African Indigenous Knowledge: Call for a Paradigm Shift in Nigeria in a Changing World

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Abstract

This paper discussed the need for a paradigm shift in the management of indigenous knowledge in line with the realities of the 21st century. It examined the concept of indigenous knowledge and the need to refocus it to enhance its accessibility and utilization. The study also examined strategies for accomplishing the shift and how it can be repackaged to meet the information needs of Africans and other users alike. The paper also examined some of the challenges that may affect this shift and relevant strategies for enhancing this shift. Based on this, a number of recommendations were made. Key among them include utilization of modern technology (ICT's) to repackage information to meet user needs; promoting intergenerational dialogue relating to knowledge, and use of multi-format in the presentation of indigenous knowledge.

Keywords: Indigenous Knowledge; Library Service; Rural Society; Traditional Knowledge.

Introduction

Indigenous knowledge (IK) plays a prominent role in cultural identity and development. It can be broadly defined as the knowledge that an indigenous (local) community accumulates over generations of living in a particular environment (United Nations Environment Programme, n.d). It is the unique, traditional, local knowledge existing within and developed around the specific conditions of women and men indigenous to a particular geographical area (Grenier 1998). Such knowledge systems are cumulative, representing generations of experiences, careful observations, and trial-and-error experiments. It is the knowledge a community possesses, and experiences generated over a long period of time by people living in that community or communities, and is usually passed on from generation to generation, through word of mouth. Waren (1991) sees indigenous knowledge as knowledge that is unique to a given culture or society. He further contends that indigenous knowledge contrasts with international knowledge systems generated by universities, research institutions and private firms.

According to Obomsawin (2002), indigenous knowledge represents the accumulated experience, wisdom and know-how unique to a given culture, society, and for community. It is the systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments, and intimate understanding of the environment in a given culture. Local people, including farmers, herbalists, landless labourers, women, rural artisans and goat and cattle rearers, are the custodians of Indigenous Knowledge System (IKSs). It stands apart as a distinctive body of knowledge, which has evolved over many generations in a particular ecosystem. It defines the social and natural environment, is based within its own philosophic and cognitive system, and includes first-

hand working knowledge. According of Nakata and Langton (2005), IK refers to the knowledge, innovation, and practices of indigenous and local communities around the world, developed from experience over centuries, and adapted to the local culture and environment, transmitted orally from generation to generation.

These definitions encompass technologies, know-how, skills, practices, and beliefs that enable the community to achieve a stable livelihood. IK is collectively owned and exists as stories, songs, folklore, proverbs, cultural values, norms, beliefs, rituals, local language, and agricultural practices, including the development of plant species and animal breeds (Nakata and Langton, 2005). Indigenous knowledge (IK) is stored in peoples memories and activities and is expressed in stories, songs, folktales, proverbs, dances, myths, cultural values, beliefs, rituals, community laws, local language and taxonomy, agricultural practices, equipment, materials, plant species, and animal breeds.

Indigenous knowledge is applied in many areas including agriculture, health, education, home management, etc. This knowledge, according, to Huysamen (2003) has tremendous value for efforts related to sustainable development, medical research, governance and civil society and many other things. It is the bases for local-level decision-making in agriculture, health care, food preparation, education, natural resources management, and host of other activities, especially in rural communities. Despite its enormous value, indigenous knowledge has been a largely underutilized national resource in most developing countries (Gramser and Appleton, 1995). Its underutilization stems partly from the handling and management which have made it largely irrelevant in an era predominantly reliant on Information and communication Technology. It is in reaction to this challenge that this paper is designed to examine the need and strategies for a paradigm shift in the handling of indigenous knowledge. The paper examines the characteristics of indigenous knowledge, the need for a paradigm shift in indigenous knowledge, strategies for implementing the paradigm shift, the role of the libraries, expected challenges, and general recommendations for enhancing implementation.

Characteristics and Benefits of Indigenous Knowledge

A number of authors including Langill (1999) and Chisenga (2002) have identified some characteristics of indigenous knowledge as follows: It is generated within communities; It is location and culture specific, and have been transformed by local people and incorporated into their way of life. It is not systematically documented; it is dynamic and based on innovation, adaptation, and experimentation, and it is oral and rural in nature. It is also based on experience; it is often tested over centuries; it is adapted to the local culture and environment, and it is expressed in local languages. It is not confined to tribal groups and rural people or the original inhabitants of an area but it is based on ideas, experiences, practices and information that have been generated either locally or elsewhere, and is tacit knowledge, and therefore not easily codifiable. Finally, it is the basis for decision making and survival strategies.

Indigenous knowledge encompasses a number of fields. Some indigenous knowledge systems could easily be accessed and some cannot be. Some are used for economic purposes while others are not. Indigenous knowledge is more that just technologies and practices. Dlamini, (2005) identified types of indigenous knowledge to include the following:

- Information, e.g. trees and plants that grow well together;
- Beliefs e.g. religious festival ceremonies;
- Health e.g. healers tests of new plant medicines;
- Human resources e.g. local organization such as kinship groups, councils of elders, or groups that share and exchange labour;

- Education e.g. traditional instruction methods; apprenticeship; learning through observation;
- Communications e.g. story-telling;
- Agriculture, e.g. animal husbandry and ethnic-veterinary medicine;
- Food and technology e.g. fermentation;
- Practices and technologies e.g. seed treatment and storage methods; tools; e.g. equipment for planting and harvesting; cooking pots and implements;
- Arts and crafts e.g. handcrafts like mat making.

These indigenous knowledge systems may appear simple to non indigenous people but they are very important to the rural society as they represent mechanisms to ensure meaningful livelihood for the rural resource-poor people in Nigeria. The rural communities constitute one of the important and significant segments of the country. They constitute the main producers of agricultural produce of a nation. However, they are the most neglected, disadvantaged, and underdeveloped because of their relative distance to the seat of government (Mole and Dim, 2009). For instance, during the process of technology development, the rural society's informal experimentation were not considered as a source of innovation (Rajasekaran and Martin, 1990). During the process of technology dissemination feedback information from this rural society after the introduction of technologies is rarely recorded. Rural society's educational needs, priorities, and innovations are not considered while developing and disseminating technologies and teaching and learning materials. This widespread neglect calls for special services tailored to meet their special information needs.

IK has become valuable not only to those who depend on it in their daily lives, but to modern industry and agriculture as well. Warren (1991) noted that IK has made a tremendous contribution to crop production by poor farmers. Okuneye and Ayinde (2004) added that small scale resource farmers have good reasons for sticking with their local knowledge and farming practices, because modern technologies can only be successful and sustainable if IK is taken into consideration.

In developing countries, indigenous knowledge is an enabling component of development and indigenous people are aware of the relationship between culture and development. Over the years, policy makers, development planners and the public at large have become increasingly aware of the important role indigenous knowledge can play in the promotion of sustainable development. They view indigenous knowledge as having the potential to help save lives and increase food security and income. The importance of indigenous knowledge for sustainable development was recognized in the Brandland Commission's report at the Earth summit in Rio De Janeiro in 1992 (World Bank, 1992) and incorporated in Agenda 21 documents of the United Nations and the International Conference on Biodiversity. Chapter 34 of Agenda 21 states that traditional technologies:

- help to ensure access - in particular on the part of developing countries - to scientific and technological information, including information on the state-of the art technologies.
- facilitate the maintenance and promotion of environmentally indigenous technologies that may have been neglected or displaced, in particular in developing countries, paying particular attention to their priority needs, and taking into account the complementary roles of men and women (UN, 1992).

According to many research works, it is clear that when local knowledge is left out of the planning and policy making process, the results are that the development is either less successful or, in some cases, disastrous (Ty and Cuc, 1998). Western techno-scientific approaches are (in themselves) an insufficient response to today's complex web of social,

economical, political and environmental challenges (Grenier, 1998). In conformity with the potential uses of indigenous knowledge, Berkes (1993) suggested that IK has been lauded as an alternative collective wisdom relevant to a variety of matters at a time when existing norms, values, and laws are increasingly called into question.

Indeed, development efforts which ignore local communities, local technologies and local systems of knowledge are liable to waste considerable amounts of time and money and eventually fail. This is because, compared with modern technologies, traditional technologies have been tried and tested and have proved effective, inexpensive and locally viable and culturally appropriate (Grenier, 1998). Grenier added that development practioners are of the opinion that indigenous knowledge can:

i)   create mutual respect, encourage local participation and build partnerships for joint problem solutions;
ii)   facilitate the design and implementation of culturally appropriate development programmes, avoiding costly mistakes;
iii)   identify techniques that can be transformed to other regions;
iv)   help identify practices suitable for investigation, adaption and improvement;
v)   help build a more suitable future

Indigenous knowledge is no doubt important in many respects.

The Need for A Paradigm Shift In Indigenous Knowledge

Indigenous communities preserve and transmit knowledge using techniques like oral storytelling and experiential instruction. Stevens (2008) asserts that the channels for communicating IK have become inaccessible to the indigenous people themselves, especially young people, because of the modern dependence on the written word and loss of facility with indigenous languages.

Indigenous communities face a threat to the survival of their languages and culture. Stevens (2008) states that, while information centers such as libraries have not traditionally focused on these areas, they can help indigenous communities manage and preserve IK, by providing resources and expertise in collection, organization, storage and retrieval. IFLA (2008) recommends that libraries collect, preserve, and disseminate indigenous knowledge, publicizing the value, contribution and importance of IK to both non-indigenous and indigenous people. They should also involve elders and communities in the production of IK and encourage the recognition of intellectual property laws to ensure its proper protection and use.

World Commission on Environment and Development (1987) echoed similar sentiments as it lamented the threats to traditional lifestyles and called for action to halt an impending catastrophe. It stated that some traditional lifestyles are threatened with virtual extinction by insensitive development over which the indigenous people's have no participation. Their traditional rights should be recognized and they should be given a more decisive voice in formulating policies about resource development in their areas. Indigenous Knowledge differs greatly from western knowledge and must be managed in ways that may challenge conventional methods.

Many non indigenous information seekers or library users, as the case may be, find it difficult to use or understand indigenous knowledge resources due to language or communication barrier. It appears IK materials are designed for people indigenous in that locality. It requires the services of translators or interpreters or other similar resources persons for non indigenous people to make effective use of IK information resources.

In support of a paradigm shift to enhance accessibility and usability of IK, Okore, et al (2009) state that: though there is so much indigenous knowledge in different indigenous

communities of the developing world, the availability of such knowledge has not translated to its accessibility or use.

To promote access and understanding of indigenous knowledge, there is, therefore, the need for a paradigm shift to meet the information need of the indigenous and non indigenous communities. There is also the need to provide ICT's such as computers, internet, digital cameras, camcorders, and so on, to allow libraries to make IK accessible.

Strategies for Implementing the Paradigm Shift To Meet The Information Needs Of Users In Libraries

In view of the values and benefits of IK, the challenges facing it resulting in the need for a paradigm shift in its handling and management, there is urgent need to determine sound strategies for implementing the shift. Such strategies are expected to facilitate a change in the way and manner IK is handled and managed.

There is urgent need for the **r**epackaging of IK. Repackaging is putting together information gathering from different sources and organising it to be meaningful. Repackaging IK refers to presentation of IK in more understandable, readable, acceptable and usable forms. It is its customization taking into account the needs and characteristics of the individual or use groups and matching them with the information to be provided so that diffusion of information occurs. There is need for repackaging the indigenous knowledge in a way or format that will be understandable, readable, acceptable, and usable. Okore, et al (2009) called for the preservation of local culture in paper and digital format and have promoted the exchange of information.

Saracevic and Woods (1981) and Bunch as cited by Chista (2011) use the term information repackaging to refer to the way an information centres and services select appropriate materials, reprocess and package the materials according to user specifications. Repackaging can be done through various forms for example, popular theatre, drama, story telling and the use of songs. Modern technology makes it much easier to repackage information through integration of text and graphics and texts. Information technology assists in repackaging information into oral form for example, the use of pod casts in rural areas to record oral history and songs. The use of tape recorders also assists in capturing a fading memory with regards to traditional knowledge. Modern technology is important in implementing a paradigm shift because information and communication technologies (ICT's) are free from the fetters of time and space. Libraries need to utilize modern technology to promote access to indigenous knowledge with regards to promoting a culture of knowledge sharing amongst indigenous and non indigenous.

Tsiko (2004) suggested the need for documentation. He states that this is critical at a time when traditional knowledge is being marginalized by high culture resulting in assimilation and cultural genocide. With due consideration to intellectual property rights, it is imperative to document this knowledge that has practical uses in agriculture, forestry, health and sustainable development.

With the emerging ICT tools and indigenous ICT expertise, much of the invaluable traditional knowledge can be saved, documented, improved upon, digitized, repackaged (to preserve, for posterity, etc). and transmitted for the use of communities within and outside a particular country. In order words, for ICT to be an empowerment tool and a conveyor of the locally relevant messages and information, it has to provide opportunities for local people to interact and communicate with each other and with the outside world, expressing their ideas, knowledge and culture in their own languages. This enables the people to take decisions that affect their lives, grasp economic and social opportunities, and deal with misfortunes and disasters etc.

Indigenous knowledge can be made available to the less knowledgeable within the community, especially the young, by means of the printed word and other learning materials. Also individuals and agencies such as researchers and groups involved in biodiversity activities could use it to enhance their understanding of indigenous knowledge. It could also be applied in adult literacy classes through reading and learning about, say, the benefits of indigenous food plants and conservation, as well as about the need to preserve their culture.

Interviews of elderly people on Indigenous Knowledge or indigenous information could be tape-recorded and kept in memory bank. This is the practice in the Cayman Islands as reported by Alegbeleye (2000). This was eventually merged with their national Archives.

Some of the tools that are relevant to implement the shift include: Tape recorders; Radio; Television; Newspaper, Telephones; Computers; Cameras (e.g. video cameras, camcorders, etc); ICTs via internet, e-mails, list servers and other facilities; fax; CD-Rom; Printed materials/documents (e.g. brochures, posters etc); Diskettes; Social gathering in communities. These tools can be used either singly or combined for a good effect.

The Role of Information- based Institutions

Information-based institutions such as libraries can promote access to indigenous knowledge by creating an environment which permits face-to-face forums and network formation to discuss and debate on issues that might be useful to members of the communities. For example, libraries can organize talk shows involving traditional rulers, elderly people and professionals to gather and record information on various local vocations from different subject areas ranging from agriculture, ecosystem, medical care, and conflict resolution. Libraries can work in partnership with library schools to create indigenous knowledge collections, which can be repackaged and made accessible". Stevens (2008) believes that libraries and information professionals should partner with indigenous communities.

Libraries need to be proactive and promote community publishing, so that communities are able to document their experiences and market as well as share with others. Programmes to repackage traditional knowledge will also help to integrate western and indigenous knowledge to tackle the environmental challenges with regards to land management. Community libraries working with communities and other stakeholders can encourage research, recording and documentation use of hereditary knowledge system to showcase how these can be used in managing natural and cultural elements, for example libraries use of story telling sessions helps to unlock the great potential encapsulated in indigenous knowledge systems.

Librarians are the agents of society charged with the collection, organization, distribution and stimulation of knowledge. It is their responsibility to ensure the spread of knowledge, education and culture to all groups of people in society according to their cultural, economic and social needs, collectively or individually. This will be through the provision of not only book, but also non-book materials containing indigenous knowledge, for the educational, informational and cultural activities in society. The purpose of these activities is to encourage people to read and have access to varied information sources, including those who do not consider books as their principal source of information.

At no time has the importance of the promotion of information on indigenous knowledge been greater than now, partly as a result of the need to convince government, decision makers and the public of the potential of information-based institutions as the power base for community affairs and to promote their community information and educational roles.

The fight to revitalize indigenous knowledge, for instance on subjects like HIV/AIDS, requires a multi-sectoral approach and librarians are among the key players because of their role in information dissemination. To facilitate access to information on

indigenous knowledge, librarians should be seen to include in their collection a diversity of indigenous knowledge materials, documentation and recordings (such as tape and video recordings). They should analyze their environment and do an industry analysis, identify key successes in indigenous knowledge, analyze the demands of their clientele and provide current awareness services(CAS) and selective dissemination of information (SDI) services. Once library users realize the availability of indigenous knowledge literature in these public libraries, use will be made of it, hence there may be a change in people's attitude towards indigenous knowledge.

Librarians should develop a growing interest in documenting and studying indigenous knowledge for purposes of verification and validation, in particular in relation to its impact on sustainable development. It is suggested that bibliographic catalogues and databases be prepared for documentation of indigenous knowledge..

Expected Challenges

The proposed paradigm shift may not be achievable without some challenges. One of the challenges that may affect this paradigm shift in Nigeria is transition challenge. Transiting from a deep-rooted practice to a new one is usually a herculean task.

According to Ijaytuyi (2005), indigenous knowledge is tacit in nature. Therefore, if it is coded the resultant effect of this is loss of some of its properties, as it is exchanged through personal communication from master to apprentice, from parent to child, from king to subjects, from neighbour to neighbour and from priests to parish. Because indigenous knowledge is orally transmitted down from generation to generation, recording and documenting it poses a great challenge.

Directly linked with the problem of oracy as shown above is the high wastage and replacement rate along the line. Part of Indigenous Knowledge may be lost as a result of death of one or more particular sources of IK. The monuments of Nigerian communities are mainly oral traditions, which die along with the old men and women of such communities. This is evident in South-Western Nigeria, especially great wood carvers of old. They are fast disappearing from the society. As a result, repackaging or documenting their knowledge becomes difficult or impossible.

Memory Dependence of Indigenous Knowledge: A stock of Indigenous Knowledge is acquired, stored, and transmitted orally through practical participation because of heavy dependence on oral education as a way of exchanging Indigenous Knowledge. However, it should be noted that there is a limit to the capacity of the human memory (Haywood, 1995). This can consequently lead to loss in part of Indigenous Knowledge with the passage of time. Problematic to Indigenous knowledge as far as its dependence on memory is concerned is the issue of memory decay, which may set in over quite short periods of time. Haywood (1995) asserted that "almost everything we do in a day will be forgotten within a few weeks and as the ability to retrieve a memory decays exponentially, more than 85% percent of our experiences will have slipped out of minds within a month". The recognition of the problems caused for busy people by memory decay has led researchers at Rank Xerox's European laboratory in Cambridge to develop pocket-sized devices to help people augment their memories. In Nigeria or in other traditionally oriented societies, there is no development towards augmenting their memory or helping busy rural people in the area of any pocketsize devices as is the case in modern international societies of international knowledge.

Another major problem facing Indigenous Knowledge especially in Nigeria is documentation. In many developing countries, there is uneven documentation of indigenous information. Alegbeleye (2000) explained that some countries have fairly good access to indigenous information, like Zimbabwe, Jamaica and the Cayman islands in the Caribbean

Sea, 500 miles off Miami. Interviews are conducted with informants, transcribed, translated and edited by historians and these are catalogued and indexed for public consumption. In Jamaica in 1981, the government created a cultural heritage memory bank solely for the preservation of culture, of which Indigenous Knowledge is characteristic. In the Cayman Islands, interviews of elderly people on Indigenous Knowledge or indigenous information are also tape-recorded and kept in memory bank. This was eventually merged with their national Archives. This has not been the practice in Nigeria.

In Nigeria, however, libraries are seemingly perceived as irrelevant to the lives of people. As a general rule, they are treated with indifference by the public. This demonstrates an inability on the part of librarians not only to communicate tangible information but also an unwillingness to move outside the confines of traditional library practices. Librarians are seen to provide mainly passive access to materials and resources and they have service priorities and resource strategies which work in favour of formal education to the exclusion of information on indigenous knowledge. Librarians have adopted a 'take it' or 'leave it' approach and their rationale continues to be based on the idea of developing universal access to a service that essentially reflects the mainstream middle working class, who incidentally form part of the literate few in society (Chisenga, 2002). Attempts to target services towards the local people and their knowledge remain patchy, uneven and often times limited.

General Recommendations for Enhancing the Management of Indigenous knowledge

The following recommendations are therefore made for enhancing the implementation of the paradigm shift.

1. A comprehensive proactive policy framework is the best way to conserve indigenous knowledge that has helped produce and maintain diversity in Nigeria. A strong sustainability connection must exist between Indigenous and modern Knowledge. Time-tested ancient wisdom combined with modern technologies can create a solid foundation for any development.

2. Indigenous knowledge can be repacked and legitimized in the eyes of younger generations by presenting it in a format that puts it on equal footing with the international knowledge system, which they are exposed to in state – run schools and through television and radio. Indigenous knowledge can be repackaged and taught to younger generations in schools or other fora as a regular programme.

3. Indigenous knowledge can be repackaged and made available to the less knowledgeable of a community. People can use research or their own experience to enhance Indigenous Knowledge, which they can pass on.

4. There is also need for strengthening synergies between libraries and local communities. This will help in
   - Promoting community engagement.
   - Identifying and promoting potential sources of traditional knowledge and story tellers.
   - Education of local people on intellectual property rights with reference to communally owned knowledge.
   - Empowering local people through information to capitalize on their communal knowledge.
   - Providing space to integrate traditional and formal scientific knowledge.
   - Using libraries to promote intergenerational dialogue relating to knowledge.
   - Incorporating indigenous knowledge as key component of the educational curriculum, for example inclusion of indigenous knowledge in education for sustainable development.

- Utilization of modern technology (ICT's) to repackage information to meet user needs.
- Higher and Tertiary Education and Industry should collaborate to support and conduct research on indigenous knowledge.
- Balancing library collections by including print, electronic and oral forms that cater for indigenous knowledge.

5. There is a need to redirect the service and collection development efforts of libraries to incorporate information on indigenous knowledge. Librarians should nurture an enthusiasm for developing their institutions as centers of cultural activity, especially those engaged in the public/national library service.

6. Librarians should get involved in documenting and recording information related to indigenous knowledge. This will afford them the opportunity to widen the scope of their professional work whilst enhancing career prospects. This in turn will give their libraries a greater potential to achieve their educational and information roles than conventional single-function institutions (Kargbo, 2006).

Conclusion

Indigenous knowledge has reached a critical stage in the country's long history. Its over-riding value to the local people and contribution to agriculture, healthcare, medicine and educational activities and modern science can be immeasurable. It can serve as a pivot upon which exogenous knowledge can be placed in traditional societies for the purpose of education. However, this has largely not been evident. This calls for a paradigm shift in the method, structure and format of indigenous knowledge. This task should be viewed holistically to foster partnership between the community, custodians of indigenous knowledge, government, biodiversity groups, civil society and donors. Together with library and librarians a formidable force could be formed to give our indigenous knowledge a new face that will facilitate its accessibility and usability to promote knowledge, research and scholarship.

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