University of Dar es Salaam Library Journal

Volume 8 | Number 1 & 2 | 2006

INDIGENOUS KNOWLEDGE: EXAMINING ITS PAST AND PRESENT STATUS, AND PROJECTING ITS FUTURE IN LIBRARY AND INFORMATION SERVICES

Adetoun A. Oyelude and C. O. Bolajoko Adewumi
Kenneth Dike Library, University of Ibadan, Nigeria

Abstract
Indigenous Knowledge Systems is a growing area of research in the information age. Over six million, one hundred and sixty thousand records exist on the subject. In spite of this, Indigenous Knowledge (IK) is still far from being preserved for posterity. The paper examines the history of IKS, treats classification of IKS in library classification schemes and projects the future of IKS. The efforts at Indigenous Knowledge gathering in the University of Ibadan, at the Department of Library, Archival and Information Studies and the Institute of African Studies are reported. Recommendations are that information professionals should evolve systems for organizing oral information, policies should be made to encourage the recording, documentation of IK, and national, regional and if possible, global networks can be created to facilitate this.

Introduction

Indigenous Knowledge (IK) refers to localized knowledge unique to particular societies or groups of people. It is also referred to as Traditional or Local Knowledge (Le Roux, 2003), Traditional Environmental Knowledge (TEK), folk ecology, ethnoecology and ecological knowledge (Johnson, 1992). Johnson defines Traditional Environmental Knowledge as,

"A body of knowledge built up by a group of people through generations of living in close contact with nature. It involves a system of classification, a set of empirical observations about the local environment, and a system of self-management that governs resource use" (Johnson, 1992:4).

Ngulube (2002) describes IK as experiential, locality-specific knowledge and practices of medicine as well as healing, hunting, fishing, gathering, agriculture, combat, education, and conservation developed by indigenous people over the years. Mabawonku (2005) also defines Indigenous knowledge as knowledge or survival methods that are unique to a given society, culture or community. Whatever the definition given to it, the fact still remains that Indigenous knowledge has been stored in people's mind and it has been updated and modified through social contact, learning, and communication. As society has grown and become more complex, larger quantities of information are being published and disseminated. Much of the information that is stored in people's mind depends on memory, to be able to recount or transfer it. (Raseroka, 2005). It has been noted that rural

dwellers, farmers, hunters, fishermen etc. have their indigenous technology, which has served them for ages, and that this technology is gradually being recorded, preserved and adapted to new forms and better ways of achieving the same end that is, development. (Oyelude and Subair, 2003).

Indigenous Knowledge is a multidisciplinary field of study involving ecology, geography, anthropology and linguistics. Indigenous knowledge as a discipline is undergoing some reforms as the local systems contrast with the Western Knowledge generated through the global network of universities, international and national research centres. This paper will look into the characteristics of Indigenous knowledge, history of IK research, application of IK, classification of the subject, and the reforms expected in IK in the future.

Characteristics of Indigenous Knowledge

Indigenous Knowledge involves knowledge and transfer of local technology. The process of technology transfer involves several stages such as: selection, acquisition, adaptation, absorption and development, and re-transfer stages which IK also goes through. Indigenous knowledge systems are invaluable, diversified, and comprehensive but they are often overlooked by modern scientific research and development. However, IK has its own peculiarities and characteristics.

It is transferred through oral traditions; learned through observation and hands-on experience; based on the understanding that the elements of matter – earth, fire, water and air have a life force though some people regard them as inanimate; is holistic. All elements of matter are viewed as inter connected and cannot be understood in isolation; mainly qualitative; based on data generated by resource users; and based on diachronic data i.e. longtime series of information on one locality. (Johnson, 1992). These peculiarities have ensured that IK was preserved by some, though transfer, adaptation, absorption, development and re-transfer, stages which have not been adequately addressed by the knowledge holders.

History of Indigenous Knowledge Research

Early studies by anthropologists and natural scientists recorded indigenous knowledge of plant and animal behaviour. Their local interpretations of natural phenomena were often opposed to scientific explanation and were rather rooted in spiritual ideology; nevertheless, they revealed a wealth of empirical knowledge. (Jones and Konner, 1989; Gans, 1986; Nakashima, 1990; Thorne et al. 1999). IK has been in existence since time immemorial. It has been preserved in the stories, legends, myths, and songs of indigenous communities. Research into Indigenous Knowledge and Indigenous Knowledge Systems (IKS) has been underway since the early

1980's. Its presence on the Internet is a more recent phenomenon however; as it's accelerated growth during the 1990's followed the resolutions adopted by the United Nations Sub-Committee on Protection of Minorities in the mid 1990's (Le Roux, 2003). Before then, documents such as the World Conservation Strategy (International Union for the Conservation of Nature and Natural Resources, IUCN et al, 1980) and Our Common Future (World Commission of Environment and Development, WCED, 1987) had emphasized the need to directly use the environmental expertise of local people in managing local resources. They stress that sustainable management of natural resources could be achieved if a science could be developed based on the priorities of local people and creating a technology, which would be a blend of both traditional and modern approaches to problem solving.

From the 1980's to the 1990's a lot happened. The 1990's saw increased interest in IK Systems. This interest was reflected in Nigeria, in the Nigerian Institute of Social and Economic Research (NISER) when it set up the African Resource Centre for Indigenous Knowledge (ARCIK). The collection of the Centre was not extensive but they produced an annotated bibliography to acquaint the public with what was available within NISER's library on IK (Nigerian Institute of Social and Economic Research, 1996). The resource is still a very useful one for researchers.

The Institute of African Studies and the Department of Library, Archival and Information Studies (LARIS), as well as the **Africana Collection** of the Kenneth Dike Library, University of Ibadan, are very good sources of already documented Indigenous Knowledge Research. The Department of Library, Archival and Information Studies teaches a course on Oral Archives and the students, as part of the course, go into the field and record oral information that is of archival value. These are recorded either on cassette tapes, compact discs (CDs) or on videotapes. Transcription of the oral information is also done in print and both are kept in the Department. Indigenous festivals, crafts, or history. Over 1000 of such recordings, including some realia are available on various events in many communities in Nigeria.

The Institute of African Studies, University of Ibadan, has also done a lot in the area of IK since it was established in 1964. The recordings of festivals, songs, dances and drama have been kept over the years. The formats in which they are kept have been changing with new technologies. There are some records on reel-to-reel tapes, cassette tapes, and recently, on videotapes and CDs. It is unfortunate that the collection, though properly catalogued and kept in the Institute's library, did not enjoy adequate environmental and preservation care. The facility for storage is humid and

also very hot at times. As a result, a lot of the tapes have been damaged. The Directors of the Institute have, at various times, sought to get funding to restore and if possible digitize what is left of the collection. Success is yet to be attained in this regard.

Adasagba, (2002), also reported that by using tapes, video recorders, interviews, and desk research, aspects of the culture of the Binis, an historic ethnic group in Nigeria, were captured and developed into a website, http://www.great-benin.8m.net A Bini (language) version of the website was also developed. This effort is quite commendable, bearing in mind that the World Bank has rated African information content on the superhighway as 0.4%.

In the United Kingdom, efforts have been made by development agencies to document knowledge on development sources including IK. Information on the Institute of Development Studies (IDS), British Library for Development Studies (BLDS), UNEP United Nations Environment Programme (UNEP) and UNEP's global environmental information exchange network (INFOTERRA) is provided in a guidebook, Guide to Environment and Development Sources of Information on CD-ROM and the Internet. Produced in 1998, the guide is in printed form and also available as an online database at http://www.ids.ac.uk/eldis.

The World Overview of Conservation Approaches and Technologies (WOCAT), initiated a project named Promoting Farming Innovation (PFI) that was operational in Kenya, Tanzania, and Uganda from 1997 to 2001. Innovations by farmers in land husbandry, was the focus of the project. Data gathered from the project was recorded and fed into WOCAT's global database. (Critchley and Muntunga, 2003). This is one of the more recent efforts, which have surpassed the 1990's.

The years from 2000 to the present have seen a great increase in IK. In May 2005, a Google search by researchers on the Internet with the entry "Indigenous Knowledge" typed in revealed that more than six million records exist on the subject on the Internet. Many journals (e-journals as well), are springing up that deal exclusively or almost exclusively with the subject.

Application of Indigenous Knowledge

Indigenous Knowledge is applied in a variety of ways. It is used in agricultural development (DeWalt, 1994) and in the area of harnessing the latent possibilities in rural areas which are characterized by poverty. The technical expertise of the people in rural communities has been effectively employed through the generations with desired results (Atte, 1992). It is

used in weather forecasting. (Ajibade and Shokemi, 2003). It can also be used in solving environmental sanitation problems and in helping eradicate illiteracy as suggested by Egbokhare (2003).

Reforms expected in IK in the future

IK has come a long way, but there is still a lot to be done in this field. Therefore, many reforms are called for. In the storing and preservation of IK, librarians, more than anthropologists, historians and other researchers, have to be in the forefront. Many issues have to be considered such as:

Classification of IK

The classification of Indigenous Knowledge in Classification Schemes needs to be revised. In the Library of Congress Subject Heading 1996 edition for example, Indigenous Knowledge was not listed at all, whereas in the 2003 edition, IK was listed as:

Indigenous Knowledge Systems

USE Ethnoscience

On looking up 'Ethnoscience' in the same scheme, it was presented as:

Ethnoscience

UF Indigenous Knowledge Systems
BT Ethnology
Science
SA subdivision Science under ethnic groups
NT Ethnobiology
Folk classification

This demonstrates the fact that IK is not comprehensively conceptualized. Librarians in these parts of the globe need to revisit the scheme so that IK as a concept is well understood and properly classified. This is important so that documented IK can be catalogued to facilitate easy access internationally.

Language

The language of instruction or preservation of IK is important. Mastery of the indigenous language is very valuable in this wise. It is desirable that children should be taught in their mother tongue as this ensures a good grasp of the language, at least, up secondary school level. Researches have shown that a child learns faster when taught in his or her mother tongue rather than in a foreign language, (Chumbow, 1998; Bamgbose, 1992). IK storage is dependent on language. Local content of IK is most important. It is a lasting way of harnessing and directing IK. This is a reform that should be supported by all stakeholders (librarians and other information

professionals inclusive), in the delivery of the much-needed information. This presupposes that the information professionals are also versed in their own mother tongue to start with. The language component of the various educational systems should therefore be re-examined.

IK in the eradication of illiteracy

Nations with huge populations of illiterates should consider investing in technology that are voice based as a way to eliminate illiteracy which poses as a barrier to free access to information and participation. Such nations should also study traditional means of information storage and transmission such as is found in proverbs, taboos, incantations etc with a view to cracking their hidden codes in order to integrate them with modern technology. (Egbokhare, 2003:7).

Translation of IK

Translation is a very important aspect of IK documentation and preservation. Since the knowledge is in the indigenous languages and mostly transmitted orally, it has to be translated. The only problem is that if it is translated to English for example, some meaning may be lost if the concept does not exist in the English language. It has been observed that information is often translated into English without seeing if the scientific terminology used accurately reflects the indigenous concept being described. Hence some of the insight that traditional knowledge may have to offer about indigenous plants, animals and other elements may be lost through translation. To remedy this when translation is done, it should be done by indigenous experts.

Property rights issues in IK research

The issue of who has intellectual property rights when IK has been researched and documented should be addressed. Is it the local people who give out the information, or the researcher? Udgaonkar (2002) discusses the problem of what he calls "biopiracy" and cites the case of the United States patenting the use of turmeric in wound healing which was challenged by India through the development of traditional knowledge databases. The databases were intended to document India's century-old IK, bring it to peoples knowledge and frustrate attempt to usurp the knowledge without proper acknowledgement of the source. Udgaonkar claims that the existing patent laws can make the knowledge susceptible to biopirates. Some important structural changes or reforms are needed which will be based on sound legal footing and incorporated into the databases that are being created which will prevent biopiracy and protect the interest of the knowledge-holders. Mohai (2004) posits that it is important to identify the originator or owner of the knowledge and acknowledge them as well. In fact, Raseroka (2005) is of the opinion that IK should be documented in the

native language so that there will be recourse to the owner community when there is need for such knowledge/ information.

Challenges to Library and Information Services Delivery in IK

Librarians and information managers should come out in full force and get involved in IK research, preservation, and information delivery. The first challenge presents itself in the collection/ acquisition of this knowledge. There is need to identify authentic sources of IK. This means that information collected has to be verified. Secondly, standardized methods of data collection have to be developed to ensure uniformity, and the necessary skills acquired in this regard. The issue of skills acquisition in collecting, preserving, and disseminating indigenous knowledge is a very important one.

Other challenges in the development of an effective indigenous knowledge system (IKS) include:

- The creation of a data management system for information on traditional knowledge – A data management system for information should be developed so that all traditional knowledge gathered in oral, written, or other forms are collated and fed into a database for easy reference.
- The development of appropriate methods to disseminate IK – The information gathered should be packaged properly and disseminated in various formats, such as texts, CDs, CD ROM, cassette or video tapes where possible and access be provided to them in an organized manner, especially in electronic formats.
- The establishment of library consortia in the area of IK so as to have a strong network of libraries and information centers with common focus. Libraries storing and preserving IK should work together and provide services mutually beneficial to all users. Resources should be shared so that unnecessary duplication is avoided.

Recommendations

IKS is likely to be either lost or preserved, depending on varying socio-economic circumstances of the origin or the originators. It is a threatened knowledge system and as such, all those interested in conserving it should note that IK is best conserved *in situ*; concepts can be more important to transfer and preserve than mere facts or practices. Researchers may identify or select those parts of the knowledge system most in need of conservation attention; and technical innovation might allow local-scale IK to interface more effectively with large-scale global technologies.

Information professionals should not remain sitting on the fence, but, as enjoined by Raseroka (2002), librarians have to become major participants

and stakeholders in evolving 'systems for organizing databases of published oral information.'

In addition, policy actions in the years to come should give priorities to recording, documenting and incorporating IK, which has fast become a threatened knowledge system.

Regional and national IK resource centers should be set up for systematic recording of IK for use by developmental projects. This would ensure that Indigenous Knowledge Systems are utilized more fully than they have been in the past. The future of IKS looms bright only if information providers harness its potentials.

References

Ajibade, L.T. and Shokemi, O.O. (2003). Indigenous approach to weather forecasting in Asa LGA, Kwara State, Nigeria, *Indilinga: Journal of Indigenous Knowledge Systems,* .2 (1), 2003.

Atte, O.D. (1992). 'Indigenous knowledge and local level development: the participatory approach'. Paper presented at International Symposium on Indigenous Knowledge and Sustainalble Development, held at IIRR, Silang, Cavite, Phillipines, 20 – 26 September 1992 pp. 14 – 44.

Bamgbose, (1992). Speaking in Tongues: Implications of multilingualism for language policy in Nigeria. Kaduna: Nigerian National Merit Award. Award Winner's Lecture.

Chumbow, S. (1998). Comments and contributions in African languages and challenges of development. CASSAD Monograph Series (II) Cape Town, South Africa.

Critchley, W.R. and Mutunga, K. (2003). 'Local innovation in a global context: documenting farmer initiatives in land husbandry through WOCAT.' *Land Degradation and Development*, Special Issue, 14(1); 43 – 162.

De Walt, B.R. (1994). Using IK to improve agriculture and natural resource management. *Human Organization*, 53(2); 123-131.

Egbokhare, F.O. (2003). Breaking barriers: ICT language policy and development. Ibadan, The Postgraduate School, University of Ibadan. 45p.

Gans, G. de (1986) 'Taking indigenous knowledge seriously: the case of pastoral strategies among Turkana nomads of Northwestern Kenya.' *ILEIA- Newsletter*, 1986, no 5; 14-16.

IUCN (International Union for the Conservation of Nature and Natural Resources), UNEP (United Nations Environment Programme), and WWF (World Wildlife Fund). (1980). World Conservation Strategy. IUCN, Morges, Switzerland.

Izugbara, C. O. (2003). 'Indigenous Knowledge and communal conflict resolution: Evidence from Nigeria.' *Indilinga: Journal of Indigenous Knowledge Systems*, 2 (2), 2003; 1-14.

Johnson, M. (ed) (1992) Lore: Capturing traditional environmental knowledge. Ottawa, Ont., IDRC. 190p.

Jones, N.B. and Konner, M.J. (1989) 'Kung knowledge of animal behaviour.' In Johannes, R. ed. (1989), *Traditional ecological knowledge: a collection of essays. International Union for the Conservation of Nature and Natural Resources*, Moges, Switzerland

Le Roux, C.J.B. (2003) Tapping indigenous knowledge on the World Wide Web. *Indilinga: African Journal of Indigenous Knowledge Systems*. Vol. 2, 2003

Mabawonku, I. (2005) Promoting indigenous knowledge publishing in Nigerian languages: the role of library and information professionals. Paper presented at the Nigerian International Book Fair 2005, Lagos, 11th May 2005

Mohai, Kgomotso H. (2004). 'Copyright in the digital era and some implications for indigenous knowledge.' *African Journal of Library, Archives and Information Science* 14(11) 1 – 14

Nakashima, D. (1990). Application of native knowledge in Environmental Impact Assessment (EIA): Inuit eiders and Hudson Bay oil. [Hull, Quebec]: Canadian Environmental Assessment Research Council.

Ngulube, P. (2002) Managing and preserving indigenous knowledge in the knowledge management era: challenges and opportunities for information professionals. *Information Development* 1(2) pp 95 – 100

Nigerian Institute of Social and Economic Research (NISER), (1996) Annotated bibliography on traditional indigenous knowledge. Ibadan, Nigerian Institute of Social and Economic Research

Oyelude, A.A. and Subair, R.E. (2003) 'Libraries, archives and information centers in rural community development.' *Nigerian Library and Information Science Review.* 21(1) pp 66 – 73

Raseroka, H. Kay (2002) From Africa to the world: The globalization of indigenous knowledge systems: setting the scene.

Proceeding of the 15th Standing Conference of Eastern Central and Southern African Library and Information Associations. 15 – 19 April 2002. Johannesburg, South Africa. pp 1- 12.

Thorne, P.J.; Subba, D B.; Walker, D H.; Thapa, B.; Wood, C D.; Sinclair, F L. (1999) 'The basis of indigenous knowledge of tree fodder quality and its implications for improving the use of tree fodder in developing countries.' *Animal Feed Science and Technology,* 81 (1-2): 119-131.

Udgaonkar, S. (2002) The recording of traditional knowledge: will it prevent "bio-piracy"? *Current Science* 82 (4); 413 – 419

World Commission of Environment and Development, 1987. *Our common future*. Oxford: Oxford University Press.