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**Copyright, Indigenous Knowledge And Africa's
University Libraries: The Case Of Uganda**

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Abstract

Africa is often portrayed as a marginal player in the global knowledge flows. Disproportionate representation of Africa's knowledge output is partly attributable to historically oral transmission of indigenous and traditional knowledge (ITK). ITK by its nature was not recorded and remains so in many traditional African societies. Misappropriation of indigenous or traditional knowledge and resources in the international sphere has deterred wide dissemination of ITK-related research particularly in the digital environment. This study explored copyright in Ugandan education institutions to assess use of digital technology in preservation of ITK and impact of copyright on use, or lack thereof. Institutional copyright policies relating to digital resources were inspected in addition to review of literature relevant to ITK activities in other African institutions.

1. Background

The paper examines the disproportionate representation of African knowledge output due to inadequate protection of indigenous and traditional knowledge (ITK) in Africa's scholarly and research environments. Recent interest in ITK has ignited heated debates on misappropriation of ITK aided by western¹ intellectual property (IP) laws, or lack thereof. At the centre of the debates are 'Indigenous Communities' whose resources are misappropriation by 'outsiders.' Ironically the ITK debate occurs in a context where such knowledge was, and in some cases still is, considered "inferior and of no value" (Britz and Lor 2003, 4). Beyaraza (2004) attributes that to *cultural imperialism* where colonialists systematically dismissed African cultures and indigenous knowledge. The so-called colonial mentality persists among elite Africans. Magara (2005) notes persistence of negative mentality introduced by use of "derogatory labels such as primitive, pagan, and ungodly" by colonialists in reference to Africa's ITK.² However, developments like the *Indilinga: African Journal of Indigenous Knowledge Systems* is testimony of renewed interest in ITK by Africans, particularly scholars. Studies of ITK in education (Mogege, 2005); agriculture (Hart & Mouton, 2005), farming (GA, 2005) among other areas, are now part of growing scholarly traditions in Africa's universities and research institutions. Not mentioning the fact that Africa's 'inferior' knowledge, transferred with the aid of the international IP system, plays "pivotal role" in scientific and technological advancement in western societies (Otsile Ntsoane, 2005).

IP laws facilitate exploitation by applying western IP standards and constructs in non-western settings where alternative systems of protection and control existed

¹ "Western" is a metaphor used to identify a group of advanced capitalist countries of North America, Europe, Australia and Asia (http://en.wikipedia.org/wiki/Western_world).

² Available from: <http://www.archimuse.com/mw2005/papers/magara/magara.html>

(Armstrong & Ford 2005). From patenting of biological substances to copyrighting cultural expressions, the 'south-north' flows of indigenous resources present major socioeconomic, political and cultural challenges to affected communities (Khor 2002). African is no exception to misappropriation of ITK given its historic grounding in oral traditions which didn't involve knowledge documentation.

Contemporary African society is enmeshed in the global information society with attendant documentation, intellectual protection, control and commercialization of knowledge. Africa's institutions of higher learning are central to the cultural and social transformation insofar as ITK intersects with research and teaching in educational settings. Africa's scholarship interfaces with ITK in different ways, many beyond the scope of this paper. The paper takes interest in the recent review of copyright and Information and Communication Technology (ICT) in selected African universities by *The Carnegie Reporter*³ where African scholars, scientists and researchers revealed that they were reluctant to utilize digital technology, particularly the Internet, for sharing 'unique African knowledge' for fear of misappropriation. Fears were alluded to at the workshop of the Association of African Universities (AAU) where Elizabeth Kiondo (2004) pointed out that "fluidity and uncertainty of copyright and intellectual property rights for African intellectual contributions" was a major hindrance to wide accessibility of African scholarship (AAU 2004a, 2). The contemporary IP system in Africa not only presents conceptualization challenges on ownership and control but also limits extent to which Africa's knowledge output can be widely shared in the global knowledge arena without misappropriation or misuse. Concerns by African scholars are neither unfounded nor unprecedented. Since the 1970s, misappropriation of indigenous resources aided by western IP laws topped

³ Carnegie Reporter is a publication of the Carnegie Corporation of New York (<http://www.carnegie.org/reporter/>)

UNESCO⁴ and WIPO's⁵ agendas for preservation of cultural heritage of underprivileged societies. The *Convention on Cultural Diversity* is one of UNESCO's most recent initiatives on ITK. The Convention clarifies the place for cultural artifacts in the market place and roles of countries in controlling aspects of their cultural heritage from misappropriation and misuse through market mechanisms (UNESCO 2005). UNESCO/WIPO's *Model Provisions for National Laws on the Protection of Expressions of Folklore against Illicit Exploitation and other Prejudicial Actions* adopted in 1982 was one of the first comprehensive international initiatives to protect ITK and folkloric resources. The Model Provisions provided a *sui generis*⁶ model for countries to adopt appropriate laws to protect ITK. Elsewhere Armstrong & Ford (2005) have a recent and detailed survey of international ITK initiatives. Here I take note of the *African Model Legislation For The Protection Of The Rights Of Local Communities, Farmers And Breeders, And For The Regulation Of Access To Biological Resources* to ensure "conservation, evaluation and sustainable use of biological resources, including agricultural genetic resources, and knowledge and technologies in order to maintain and improve their diversity as a means of sustaining all life support systems" (OAU 2000, 2). While many African countries are yet to adopt the necessary legislation based on the Model, the document represents unprecedented efforts by African governments on ITK preservation.

Recent technological advancement occasioned by the global information infrastructure (GII) further heightened the dynamic but contradictory relationship between IP systems and indigenous resources mostly to the disadvantage of indigenous communities whose resources are exploited by western interests. Closely

⁴ United Nation Educational, Scientific and Cultural Organization

⁵ World Intellectual Property Organization

⁶ *Sui Generis* means "appropriate to the situation" (Armstrong & Ford 2005)

related to ITK misappropriation is the conspicuous lack of African content on the Internet often times attributed to poor publishing cultures, low penetration of the Internet, language barriers, among other factors. *The Carnegie Reporter* added another dimension, vulnerability of Africa's indigenous content in the electronic environment. The contemporary copyright system is not suitable for effective protection of indigenous resources hence disinclination towards digitization of ITK-related research by African scholars. The paper was motivated by the need to examine Africa's digitalization initiatives in education and research environments in relation to protection of ITK-related scholarship. Based on a non-scientific survey of selected Ugandan University libraries, the paper assess extent to which digital technology is used in preservation of indigenous resources and knowledge. Interviews with digital or ICT librarians explored extent to which copyright promotes, or hinders, usage of digital preservation technology and sharing of indigenous resources in their institutions. Institutional policies were inspected in relation to digital resources. In addition, a review of relevant literature was conducted to trace related activities in other African university libraries. Ultimately, the goal was to further the debate on the role of university libraries in promoting ITK-related research through digital means in legally and technologically secure environments.

First, the paper examines the world of ITK exploring key operative concepts 'indigenous' and 'traditional' followed by a brief discussion on ITK, copyright and digitization, and ITK in African Universities. Finally the paper presents a brief study of Ugandan institutions on ITK digitization and access policies. It concludes with some recommendations for university digitization initiatives.

2. Indigenous and traditional – definitional issues

Key operative terms ‘indigenous’ or ‘traditional’ are problematic in the African and other contexts where attempts are being made to preserve and protect indigenous resources. *Problematizing* indigenous and traditional is not meant to downplay the importance of the subject in regards to communities in question or scholarly endeavors, but demonstrate the complex nature of the phenomenon. Traditional essentially means “to hand down” or “hand over” (Wikipedia 2006a). Traditional knowledge (TK), therefore, is knowledge passed on from one generation to another usually orally. The oral nature and intergenerational cross-fertilization of traditional knowledge contributes to its value. However, it also presents contradiction as to what is truly ‘authentic’ TK for a given ethnic community since oral transmission compromises integrity over time. The paper doesn’t advocate for locking up knowledge in time and space but digitization does just that. Second, overtime TK might transcend one group to neighboring ethnic communities.

Indigenous presents similar definitional challenges. There is no universal definition of *indigenous* but increasingly there is agreement on criteria for determining indigenous people or resources. Indigene means “someone or something that is native or originating from a given place” (Wikipedia 2006b). Indigenous, as the adjective of indigene, when applied to peoples, means “group or culture regarded as coming from a given place” (Wikipedia 2006b). In the contemporary environment, indigenous people are a group of people and/or descendants:

“who have a historical continuity or association with a given region, or parts of a region, and who formerly or currently inhabit the region:

- a) before its subsequent colonization or annexation; *or*
- b) alongside other cultural groups during the formation of a nation-state; *or*
- c) independently or largely isolated from the influence of the claimed governance by a nation-state,

and who further more

- d) have maintained, at least in part, their distinct linguistic, cultural and social/organizational characteristics, and in doing so remain differentiated in some degree from the surroundings populations and dominant culture of the nation-state (Wikipedia 2006b, http://en.wikipedia.org/wiki/Indigenous_peoples).

‘Indigenous’ is even more problematic in Africa given years of migration and ethnic mix up. Prior to Africa’s contacts with the ‘outsiders’, a considerable amount of interethnic flows occurred through intermarriages and wars of conquest that ensured relative mobility and mix up amongst ethnic groups. The resultant situation brings into question what is ‘indigenous’ to who and at what point in history. Africa’s contact with the West, specifically state formation during the colonial period, further accelerated the process of interethnic mix-up in some cases blurring dividing lines. New communities were formed where two or more existed before bringing into question claims to indigenous identity. Western capital expansion characterized with fast growing urban centers in Africa has led to unprecedented rural to urban migration in some instances completely breaking down ethnic divides. For instance, Kampala, Uganda’s administrative and commercial capital is today truly ‘cultural melting pot.’ Different ethnic groups relocate to the city to pursue economic opportunities available in urban settings but at the same attempt to retain their distinct and closely neat cultural identities. A leading local newspaper recently noted that:

some of them [ethnic groups] were not comfortable living among other tribes [on relocating to the city] with different cultures and traditions, and thus decided to keep apart by pitching camp in particular areas of the city” leading to a “spectrum of ethnically specific settlements (Abili 2006).

Mix up due to close proximity in urban settings no doubt changes the ethnic make and with it claims to ‘indigenous’ resources. However, within the parameters of the indigenous definition offered above, certain groups in the contemporary African nation-state can claim to be ‘indigenous’ to parts of their countries. These would be regions clearly isolated from mainstream socioeconomic and political activities. Otherwise majority of ethnic groups in African countries may not claim to be indigenous in strict anthropological sense and parameters of the above definition.

Following arbitrary state formation in Africa by European colonialists and the quest to consolidate fragile states by Africa’s post-colonial leaders, many countries turned to nationalizing cultures as a mechanism for holding together diverse ethnic groups. This wave of *cultural nationalism*, most pronounced in countries like Ghana, brought ethnic cultural resources into national realms (Boateng 2002). ITK ownership in Africa, therefore, is a contestation between ethnic groups through cultural institutions, where they exist, and nation-states. Cultures then become *national heritage* at the expense of individual ethnic groups. This is the context in which digitization of ITK in Africa takes place and conceived in this paper.

3. Copyright and digitization of African ITK

Africa’s historically communal or collectivist approach to ownership of creative expressions associated with oral tradition is conceptually different from the “western” system that ascribes ownership to individuals (Kuruk 2002). Some African scholars note persistence of the communal or collectivist ownership systems despite the penetration of the individualist system into Africa’s socioeconomic, cultural and political realms (Kuruk 2002; Amegatcher 2002; Githaiga 1998). The resultant environment is, presumably, one of competing perspectives on intellectual property ownership and protection. Individuals, in this case scholars involved in ITK-related

research, draw from communal resources to create new knowledge attributed to them as private property rather than the community collectively (McCann nd). The copyright system is embedded in the western individualist ownership system. The individualist-collectivist construction of ownership necessarily over-simplifies ‘reality’ of intellectual property ownership in the contemporary African environments. For instance, in academic settings, copyright, which protects expressive forms of ideas, covers scholarly output in form of articles, books, audiovisual recordings, etc. But ITK, which much of Africa’s scholarship intersects with, may not be covered by the copyright system because it fails certain copyrightable criteria including proven ownership.

As noted in the preceding section, the contemporary African social, cultural and political settings at times brings into question inclusiveness and/or exclusiveness to cultural heritage. With regards to ITK and African scholarship in formal institutions, another layer of difficulty emerges. Research in educational settings sometimes involves African scholars, on one hand, as ‘outsiders’ to a culture because they are not members of a given ethnic group, but on the other hand, ‘insiders’ as nationals of a jurisdiction claiming *national heritage*.

The community-nationalistic construction of ‘indigenous’ knowledge ownership in contemporary African settings is more reason the western individualist system of ownership, protection and control of knowledge is antithetical to Africa’s ITK situation (Britz and Lipnski 2001; Githaiga 2002). The paper focuses on the second level conception, that is, the nationalistic level since African scholarly output is not necessarily primary but synthesized indigenous materials. Researchers draw and contribute to national heritage or ITK. Already the first level, the ethnic community level, presents major challenges as to the appropriate legal protection, control,

exploitation and ownership of indigenous resources (Armstrong & Ford, 2005).

Digitization at the second level presents more problems since materials at that level are removed from the 'original' ethnic contexts to individual scholars who may see themselves as owner and/or extension of the communities.

Scholars as individual contributors to ITK are protected by the copyright system if they claim ownership of resultant artifacts given the intellectual effort vested in creating new knowledge from existing ITK. However, ownership claims would be antithetical to the contributive pillar of social justice envisaged in the collectivist African societies. Under that framework, Britz and Lor (2003) invite individuals in the communities to "make available their vast wealth of knowledge to the benefit of human kind...to ensure this knowledge will become part of the intellectual commons that is open to all" (7). Individual contribution in the traditional sense, however, should acknowledge the collective ownership—possibly the reason African scholars wont 'risk' ITK-related scholarship in the digital domain.

Beyond individual claim to ownership, digitization of ITK presents moral questions and value judgments, which skew representation of certain groups within countries and countries in the global knowledge flows. Britz and Lor (2003) pose important moral questions worth recasting here:

"who selects the material to be digitized? Whose priorities and interests determine the selection? Who are the beneficiaries? Are libraries in Africa able to acquire the digitized material? Is the digitized text freely available to African scholars?" (Britz and Lor 2003, 2)

In ideal situations, groups are equally and accurately represented but given the diverse ethnic make of African countries and vulnerability of some groups, especially smaller ones, under or inaccurate representation cannot be ruled out. In relation to legal

controls, Britz and Lor (2003) posed another set of questions of relevancy to this paper:

- i) What control will the originating community have over their information [ITK] once it is digitized by others?
- ii) Will originating communities be identified as the original creators of their cultural heritage and will they have the right to control access and non-disclosure of certain categories of their cultural heritage, for example sacred knowledge artifacts?
- iii) To what extent will the global rules on intellectual property be able to protect this common heritage of Africa and prevent it from becoming exclusive, private property?
- iv) Will the international intellectual property regimes be able to maintain the balance between private ownership and common heritage of the people of Africa?
- v) Will the people of Africa be fairly compensated for the use of their knowledge by others and what incentives will there be for them to make available their body of knowledge to the rest of the world? (Britz and Lor 2003, 4)

Africans are pessimistic about IP protection of ITK because “indigenous expressions of knowledge and culture have often been misappropriated based on the argument that they were in the public domain” (Armstrong & Ford 2005, 13). In 2004, a senior official at a Ugandan public university shared her fears about digitization of African scholarship vis-à-vis control:

“we cannot afford to digitize our theses and dissertations otherwise what else shall we remain with? We have researchers [foreign] who come to consult archival materials at one of our branch library, if that material is converted to digital form and made available on the Internet what will motivate foreigners to come to our country?”

Such sentiments point to realization that Africa's knowledge can be a tool for socioeconomic development and control, given Africa's marginal position in the international political and economic arenas. Following years of colonial exploitation, suspicions are justified yet utilization and sustainable exploitation of African knowledge cannot be fully achieved without opening it up locally and internationally. Following UNESCO and WIPO's proposal of *sui generis* system of protect tailored to the communal natural of ITK, unbounded by time, predominately oral in character and strong linkage to traditions and norms, there is renewed interest in that approach for protection of ITK in Africa (Armstrong & Ford 2005; Britz and Lipinski 2001; Githaiga 1998). However, *sui generis* system should align with the copyright system if confidence in the digitization of scholarly ITK-related materials is to be fully realized.

4. Digitization of ITK and Libraries in Africa

Digitization in the African context refers to "conversion of non-digital material to digital form" (Tsebe 2005, 2). We noted above the challenge of defining ITK. The same challenge is reflected by ITK digitization initiatives reported here. Many African digitization initiatives combine 'raw' ITK materials such as collections of traditional lifestyles, and/or secondary ITK resources outputs from scholarly endeavors such as dissertations and theses. The author makes a plausible assumption that digitization in Africa, directly or indirectly, covers ITK particularly in scholarly domains. That assumption is based on the earlier argument that African scholarship mostly interfaces with, or draws from, ITK constructed as *national heritage*. University and public libraries are instrumental in digitalization of indigenous resources arising out of research initiatives (Tsebe 2005). From institutional repositories of grey literature to Electronic Theses and Dissertation databases (ETDs),

libraries facilitate preservation of research output but also enable wide access to that content (Magara 2005; Tsebe 2005). Digitization, however, is not the “panacea for problems of preservation and access” (Britz and Lor, 2003, 2) but part of a complex set of issues including intellectual protection and control. Britz and Lor (2003) concentrated on the moral questions but also identified political, cultural and social factors as central to digitalization-aided access and preservation of ITK.

Studies, or documentation, of library –related digitization initiatives in Africa’s teaching and research environment are scanty to non-existent. Tsebe’s (2005) study is the most comprehensive account of “digitization activities at national libraries and to encourage cooperation amongst heritage institutions” (1). From this study, we deduce that while African institutions recognize ITK as important, not many have undertaken comprehensive and systematic digitization initiatives outside South Africa (Tsebe 2005). African universities are still grappling with basic ICT challenges including infrastructure development, bandwidth, hard and software all competing with other basic social necessities such as education and healthcare (Walker, 2005; Tsebe 2005). That explains wide-spread lack of digitization initiatives. Due to low response rates, the report was tentative. Data was primarily drawn from national libraries but points to the skewed nature of digitization initiatives in favor of South Africa where the Digital Imaging Project of South Africa (DISA) is the most coherent and comprehensive project to date (Tsebe 2005). Since most digitization initiatives covered ‘scholarly content’, we assume the intersection between research and ITK for most projects reported. Other countries with ‘complete’ initiatives included Senegal (West African Research Center) and Egypt (the National Library of Egypt). Several initiatives were located outside Africa, so were the origins (conceptualization) and funding of the projects located within Africa (Tsebe 2005). Tsebe found UNESCO

actively involved in different initiatives. He cites a study in 1999 by Ndiyoi Mutiti which reported total lack of archival digitization in Botswana, Kenya, Malawi, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe (Tsebe 2005, 5). While the situation could have changed since 1999 and archival activities might not reflect the state of digitalization in academic libraries, Ndiyoi's findings point to the general state of digitization in the countries mentioned.

Within the broad definition of ITK in scholarly environments, the paper recognizes certain initiatives as representative of ITK digitization in Africa. They are briefly discussed with the intent of understanding the dynamic relationship between ITK digitization and intellectual protection.

The African Journal Online (AJOL) was started in 1996 by INASP.⁷ AJOL was recently passed pass onto National Inquiry Services Centre (NISC), a South African firm, to manage it on behalf of publishers with INASP as advisor.⁸ AJOL covers twenty two (22) countries contributing 232 titles with Nigeria (97) and South Africa (48) in dominant positions (*See Appendix I*). Most journal titles are directly or indirectly linked to African education institutions in some cases directly run by academic libraries at universalities. AJOL is a 'document delivery service' linking users to journal titles, abstracts and other bibliographic details. Once the user selects the preferred article, it is faxed or mailed as photocopy. While fax and photocopying are the main delivery modes, digital delivery is now an option but still limited to certain titles with online presence. Limited use of electronic model is probably logistical but most likely cautionary in absence of sufficient intellectual controls on that knowledge base. AJOL is a relatively recent initiative but full scale digitization

⁷ The *International Network for the Availability of Scientific Publications* (INASP)

⁸ <http://www.ajol.info/>

by publishers will likely delay until they are assured of protection and control in the electronic environments. As an intermediary, AJOL assumes no liability for copyright infringement. Given the diverse nature of the materials and the obvious treatment of ITK-related areas by most titles, limiting to 'paper' model avoids likely misappropriation of the unique African scholarship representative of indigenous African scholarship.

The Database of African Theses and Dissertation (DATAD), a project of the Association of African Universities, is one continental initiative deeply involved ITK-related research since the bulk of African theses and dissertations directly or indirectly intersect with Africa's ITK. As an intermediary to content and a content provider, DATAD is concerned about copyright, specifically protection of ITK. DATAD workshops noted the diverse approach to copyright and intellectual property management in participating institutions and called for greater harmonization in language and terms of intellectual management in participating institutions (AAU 2004a; AAU 2004b). DATAD's business plan for 2007-2010 is to provide full text electronic copies of theses and dissertations with the goal of sharing rights between participating institutions, DATAD and individual scholars whose work is indexed. This further removes ITK from 'original' communities and contexts and adds yet another layer of ownership and control at the continental level.

5. The Ugandan Study

A recent study of Uganda's TK situation noted the absence of a coherent and coordinated approach to digitization of ITK (Magara 2005). The study surveyed ITK related institutions and organization from government agencies, private entities to cultural institutions. While this study is a valuable starting point for contextualizing ITK in Uganda given its broad scope, it didn't examine specific institutional contexts,

the nature of ITK digitization initiatives vis-à-vis control and protection of ITK. Neither did the study address definitional problem nor demarcate scope of ITK is a contemporary African nation-state, issues we've already noted to be complex and worthy clarifying. The current study set out to examine the disproportionate representation of African knowledge output due to inadequate protection of indigenous and traditional knowledge (ITK) in Africa's scholarly and research environments. Through email, 14 librarians were invited to provide information about their digitization activities. These represented 13 public and private institutions. They were selected with the help of the leadership of the Consortium of Ugandan University Libraries (CUUL). Six librarians responded but four noted lack of digitization/ICT initiatives for ITK. Two responded with useful information and these were followed up with specific questions based on initial responses.

a. Findings

A simple instrument was designed with the five broad questions. Findings are presented according to major themes. Uganda's situation may not reflect what is typically happening in countries like South Africa and Egypt, but is certainly not far removed from many African countries. Only one public institution had someone designated to ITK digitization as one of the main areas of specialization. Others respondents were librarians involved in general library functions.

i. ICT/Digitization of ITK

The first question specifically asked about digitization or ICT initiatives for ITK. It was meant to eliminate institutions without ICT/digitization initiatives for ITK. Four institutions responded that either they didn't have digitization initiatives or didn't deal

with traditional or indigenous knowledge. Two institutions responded with relevant information on digitization of ITK. The rest never responded at all, even after two follow-ups and telephone attempts. Consistent with the broad conceptualization of ITK, respondents were invited to “define I/TK in whatever way they want.” Even then, one of the two respondents noted that “I/TK has always appeared unclear” and wondered whether further comments were necessarily in light of the uncertainty. At the second institution, the library was not directly involved in digitizing but storage and circulation of the resources (CDs). Digitization was the work of a research and documentation centre on campus. Materials were mainly ‘traditional songs and literature.’

The primary purpose for digitizing was expressed by one of the respondent. Thiers is archiving ITK as opposed to anything else say preservation. This particular institution perceives archiving as a mechanism for “promoting access.”

ii. Technology used for ITK Digitization

The author wasn’t very successful in getting one of the institution to clearly state technologies used in digitization. The respondent only mentioned CD burning. The documentation center directly in-charge was not forthcoming since theirs is a “research” initiative probably restrained by ethical obligations from disclosing what is happening.

The second institutions however, identified *DSpace Open Source Technology* “to collect and archive the locally produced scientific research publications” from the institution and Uganda in general. *DSpace* was developed Massachusetts Institute of Technology with support from *Hewlett-Packard*. *DSpace* is recommended for Institutional Repositories (IRs), Learning Object Repositories (LORs), eTheses, Electronic Records Management (ERM), Digital Preservation, Publishing among

others.⁹ Another unit on the same campus was developing a digital collection of forestry and nature for Uganda using *Greenstone* open source software.¹⁰ An expert from the US is helping with this collection. *Greenstone* was developed by the New Zealand Digital Library Project at the University of Waikato. UNESCO and the Human Info NGO have helped produce and distribute the software as an open source technology. Several training works have been conducted in several African countries (Tsebe 2005).¹¹

Both institutions reported that initiatives were at pilot stages a situation consistent with Magara (2005) and Tsebe's (2005) findings. Use of open source non-proprietary software by the institution is a welcome move given the global support network and emerging institutional framework for open source technology and content.

iii. Access/use and copyright policies?

One of the institution, the librarian mentioned that they follow “international copyright rules” while an official at the Centre directly in-charge mentioned that they “do not have a specific copyright policy as such.” The contradictory responses point to ad hoc nature of digitization initiatives as far as planning and policy is concerned. The other institution reported that materials were not yet open for public access and therefore had no specific access policies in place. This same institution didn't have a library-level copyright policy but reported a university-wide policy that was being drafted. The author couldn't gain access to this policy document. The institution has a fairly large and unique collection of ITK resources that haven't been digitized due in part to lack of an institutional copyright policy. The institution has a university-wide ICT Policy which stipulated, among other things, use of open sources as first priority

⁹ <http://dspace.org/introduction/index.html>

¹⁰ <http://www.greenstone.org/cgi-bin/library>

¹¹ Burkina Faso, Cameroon, Cote d'Ivoire, Democratic Republic of Congo, Ghana, Rwanda, Senegal, Sierra Leone, and Togo.

over proprietary software. The policy also identified controlling access rights and privileges as important component of the institutional ICT strategy. For the library, it means controlling access to not only ITK resources but the institutional research and reference collection under the library system. The ICT Policy was silent on copyright and related areas. Intellectual protection of ITK and other institutional resources remains a grey area at this institution. Even the Association of African Universities (AAU) is not certain how many institutions have such policies (Alemna 2005). Due to lack of such policies, Alemna (2005) observed that institutions of higher learning in Africa were faced with ITK protection challenges. The second institution reported that their access policy wasn't different from policies for other materials available in their collection. One of the institutions is a DATAD participant and, therefore, affected by copyright and access issues discussed under DATAD.

Uganda's two cases point to major coordination and awareness challenges alluded to by Magara (2005). While both librarians that participated positively identified project they are directly or closely involved in, other relevant initiatives were never mentioned. Most notably the *Electronic Supply for Academic Publications (eSAP)*¹² a project in which both institutions participate. *eSAP* materials are both ITK or grounded in ethnic cultures and/or contexts of contributing scholars and institutions scholars. *eSAP*'s liberal copyright policy under the 'Creative Commons Public Copyright License,' although effective for wide access to information, might not meet unique ITK protection needs. *eSAP* is a relatively recent initiative but we note lack of content from certain institutions for the entire 2005. While logistical challenge might be to blame, intellectual protection and control cannot be ruled out.

¹² <http://hsfiuc.uci.ru.nl/esaptest/index.php?page=esaphome>

6. Concluding remarks

This paper defined ITK in scholarly contexts broadly to include virtually any scholarly output resulting from direct or indirect contact with ITK primary materials. Looked at from that perspective; most scholarly output has a direct or indirect bearing on ITK. Digitization should enhance access but also create secure environments for Africa's ITK scholarship. Library institutions have a role to play in formulation of institutional, national and international policies. The bigger challenge is at the national level where governments have to adopt appropriate policies and legislation to protect ITK and ITK related scholarship. A participating institution indicated that intellectual property control was one reason important full-scale digitization initiatives had not taken off yet valuable resources are locked up or access is limited if retained in print format. Continued lockup of such knowledge contributes to under-representation of Africa's knowledge output in the global knowledge flows. Even DATAD, which is supposedly Africa's success story in terms of marketing Africa's scholarship, remains obscure due to insufficient intellectual property (IP) control. DATAD and *eSAP* are important cases for universities to draw from in formulating digitization policies. First, universities through, their library systems, should initial pilot projects based on different access model, open and closed access. Pilot initiatives will inform not only institutional policy choices based on current use but also national and international policy processes. The assumption that laws and policies must exist before actual digitization takes place, even at pilot level, fail to acknowledge important lessons learnt from such initiatives. Lessons learnt can positively influence legislation and policies. In Uganda's case, pilot initiatives mentioned by the institutions will influence the *sui generis* legislation soon to be drafted by Ugandan government. Given the interlocking nature of copyright and *sui generis* materials in

the scholarly environments, pilots help inform how best to reconcile these two areas at regulative levels. As variously noted in this paper, there is urgent need to clearly define the scope of ITK in scholarly environments lest the dualistic conceptualization creates room for misappropriation. In context of this paper, that scope will virtually cover much of scholarly output in line with claims to *national heritage*. There is a need for a study involving African scholars in typical educational and research settings to understand whether intellectual property control would affect their decisions to digitization ITK-related research output.

Appendix 1: AJOL Title Statistics by participating countries

Country	AJOL Title Number
Algeria	2
Botswana	2
Burkina Faso	2
Cameroon	3
Congo, DR	1
Cote D'Ivoire	3
Egypt	5
Ethiopia	7
Ghana	9
Kenya	17
Lesotho	1
Malawi	3
Nigeria	97
Senegal	6
South Africa	48
Sudan	1
Swaziland	3
Tanzania	6
Togo	1
Uganda	5
Zambia	1
Zimbabwe	9
Total	232

Source: from AJOL website (<http://www.ajol.info/>)

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