancestral heritage, and acknowledgement of it as valid creativity of communities that should not be used without the consent of the holders or communities that own it. In addition, it should be

realised that IK has potential to contribute to national development and knowledge capital through giving direction to research for the creation of new inventions, hence the need for its recognition and harmonisation of its protection internationally, instead of merely settling for "sui generis" laws which in a way undermine the creativity and resources invested in the creation, testing and repeated use that authenticates the IK as compared to other IPR. However, the realization of financial benefits is not automatic; there is a need for mastery of intricate processes, skills and financial investments through which adaptation and/or assimilation of the IK into other ways of knowing, may or may not lead to innovation. Herewith lies the chimera of globalization for the under resourced societies of the South.

Indigenous knowledge libraries and archives

The World Summit on the Information Society (WSIS) Declaration of 2003 created a vision for 'a people-centred, inclusive and development orientation Information Society, where everyone can create, access, utilise and share information and knowledge enabling individuals, communities and people to achieve their full potential to promoting their sustainable development and improving their quality of life.'

The Declaration states an unqualified acceptance of the fundamental importance of human rights and cultural diversity. The key principles further commit the peoples of the world to building an inclusive information society through access to information and knowledge for the purpose of generating personal well-being and economic wealth as a measure of development.

The proposal for the Declaration of Principles focused on the role of computer technology as the significant infrastructure for the realization of the information society. The Declaration that was finally agreed upon recognised the equal importance of libraries, archives and similar institutions as carriers of information content and as facilitators of access to information and its use in diverse ways by humanity. The assumption is that such institutions permeate all levels of society throughout the world form a basis for preservation and information access infrastructure that may be enhanced by information communication technologies (ICT) and developed into a significant facilitator for sharing of knowledge, globally, and inclusive of isolated rural communities. See, for example, discussion by Scully (1997, 12) on the role of archival record, where she says, "Attention to the production of archival knowledge allows us also to heed the silence in the archival record about the ways in which the documented past was produced and about how it came to be organized and shaped. "Silences can be treated as yet another artefact available to the historian".

As repositories of information and knowledge, libraries and archives provide access to information and ideas to people able to read. They facilitate intellectual engagement among human beings across time and space. However, this condition is not applicable to the millions of indigenous peoples of the world where their IK is not codified, where people communicate their traditional knowledge in

a variety of mother tongue languages, most of which are not written or, if on record, the content is limited to usage for religious purposes. Further, such institutions are developed to serve specific objectives that are not determined by the contexts of information or knowledge needs as defined by communities, but those perceived by the state as being for the public good. For example, libraries in the developing world are predominantly perceived as being instruments for promoting education and sustaining literacy; whilst archives are public records created by the state for administration of citizens, though they may collect material on social memory and knowledge. Significantly, these information sources are mostly expressed in foreign languages, therefore, are of limited accessibility to indigenous communities.

The challenge is for these institutions to facilitate the inclusion of non-codified memory transmitted through aural and visual media, in addition to the written medium. ICT developments and digital products that record visuals and sound provide a suitable medium for codification of indigenous knowledge and memory, since the record is captured through the spoken word. However, digital records introduce other complexities that require special attention in the process of securing space for IK in the knowledge society.

Indigenous knowledge management

There are various efforts throughout the developing world (and in developed countries where there are predominant areas populated by indigenous people), to establish indigenous knowledge centres that provide access to IK alongside non-Indigenous knowledge. These efforts have been stimulated by various factors such as:

- Enhanced self-confidence among peoples of the developing world in general and the First Nations of the world, such as the Indigenous peoples of Australia, and Nordic territories, Southern Africa, North and South Americas, derived from empowering networks that seek to raise awareness on issues of mutual interest about self-determination, including the recognition of the principles of human and cultural rights entitlements for all,
- Enhanced appreciation of the value of knowledge capital embedded in IK,
- Sensitisation activities of international organizations such as UNESCO, World Bank, WIPO, etc., and progress in establishing protocols and systems of access to IK in support of globalization interests, and
- Convergence among research interests and development of appropriate ICT tools and protocols for management of knowledge.

Whilst the development of technology enables codification of IK, the question is whether the captured knowledge becomes more accessible to the owners once it is embedded within ICT platforms, such as the Internet and other play-back equipment. IK owners in the developing world have limited access to such technologies because of the lack of ICT infrastructure and electricity and limited

access to information service institutions, where such facilities may be availed to indigenous communities at minimal or no cost. Thus, whilst developments in ICT have raised hopes for increased access to information and knowledge, the 'digital divide' prevalent in most developing countries exacerbates the information gap between developed communities in the North, where there is ease of access to information, and indigenous communities in the South, where there are the already cited barriers to information access, including shortage of skills for exploitation of ICTs. Thus, as the IK property is packaged and uploaded in cyberspace, it is more likely to be rendered out of reach to its indigenous owners. Hence, power relations come into play once again; globalization, superior technologies and intellectual property rights become the modern arsenal of intellectual conquest and economic benefit. Pickover (2008) summarises this situation thus, "In this branded world the digitization of knowledge and legacy materials is not a depoliticised space and access to knowledge is also a political question — particularly to knowledge produced in or emanating from the global south."

Knowledge management activities for IK preservation and information access facilitation projects are influenced by the wide coverage of subject fields that make up social culture in general. Thus, it is essential that prioritisation of knowledge that should be codified be based on appropriate consultative processes with relevant Indigenous communities, in accordance with their identified needs. Other issues that require attention are permission for rights of access or participation in the selected cultural activities, identification of and negotiation on intellectual property rights and permissibility for the material to be in a public space with gate keepers of knowledge, development of appropriate interview and recording tools, and methods of information organization, preservation and dissemination, (Mabawonku, 2002, 49–60).

Whilst these strategies assist in preservation and access, they bring to the fore contradictions that are an integral part of the methods used for collection, documentation, storage and dissemination of IK. These processes isolate IK from the original contexts. This undermines IK integrity and authenticity, especially when it is driven by external interests of researchers and informants who integrate and document lists, and who seek to interpret and create new understandings, but use different contextual and cultural frameworks and ways of knowing, without ensuring the validation of the collected knowledge by the original owners of the IK (Raseroka, 2005, 6–7).

Globalization is seen as the formation of new kinds of alliances and partnerships that require collaborative knowledge exchange and suitable integration. It implies engagement with and appreciation of different ways of knowing, as an essential part of creating an integrated selfhood through what Nakata (2002) refers to as the "Cultural Interface", which he describes as:

"The place where we live and learn, the place that conditions our lives, the place that shapes our futures and more to the point the place where we are active agents in our own lives — where we make decisions — our life world a place of tension that requires constant negotiation. At the interface traditional forms of and ways of knowing, or the residue of those, that we bring from the trajectory of

history, inform how we think and act and so do Western ways, and for many of us a blend of both has become our life world. It is the most complex of intersections and the source of confusion for many. For in this space there are so many interwoven, competing and conflicting discourses, that distinguishing traditional from non-traditional in the day-to-day is difficult to sustain even if one was in a state of permanent reflection."

The freedom park

The Freedom Park project of South Africa is an example of the efforts of the country's citizens to create a South African 'life world'. The project involves a re-instatement of the indigenous history, a holistic past, through narration and interrogation of the different ways of knowing of the diverse cultures, dating back 3.6 billion years, to create a negotiated 'First Nations'/migrants/colonial/slave/master/indigenous peoples' collaborated nationhood, and a "monument of heritage and humanity which is intended to be celebrated by all as "A heritage site for reconciliation, humanity and freedom in South Africa". www.freedompark.co.za, accessed 14/8/08).

The repository of IK that is being interrogated consists of the spiritual belief systems and ways of knowing embedded in the psyche of the indigenous people. It embraces cultures embedded in archaeological sources, rock art artefacts, crafts and memory embedded in folklore and wisdom transmitted through the various expressions of the indigenous belief systems and languages. It includes colonial archival records and embedded belief systems that gave birth to the creation of the apartheid history, as well as the indomitable spirit of an amalgamation of a people who, believing in their humanity, are in the process of liberating themselves, as both the oppressed and oppressors, by creating the equivalent of Nakata's Cultural Interface for all South Africans, and perhaps, ultimately for Southern Africans, given the intertwined histories of the peoples of the lands of Southern Africa.

The IK repository that is the base for the Freedom Park knowledge centre consist of spiritual spaces for reflection, a museum, archive and library, and is designed as a comprehensive information and knowledge space (Serote et al., n.d.). It uses all types of information media and exploits information communication technology (ICT) as a lever for enhancement of information sharing for all who visit. The conceptual framework provides platforms and spaces for interactive activities, creation, collation and organization of knowledge that speaks to all, in their own medium of knowing and making meaning and, hopefully, ultimately empowers everyone to create individually meaningful life world and self-knowledge.

The codification of oral culture through audio and visual communication technologies removes barriers encountered in the solitary engagement with print, referred to by Nathan (2000). As observed elsewhere (Raseroka, 2006), such an approach provides a unique opportunity for transformation of traditional library and archive spaces from passive documentation storage into communication spaces that facilitate community interaction and sharing in the creation of new meanings. Herein lies the opportunity for

empowerment of communities to contribute their stories to the global information history and preserve their memories and IK. However, such an approach not only requires distributed access points to serve remote communities, but also is dependent on the availability of a platform for recording an inclusive oral history, directed, not exclusively by research interests, but by the need to emancipate indigenous knowledge voices to share symbols of community consciousness, experiences and enhance self-confidence.

The Freedom Park knowledge centre is fortunate to have the digital and video records of the Truth and Reconciliation oral archive, as a base. A review of the content indicated the priority for information gathering processes as part of the construction of archives, library, and museum and thus determined research priorities. The capture and preservation of oral records of freedom fighters' memories, experiences and life stories, became one of the priority areas since only a small percentage of the elders of the liberation movements have a written record of this history. Thus the majority are likely to pass on without sharing their experiences for posterity. Indeed at the time of inception of the project, significant players in struggle for freedom of South Africa, such as Chris Hani and Mwalimu Julius Nyerere, were no longer available for first hand contributions to the archive. Baseline data is provided by research teams and is enriched through multi-media materials, such as photographs and audio/video recorded interviews, as well as documentation obtained from local regional and international sources and records.

Challenges

The development of the Freedom Park knowledge centre is not yet complete. It is, however, an ambitious and costly project, the success of which is dependent on the harnessing and coordination of knowledge and expertise from a number of different information professions: researchers, archivists, librarians, and museum information specialists. Information technology professionals, whose expertise is in the manipulation of various aspects of software and hardware, in collaboration with significant others with competency in the processing, editing and publishing on the various media, are crucial for securing the IK space in the knowledge society. Digitization of content is a strategy for enhancing access through networking facilitated by the web. As a process, digitization facilitates multi-pronged ways of searching for information at various levels of depth, ranging from curiosity-bowls through the databases to purpose-focused, full text research activities through the expert exploitation of ICT.

Through preservation capabilities, IK memory and other ephemeral materials sourced from global contributors to the South and southern African histories, technology enables broad-based access to local content. This process may include electronic repatriation of indigenous knowledge and artefacts plundered through colonial and religious civilizing era.

The application of ICT to collection of IK is opening through globalization principles another window of potential contestation of ownership of intellectual property rights. Institutions in the North have access to sources of

finances, appropriate ICT and an abundance of human resource expertise that give these institutions an edge over institutions in the South and empower them to “accelerate the productive uses of information technologies for the benefit of higher education... (through) development of sustainable organization and business models” Ithaka mission (ithaka).

Through non-profit organizations, resources have been mobilized to support digitization projects of local content based on information gleaned through researchers and local informants paid privately for community owned information property rights, which include, for example, “African Plants and their Users.” The products of these projects are databases, easily accessed by Northern researchers on payments of affordable fees, which are potential mines for patents. Although access to such databases for contributing countries in the south is charged at nominal fees, the morality of the exchange of the “source code” for charges imposed on account of the “value added” process to create unique, profitable products needs to be interrogated openly among scholarly communities and the investors who are from independent non-profit organizations, as part of the politics of securing a sustainable IK space in the Knowledge Society.

The greatest challenge, however, is assurance that access to the knowledge contained in Freedom Park is open to the general public wherever they are through the use of existing and newly developed information infrastructures, archives, libraries and museums. A possible viable access point is the use of virtual knowledge centres integrated within archives, libraries, museums, government agencies, and social information services, i.e., community information services facilitated as a public good to cater for various literacies in orality, aural, visual and reading platforms/capabilities. Whilst South Africa’s information infrastructure is better than in most African countries, and the national information policy is well developed, there is, however, no coordinated or integrated information service provision for seamless, one stop access to information that is facilitated by creative use of ICT. The replication of the information accessed through the convergence of various virtual windows of information access (proposed herein) might provide one model envisaged by the principles encapsulated in the World Summit on the Information Society.

Conclusion

This paper reflects on the factors that need to be considered for the establishing a knowledge society that accommodates indigenous knowledge systems. The development of information communication technologies is a significant tool for the capture of predominantly oral-based indigenous knowledge to facilitate both its preservation and access beyond person-to-person communication. Although Intellectual property rights and the legal systems that are compatible with community ownership of IK are being developed, the test of their validity is their recognition and protective “teeth” in the international legal domains. The WSIS Principles need to integrate ways of applying ethical and moral considerations to the ideal of access to

information to counteract the profit motive that seems to override all else in support of the “survival of the fittest” ethos that is a carry-over from the colonial to the globalization era.

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