Fall 9-8-2017

# DOCUMENTATION AND DISSEMINATION OF INDIGENOUS KNOWLEDGE BY LIBRARY PERSONNEL IN SELECTED RESEARCH INSTITUTES IN NIGERIA

JOHN OLUWASEYE ADEBAYO, CLN
*University of Ibadan,NIGERIA*, johnoluwaseye@yahoo.com

ADEBOLA ADEREMI ADEYEMO CLN
*University of Ibadan, Nigeria*, adeyemo.bola87@yahoo.com

# DOCUMENTATION AND DISSEMINATION OF INDIGENOUS KNOWLEDGE BY LIBRARY PERSONNEL IN SELECTED RESEARCH INSTITUTES IN NIGERIA

**BY**

**Adebola Aderemi Adeyemo, CLN**

**Nigerian Baptist Theological Seminary, Ogbomoso Oyo State, Nigeria**

**and**

**John Oluwaseye Adebayo, CLN**

**Department of Library Archival and Information Studies, University of Ibadan, Oyo State, Nigeria**

## Abstract

Indigenous Knowledge (IK) and practices are usually unwritten; relying on oral transmission and human memory. As a result, this study investigated the documentation and dissemination of Indigenous Knowledge by library personnel at five selected research institutes in Ibadan, Nigeria. Using the descriptive survey design, six (6) questions raised to achieve the stated objectives. Structured questionnaire and interview were used for data collection. The population comprised of professionals and para-professionals library staff at Nigeria Institute of Social and Economic Research (NISER), Institute of African Studies (IFRA), Forestry Research Institute of Nigeria (FRIN), Cocoa Research Institute of Nigeria (CRIN), and International Institute of Tropical Agriculture (IITA). Purposive sampling method was used to select samples considering the resources to be expended and time involved for the study. Data were analyzed with the use of Statistical Package for Social Science (SPSS 16) while simple frequency count of percentage distribution was used to present the results of findings in table. Some of the findings of the study revealed that Indigenous Knowledge documented at the research institutes were on: Agriculture; kingship system in different towns; traditional medicine; general traditional culture; as well as traditional politics and governance. In addition, Indigenous Knowledge practices were documented with recordings and visual documentation among other methods, and these are being done by all the library personnel. Meanwhile, Indigenous Knowledge practices are being disseminated through: video, library website, print media, direct mail, public lectures, exhibitions and displays, and exchange. Certain recommendations were made based on the findings of this study.

**Key words: Cultural Values, Documentation, Dissemination, Indigenous Knolwledge, Library Personnel**

## Introduction

Knowledge has been affirmed as power which brings development in every human endeavour that is useful for decision making. Indigenous Knowledge is home-grown and cultural knowledge of a specific society. It is a way of life, skills, experiences, culture, insight and values embraced by people in local community. Every society or community has her local knowledge which cuts across all aspects of human living on which livelihood and survival depend. These include but are not limited to health, fashion, food preparation, education, agriculture, religion, festivals, recreation, norms and values, institutions, politics and technology. Consequently, knowledge, according to Rowley and Farrow (2000) is the integration of new information into previously stored information to form a large and coherent view of a portion of reality-a definition which fits both human and machine held knowledge, and describes the knowledge bases used in expert systems.

Indigenous Knowledge is closely linked to maintaining the long-standing traditions from ancestors and its transfer to other generations in different forms. Hence, the term Indigenous Knowledge has different synonymns such as, traditional knowledge, local knowledge, community knowledge, rural peoples' knowledge, farmers' knowledge (Mahalik and Mahapara, 2010). Basu and Goswami (2009) opined that the term Indigenous Knowledge is not confined to tribal groups or the original inhabitants of an area. It is not confined to the rural people. Rather, any community possessing Indigenous Knowledge-rural or urban, settled or nomadic, original inhabitants and migrants. Indigenous Knowledge is referred to not only to the knowledge of the indigenous people but also the intellectual property of other communities. Mabawonku (2002) defines indigenous as those ways of life that are often intertwined with the family, religion, nature, land and the wisdom gained through generations of observing and teaching. Ntui and Ottong (2008) stressed that Indigenous Knowledge develops over centuries; therefore, it represents all the skills and innovations of people, and embodies the collective wisdom and resourcefulness of a community. However, documentation and dissemination of Indigenous Knowledge is very essential. Documentation sees to preservation of such knowledge in its complete raw form for posterity while dissemination focuses on encouraging access to the documented knowledge for planning and decision making.

Arantes (2010) indicated that documentation, like any social practice belongs to a specific cultural universe and is guided by beliefs, codes and values that are not necessarily shared by communities whose heritage it portrays. Through documentation, one can explore whether solutions for a given problem can apply to a different country or time. Documentation makes it easy to share and is one way to preserve Indigenous Knowledge (CEFIKS, 2006). Documentation of Indigenous Knowledge facilitates fixation of information for broad scrutiny and ownership by the writer. A traditional knowledge may be lost forever, if it is not properly documented, analysed and disseminated. Knowledge that is gained but is unavailable to others is wasted. Mabawonku (2002) posits that Indigenous Knowledge dissemination should begin from the grass-roots level, i.e. with the originator or source of the information. This means that the students should return to the respective indigenous groups and hand copies of their recordings to the people. Meanwhile, World Bank (2006) noted that various projects are in place to disseminate Indigenous Knowledge. Nevertheless, the form of Indigenous Knowledge dissemination is firmly dependent on the concept and context of such knowledge to be disseminated.

**Statement of the problem**

Indigenous Knowledge provides the basis for problem-solving for local communities and especially for the indigenous people. It represents vital component of global knowledge on developmental issues. It's also a primary source of information that is useful in the developmental process. It also enhances cross-cultural understanding and it promotes the cultural dimension of development. Despite the strategic role that Indigenous Knowledge plays in scientific and technological transformation of the society, from observation, it is as if not much seriousness is attached to it by research institutes established by the Federal government as reports of documented Indigenous Knowledge are rarely disseminated by these establishments. This present circumstance as it obtains raises some very important questions like: do research institutes document some relevant Indigenous Knowledge? If they do, what are the methods of dissemination? In view of this, this study set out to examines documentation and dissemination of Indigenous Knowledge by library personnel in selected research institutes in Nigeria.

**Research questions**

The research questions for this study derived from the specific objectives are;

1. What are the Indigenous Knowledge documented by the library personnel of the research institutes?
2. How are the Indigenous Knowledge documented by the library personnel?
3. Who are the categories of library personnel that are involved in the documentation of Indigenous Knowledge in the research institutes?
4. Where are the documented Indigenous Knowledge in library stored?
5. What are the various methods of disseminating Indigenous Knowledge by library personnel of the research institutes?
6. What are the challenges associated with the documentation and dissemination of Indigenous Knowledge by library personnel of the research institutes?

**Literature Review**

**Documentation and Challenges of Indigenous Knowledge in Nigeria**

The immense application of Indigenous Knowledge was framed in Tella (2007) which stated that Indigenous Knowledge encompasses all human interaction that can be captured shared and used for developmental purposes. Indigenous Knowledge is knowledge that is unique to a given culture, community or society. It is contrasted and differentiated from the knowledge gained at formal institutions. Indigenous Knowledge systems encompass all aspects of life, such as the management of natural environment. It forms the basis of survival for the people who own the knowledge. (Kudakwashe and Gift, 2013). Documentation is one of the means of preserving Indigenous Knowledge for posterity, national growth and sustainable development. Access to relevant information has been documented as crucial to the economic, political, and social well-being of any community. In traditional societies, there was hardly any effort at comprehensive documentation of traditional medicinal knowledge. In rare cases where bare documentation exists, it was usually in the traditional dialect of the local communities.

On the need to document Indigenous Knowledge, Battiste, (2002) submitted that there is also the need to change the mind-set, attitudes and practices of researchers and extension workers working in African local communities. Specifically, the Indigenous Knowledge of

Nigeria needs to be codified into print and electronic formats for both audio and video to make it widely accessible through the global information infrastructure. The documentation and communication of Indigenous Knowledge in languages understood by other communities is another important consideration when it ceases to be locally specific (Omawumi and Oludare, 2013). Osunade (1988) also carried out similar work in the south-western Nigeria where he documented how small farmers identify crop soils in terms of suitability classification. Similarly, in spite of the construction of modern animal feeds factories and bore holes in Gidan Magagi Grazing Reserve of Northern Nigeria, the Fulanis still depend on free range grazing supplemented with crop residues and on the rains for drinking water for themselves and their animals for almost eight months of the year (Salih, 1992). No recent studies have negate the findings of those studies.

Equally important is the documentation of Indigenous Knowledge to be available in the language that is understood by other communities as it ceases to be locally specific. The process of documenting Indigenous Knowledge is widely viewed as technically easy, yet it can be laborious, time-consuming, costly, and sometimes disappointing. The importance of documenting Indigenous Knowledge is to ensure that communities are not left impoverished as a result as the world needs genetic diversity of species; it needs diversity of knowledge systems (Labelle, 1997). Jabulani (2006) stated that the documentation of Indigenous Knowledge is important and an acceptable way to validate it and grant it protection from bio piracy and other forms of abuse. In the world of globalisation and knowledge societies, Indigenous Knowledge has to be recognized and paid for.

Omawumi and Oludare (2013) commented on the challenges confronting documentation of Indigenous Knowledge in Nigeria and affirmed that national Indigenous Knowledge policies are essential to the documentation of Indigenous Knowledge and the lack of these policies remains a challenge to Nigeria. Other factors that affect Indigenous Knowledge documentation and communication in libraries in Nigeria include but not limited to: Paucity of professional and institutional documentalists; the tacit nature of Indigenous Knowledge; Low patronage; the individualistic nature of Indigenous Knowledge; Networking technology (Okorafor, 2010). In a separate study, Lwoga and Ngulube (2008) revealed that lack of cohesive approach for managing knowledge suppresses efforts of the poor to take advantage of their innovations and skills to

improve their farming activities. Indigenous Knowledge is mainly preserved in the memories of elders whose knowledge disappear when they die of old ages, and thus Indigenous Knowledge has been lost at a high rate. At the same time, there is still a low rate of adoption of external technology despite the fact that it receives most of the attention due to weak linkage between research extension and farmers (Ngendello, et.al, 2003). The challenge in some cases may boil down to how to document some unrecorded traditional medicine knowledge without validation and claim that it works (Magara, 2009). In spite of the challenges stated above, the importance of documenting Indigenous Knowledge for proper dissemination cannot be underestimated.

**Dissemination of Indigenous Knowledge by Library Personnel in Nigeria**

Dissemination of Indigenous Knowledge is essential for development and information purposes. Indigenous Knowledge can be repackaged through proper documentation of oral and other indigenous practices which may be obtained from the custodians of such knowledge. To underscore the importance of disseminating Indigenous Knowledge, Priya and Rabindra (2010) declared that it essential to propagate the use of indigenous traditional knowledge for human causes through certain activities such as seminars, workshops, debates, lectures, and exhibitions in which such stories of indigenous traditional knowledge use need to be reflected. The assertion validates the fact that dissemination of Indigenous Knowledge is done after proper documentation which can promote such cultural knowledge across border. Indigenous Knowledge does not flow on its own accord; ist needs owners or originators with the vision motivation to create, adapt or exchange it.

. With the emerging ICT tools and indigenous ICT expertise, much of the invaluable traditional knowledge can be saved, documented, improved upon, digitized and transmitted for the use of communities within and outside a particular country. This could aid the process of repackaging Indigenous Knowledge to ensure local suitability and relevance. 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. As highlighted by Taiwo, (2008), the toolkits to be used to transfer Indigenous Knowledge include: Tape Recorders; Radio; Television; Newspapers; Telephones; Computers; Cameras (e.g. Video cameras, Camcorders, etc.); ICTs via Internet, e-mails, listservs 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.

Meanwhile, Issa (2000) submitted that there is no hard and fast rule as to what medium of information dissemination is most appropriate in the rural communities. This is because it varies considerably with the goal of the information source and the message content as it affects a given set of target audience. The inter-personal mode of information dissemination in Nigeria has a long history that dates back to the pre-literate times when writing was yet to be invented. The society then, used the oral medium for the preservation and dissemination of their ancient experience and beliefs. In another development, Indigenous Knowledge dissemination is synonymous to Indigenous Knowledge exchange. Exchange of Indigenous Knowledge is the ideal outcome of a successful transfer and dissemination. The integration of Indigenous Knowledge into the development process is essentially a process of exchange of information from one community to another. The process of exchange of Indigenous Knowledge involves essentially six steps: Recognition and identification; Validation; Recording and documentation; Storage; Transfer and Dissemination (Ajay, 2014).

In Nigeria, however, Anele (2012) noted that on the basis of all of the above it seems safe to conclude that there is growing appreciation for Indigenous Knowledge. However, one of the major prerequisites for the entire process of collecting, applying and disseminating Indigenous Knowledge is the full participation of the local people involved. Full participation can be achieved only when the local communities are able to participate on an equal level of policy decision input. Local input must be from the grassroots and should tap the diverse views, opinions, resources and interests manifested in the cultural values and norms of Nigerian culture. Dissemination of Indigenous Knowledge in this information age requires the use of software to facilitate an effective process. However, Koopman (2002) stated that there is no specific software designed for Indigenous Knowledge. Some attempts have made by different projects to set of open source software tools to enable indigenous communities to protect their unique cultures and knowledge through digitization.

**Research institutes as costudian of Indigenous Knowledge in Nigeria**

Scientific research implies careful examination of an object or situation for the purpose of effecting societal development and improvement. It is a way of acquiring functional, dependable and useful information and data about the particular object of research as well as the analysis of the data collected in order to arrive at a valid conclusion. The prime function of research therefore is to discover answers to meaningful questions aimed at remedying societal challenges (Odia and Omofonmwan, 2013). From this declaration, research institutes may be likened to think tank. The term "think tank" is used to describe a wide range of research organisations which undertake public policy research and analysis and intend to influence policy dialogues and advocate policy solutions. Some are strictly non-partisan, researching policy issues without regard to partisan political outcomes, while others see one of their main functions as providing intellectual support to political parties and legislators.

Research is central to innovations and development. Hence, Odia and Omofonmwan (2013) confirmed that rresearch and development impacts transcend all spheres of human endeavour – social, economic, political, educational, science and technology - clearly serving as determinants to the pace of growth and development of the entire society. Oyesola (2010) views research as the application of the scientific method to attain or prove new and exciting theories. It is a discovery and establishment of new knowledge, facts, principles, theories and methods. It is a way of acquiring dependable and useful information and data about the particular object of research as well as the analysis of the data collected in order to arrive at a valid conclusion. The prime function of research therefore is to discover answers to meaningful questions aimed at remedying societal challenges.

Gulbrandsen (2011) stated that research institutes are important for several reasons. First, they remain a significant part of the world's Research and Development (R&D) organizations, in many national systems equal in R&D volume to the higher education sector. Second, many of them were set up within policy frameworks that have changed dramatically such as the end of the cold war, increased public scepticism in many countries toward nuclear energy and other technologies, and a now largely abandoned belief in the linear model of innovation. Many institutes have, therefore, come under increasing pressure, and their fundamental legitimacy has been questioned, which makes them an interesting object of study. Third, it may be argued that

the global challenges facing the world today require more contact between science and society than ever. If there are limits to the effectiveness of universities' involvement in industry and policy-making, the hybridity that the institutes represent is most likely still needed.

Moreover, some broad trends may be seen for research institutes in the last 2–3 decades. Many of them have been challenged by political developments related to liberalization, marketization, new public management, and more. This has led to a string of reorganizations, mergers, privatizations, and separations of institutes from their original founder (Lare´do and Mustar 2001). Commenting on the relevance of Indigenous Knowledge in Nigeria, OECD (2002) stated that Progressive change which is alteration in the social structure in society is majorly made manifest by the peoples' ability in creativity/innovative ideas galvanized by a defined process/procedure in place. These capacities and wills are channeled through research which is formal work undertaken systematically to increase the stock of knowledge, including knowledge of humanity, culture and society, and the use of this stock of knowledge to devise new applications.

**Library Personnel, Indigenous Knowledge Dissemination and Documentation**

In this era of knowledge economy, a time where it is difficult to ignore any type of knowledge system, it is incumbent on librarians and libraries to reduce the gap between the use of Indigenous Knowledge owned by local people and the western scientific knowledge. The library for users is a democracy, and there is no reason it should enhance apartheid among knowledge systems and/or resources. Thus library and information professionals all over the world have demonstrated commendable initiatives managing Indigenous Knowledge though not without attendant challenges. While special and academic libraries catalogue and organize their resources, have a separate section created for them within the library public libraries do not. Also, while public libraries network with institutions to share Indigenous Knowledge resources, special and academic libraries do not. It was moreover found that none of the libraries provide access to Indigenous Knowledge using public access database nor own a digital library for borderless access to Indigenous Knowledge resources.

Burtis (2009) reports that, since the 1980s, Indigenous Knowledge have been a topic of discussion among scholars of anthropology and disciplines related to development studies.

Today, there is broadening interest from a variety of fields: ecology, soil science, health, medicine, botany, water resource management and many more. The LIS field has only recently taken note of this important topic of concern. Indigenous Knowledge is represented in library and archival collections, but often LIS professionals make no attempt to put them into a cultural context. In support of intellectual freedom, librarians skillfully catalogue, digitize and display information so that the public can access it. Nevertheless indigenous claims for greater protection of Indigenous Knowledge systems and cultural material lie, albeit perhaps only superficially at right angles to some of the core objectives of libraries and other information services, such as freedom of speech, intellectual freedom, diffusion of knowledge, research and learning, access to information, and preservation of cultural heritage (Wendland, 2008).

To make documentation and dissemination of Indigenous Knowledge a reality, there is so much the LIS professionals can do in the overall management of Indigenous Knowledge. Mabawonku (2002) remarks that information professional as development agents have definite roles to play in understanding, locating, collecting, interpreting, disseminating and preserving Indigenous Knowledge. The public library, for instance, has been an appropriate anchor partner in Indigenous Knowledge system related programmes because of the stability of its position both within the community and within the government structure through which it is established (Greyling and Zulu, 2009). As part of social services, it is well positioned to ensure free and equal access to information and knowledge (Hedelund, 2006). Consequently, Adam (2007) reports that, community libraries have shown strong tendency towards preserving local culture in digital and paper formats and promoting exchange of information in many countries, particularly in Latin America. The International Federation of Library Association (2003) asserts that libraries could help in: collecting, preserving and disseminate indigenous and local traditional knowledge and publicizing the value, contribution, and importance of Indigenous Knowledge to both non-indigenous and indigenous peoples.

People that work in the library are known as library personnel, though they are in different level/cadre. Librarians are generally more comfortable dealing with publications than with unrecorded and unpublished knowledge, and library theories and systems are geared mainly to dealing with published documents (Lor, 2004). He stressed further that Librarians have highly developed theories, systems and techniques for the collection, organization, preservation and

making available of recorded knowledge, or documents. It has to be admitted, however, that they are not very good at creating new documents (recording knowledge that has not yet been recorded) or at organizing knowledge that has not yet been recorded. Librarians are specialized in dealing with artefacts such as books, videos, computer diskettes, files and folders. Today the documents may be virtual and be held on one or more servers somewhere on the worldwide web. Librarians take this in their stride, but the fact remains that their focus is on existing documents, albeit that the term 'document' is used to refer to the full range of information carriers, including audio-visual and electronic material as well as printed books, journals and newspapers.

On the need for services of library personnel in documenting and disseminating Indigenous Knowledge, the broad understanding of the roles of librarians in capturing our rare heritage materials, preserving and disseminating them is a very crucial. To ensure a dynamic, Ozioko, Igwesi, and Eke (2011) maintained that coherent and effective dissemination of our local content at a global level, librarians are required to possess a new set of technical competencies and skills such as web page creation, digitization skills, metadata management and web linking. Ensuring easy access to Indigenous Knowledge promote free flow of information and wide spread of cultural diversity, reflecting language, values and lifestyles which are vastly different from various cultural groups. The issue of local content development is a complex one as it involves the selection, retrieving, repackaging, organizing, preservation and dissemination of locally produced materials and heritage resources such as folklore wisdom, festivals, traditional medical practices, music, crafts, and local attire and art productions. These locally cultural practices should be preserved as they are gradually going into extinct if not jealously guarded.

**Methodology**

The descriptive research design was used for this study. Researchers adopted this design because data would be collected through the use of a questionnaire from a sample of respondent and their responses would be generalized on the whole population. This method aimed at obtaining relevant facts on the documentation and dissemination of Indigenous Knowledge by library personnel in selected research institute in Nigeria. The population of the study consists of the professionals and para-professionals library staff in Nigeria Institute of Social and Economic Research (NISER), Institute of African Studies (IFRA), Forestry Research Institute of Nigeria

(FRIN), Cocoa Research Institute of Nigeria (CRIN), and International Institute of Tropical Agriculture (IITA).

According to the sampling frame made available to the researchers, NISER has 11 staff, IFRA has 2 staff, FRIN has 19 personnel, CRIN has 11 staff and IITA has 9 sfaff. Purposive method of accidental sampling technique was used to draw participants for this study from each of the research institutes. According to the data collected from the selected Research Institutes in Ibadan, Nigeria, 5 Library personnel's were selected from NISER which accounted for 13.2% of the population of participants. 1 personnel was selected from IFRA which accounted for 2.6% of the population of participants. 14 personnel's were selected from FRIN which accounted for 36.8% of the population of participants. 14 personnel's were selected from CRIN which accounted for 36.8% of the population of participants. 4 personnel's were selected from IITA which accounted for 10.5% of the population of participants. The total population of participants for the study was study 38. The researcher managed the size in terms of resources to be expended and time involved for the study.

The measuring instruments used for this study were interview of the Head Librarians and the structured questionnaire has seven sections, for the other library personnel. Section A collects data on the bio data of the respondents, it has 5 questions. Section B collects data on the Indigenous Knowledge documented by research institute, it has one question. Section C collects data on how the Indigenous Knowledge are documented by the library personnel, it has one question. Section D The storage of Indigenous Knowledge in your library Section E collects data on the categories of library personnel that are involved in the documentation of Indigenous Knowledge in the research institute, it has one question. Section F collects data on the various methods of disseminating indigenous practices by library personnel of the research institute, it has one question. Section G collects data on the challenges associates with the documentation and dissemination of indigenous practices by library personnel of the research institutes, it has one question. The validity and reliability of the instruments were ensured before they were used for data collection. Data was analyzed using Statistical Package for Social Science (SPSS 16) while simple frequency count of percentage distribution was used to present the results of findings in table.

**Result and Discussion**

**Table 1: Distribution of respondents by institution**

| Name of Institution | Number of Administered Questionnaire | Number of Returned Questionnaire | Percentage (%) |
|---|---|---|---|
| CRIN | 15 | 14 | 36.8 |
| FRIN | 15 | 14 | 36.8 |
| NISER | 7 | 5 | 13.2 |
| IFRA | 1 | 1 | 2.6 |
| IITA | 5 | 4 | 10.5 |
| | **43** | 38 | 100.0 |

Most of the respondents (14 o 36.8%) were from CRIN, 14(36.8%) were equally from FRIN. Only 1(2.6%) was from IFRA (Table 4.1).

**Demographic data analysis**

**Table 2: Distribution of respondents by age, gender, academic qualification and years of experience**

| Age group | Frequency | Percentage (%) |
|---|---|---|
| 20 – 29 | 2 | 5.3 |
| 30 – 39 | 20 | 52.6 |
| 40 – 49 | 11 | 28.9 |
| 50 – 59 | 5 | 13.2 |
| **Gender** | | |
| Male | 25 | 65.8 |
| Female | 13 | 34.2 |
| **Academic qualification** | | |
| SSCE | 2 | 5.3 |
| NCE | 4 | 10.5 |
| B.Sc | 17 | 44.7 |

| | | |
|---|---|---|
| M.Sc | 14 | 36.8 |
| PhD | 1 | 2.6 |
| **Years of work experience** | | |
| 1 - 5years | 11 | 28.9 |
| 6 - 10years | 8 | 21.1 |
| 11- 15years | 9 | 23.7 |
| 16 - 20years | 7 | 18.4 |
| 21years and above | 3 | 7.9 |
| **N = 38** | | |

Observation from table 4.2 shows that 20(52.6%) respondents were between ages 30 – 39 years. Only two (5.3%) were between ages 20-29 years. This means that most of the respondents were still in their active years of service being under 60 years of age. On gender, twenty five (65.8%) were males. This could mean that there were more males than females in the study areas. Seventeen (44.7%) respondents hold B.Sc while one (2.6%) holds PhD, only two 5.3%) hold SSCE. Finally, eleven (28.9%) have been working for a period between 1 – 5 years. Although, only three (7.9%) have been working for 21 years and above, still nine (23.7%) have been working for a period between 11 – 15 years. One can easily conclude from the result on table 4.2 that most of the respondents were experienced having being in the library service for at least five years.

**Research Question One:** What are the Indigenous Knowledge documented by the library personnel of the research institutes?

**Table 3a: Types of Indigenous Knowledge documented by the Library Personnel at FRIN**

| **Items** | **Frequency** |
|---|---|
| History e.g. kingship system in towns, origin and development of towns, communal conflicts lineage system etc | 13 |
| General traditional culture e.g. tribal marks, tattoos, dress culture, beautification etc. | 13 |
| Traditional medicine e.g. herbal medicine | 12 |

| | |
|---|---|
| among various ethnic groups | |
| Folk tales, legends and riddles e.g. songs, recitations, moonlight tales, proverbs and alterations | 10 |
| Agriculture e.g. planting, harvesting, fishing, hunting etc. | 9 |
| Music and dance e.g. cultural musical instruments, body movements, cultural music development etc | 9 |
| Politics and governance e.g. social stratification, resource allocation and sharing etc. | 7 |

Results on table 4.3a shows that at the FRIN, 9(64.3%) indicated Agriculture e.g. planting, harvesting, fishing, hunting, etc. is documented by the library personnel of the research institute.10 (71.4%) indicated folk tales, legends and riddles e.g. songs, recitations, moonlight tales, proverbs and alterations is documented by the library personnel of the research institute.13(92.9%) indicated history e.g. kingship system in towns, origin and development of towns, communal conflicts lineage system etc is documented by the Library Personnel of the Research Institute. However, only 7(50.0%) indicated politics and governance e.g. social stratification, resource allocation and sharing etc is documented by the Library Personnel of the Research Institute.

**Table 3b: Types of indigenous knowledge documented by the library personnel at CRIN**

| **Items** | **Frequency** |
|---|---|
| Agriculture e.g. planting, harvesting, fishing, hunting etc. | 14 |
| Traditional medicine e.g. herbal medicine among various ethnic groups | 12 |
| General traditional culture e.g. tribal marks, tattoos, dress culture, beautification etc. | 10 |

| | |
|---|---|
| Music and dance e.g. cultural musical instruments, body movements, cultural music development etc | 8 |
| Folk tales, legends and riddles e.g. songs, recitations, moonlight tales, proverbs and alterations | 7 |
| Politics and governance e.g. social stratification, resource allocation and sharing etc. | 7 |
| History e.g. kingship system in towns, origin and development of towns, communal conflicts lineage system etc | 6 |

Results on table 4.3b shows that at the CRIN,14 (100.0%) indicated Agriculture e.g. planting, harvesting, fishing, hunting, etc. is documented by the Library Personnel of the Research Institute.12(85.7%) indicated traditional medicine e.g. herbal medicine among various ethnic groups is documented by the Library Personnel of the Research Institute.10(71.4%) indicated general traditional culture e.g. tribal marks, tattoos, dress culture, beautification etc is documented by the Library Personnel of the Research Institute.8(57.1%) indicated music and dance e.g. cultural musical instruments, body movements, cultural music development etc is partially documented by the Library Personnel of the Research Institute. Only 7(50.0%) indicated politics and governance e.g. social stratification, resource allocation and sharing etc is documented by the Library Personnel of the Research Institute.

**Table 3c: Types of indigenous knowledge documented by the library personnel at IITA**

| **Items** | **Frequency** |
|---|---|
| Traditional medicine e.g. herbal medicine among various ethnic groups | 4 |
| General traditional culture e.g. tribal marks, tattoos, dress culture, beautification etc. | 4 |

| | |
|---|---|
| Agriculture e.g. planting, harvesting, fishing, hunting etc. | 3 |
| Folk tales, legends and riddles e.g. songs, recitations, moonlight tales, proverbs and alterations | 2 |
| History e.g. kingship system in towns, origin and development of towns, communal conflicts lineage system etc | 2 |
| Politics and governance e.g. social stratification, resource allocation and sharing etc. | 2 |
| Music and dance e.g. cultural musical instruments, body movements, cultural music development etc | 1 |

Results on table 4.3 shows that at the IITA, 3(75.0%) indicated Agriculture e.g. planting, harvesting, fishing, hunting, etc. is documented by the Library Personnel of the Research Institute.4(100.0%) indicated traditional medicine e.g. herbal medicine among various ethnic groups is documented by the Library Personnel of the Research Institute.4(100.0%) indicated that general traditional culture e.g. tribal marks, tattoos, dress culture, beautification etc is documented by the Library Personnel of the Research Institute. Only 2(50.0%) indicated that folk tales, legends and riddles e.g. songs, recitations, moonlight tales, proverbs and alterations is documented by the Library Personnel of the Research Institute. However, 1(25.0%) opposed that music and dance e.g. cultural musical instruments, body movements; cultural music development etc. is partially documented by the Library Personnel of the Research Institute.

**Table 3d: Types of indigenous knowledge practices documented by the library personnel at IFRA**

| **Items** | **Frequency** |
|---|---|
| Folk tales, legends and riddles e.g. songs, recitations, moonlight tales, proverbs and | 1 |

| | |
|---|---|
| alterations | |
| History e.g. kingship system in towns, origin and development of towns, communal conflicts lineage system etc | 1 |
| Politics and governance e.g. social stratification, resource allocation and sharing etc. | 1 |
| Music and dance e.g. cultural musical instruments, body movements, cultural music development etc | 1 |
| Agriculture e.g. planting, harvesting, fishing, hunting etc. | - |
| Traditional medicine e.g. herbal medicine among various ethnic groups | - |
| General traditional culture e.g. tribal marks, tattoos, dress culture, beautification etc. | - |

Results on table 4.3d shows that the respondent (1 or 100.0%) at the IFRAindicated that folk tales, legends and riddles e.g. songs, recitations, moonlight tales, proverbs and alterations, history e.g. kingship system in towns, origin and development of towns, communal conflicts lineage system etc., politics and governance e.g. social stratification, resource allocation and sharing etc., and music and dance e.g. cultural musical instruments, body movements, cultural music development etc. were partially documented by the Library Personnel of the Research Institute. However, the respondent opposed that agriculture e.g. planting, harvesting, fishing, hunting, etc., traditional medicine e.g. herbal medicine among various ethnic groups, general traditional culture e.g. tribal marks, tattoos, dress culture, beautification etc.

**Table 3e: Types of indigenous knowledge documented by the library personnel at NISER**

| **Items** | **Frequency** |
|---|---|
| Folk tales, legends and riddles e.g. songs, | 5 |

| | |
|---|---|
| recitations, moonlight tales, proverbs and alterations | |
| Politics and governance e.g. social stratification, resource allocation and sharing etc. | 5 |
| History e.g. kingship system in towns, origin and development of towns, communal conflicts lineage system etc | 4 |
| Traditional medicine e.g. herbal medicine among various ethnic groups | 4 |
| General traditional culture e.g. tribal marks, tattoos, dress culture, beautification etc. | 2 |
| Agriculture e.g. planting, harvesting, fishing, hunting etc. | 1 |
| Music and dance e.g. cultural musical instruments, body movements, cultural music development etc | 1 |

Results on table 4.3e shows that at the NISER, 5(100.0%) indicated that folk tales, legends and riddles e.g. songs, recitations, moonlight tales, proverbs and alterations is documented by the Library Personnel of the Research Institute.4(80.0%) indicated that history e.g. kingship system in towns, origin and development of towns, communal conflicts lineage system etc is documented by the Library Personnel of the Research Institute.4(80.0%) indicated that traditional medicine e.g. herbal medicine among various ethnic groups is documented by the Library Personnel of the Research Institutes.5(100.0%) indicated that politics and governance e.g. social stratification, resource allocation and sharing etc is documented by the Library Personnel of the Research Institute. However, 4(80.0%) opposed that music and dance e.g. cultural musical instruments, body movements, cultural music development etc is partially documented by the Library Personnel of the Research Institute. Similarly, 4(80.0%) opposed that Agriculture e.g. planting, harvesting, fishing, hunting, etc. is documented by the Library Personnel of the Research Institute.

**Research Question Two: How are the indigenous knowledge practices documented by the library personnel?**

**Table 4: How Indigenous Knowledge documented by the Library Personnel of the Research Institutes**

| Items | FRIN | | CRIN | | IITA | | IFRA | | NISER | |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | D | A | D | A | D | A | D | A | D |
| Indigenous Knowledge is recognized and located | 13 (92.9%) | 1 (7.1%) | 12 (85.7%) | 2 (14.3%) | 4 (100.0%) | - | 1 (100.0%) | - | 4 (80.0%) | 1(20.0%) |
| Indigenous Knowledge are validated in terms of significance and relevance | 11(78.6 %) | 3 (21.6%) | 14 (100.0%) | - | 4 (100.0%) | - | 1 (100.0%) | - | 5 (100.0%) | - |
| Indigenous Knowledge is moderated of draft interview questions and procedures | 9 (64.3%) | 5 (35.7%) | 12 (85.7%) | 2 (14.3%) | 3 (75.0%) | 1 (25.0%) | - | 1 (100.0%) | 4 (80.0%) | 1(20.0%) |
| Indigenous Knowledge is documented with recordings and visual documentation | 14 (100.0% ) | - | 13 (92.9%) | 1 (7.1%) | 4 (100.0%) | - | 1 (100.0%) | - | 3 (60.0%) | 2 (40.0%) |
| Indigenous Knowledge is edited, transcribed, summarized (English and Vernacular) | 9 (64.3%) | 5 (35.7%) | 12 (85.7%) | 2 (14.3%) | 3 (75.0%) | 1 (25.0%) | - | 1 (100.0%) | 4 (80.0%) | 1(20.0%) |
| Indigenous Knowledge is organized, classified and indexed | 11(78.6 %) | 3 (21.6%) | 14 (100.0%) | - | 4 (100.0%) | - | 1 (100.0%) | - | 5 (100.0%) | - |
| Indigenous Knowledge is well stored and preserved | 14 (100.0% ) | - | 13 (92.9%) | 1 (7.1%) | 3 (75.0%) | 1 (25.0%) | 1 (100.0%) | - | 2 (40.0%) | 3 (60.0%) |
| **N = 38** | | | | | | | | | | |

Observation from table 4.4 shows that most of the respondents at FRIN (13 or 92.9%), CRIN (12 or 85.7%), IITA (4 or 100.0%), IFRA (1 or 100.0%) and NISER (4 or 80.0%) affirmed that indigenous Knowledge is recognized and located.11(78.6%) FRIN, 14 (100.0%) CRIN, 4 (100.0%) IITA, 1 (100.0%) IFRA and 5(100.0%) NISER indicated that indigenous Knowledge is validated in terms of significance and relevance. Similarly, 14 (100.0%) FRIN, 13(92.9%) CRIN, 4 (100.0%) IITA, 1(100.0%) IFRA and 3 (60.0%) NISER affirmed that indigenous knowledge is documented with recordings and visual documentation. Only 9 (64.3%) FRIN, 12 (85.7%) CRIN, 3(75.0%) IITA and 4(80.0%) NISER indicated that Indigenous Knowledge is moderated of draft interview questions and procedures. Therefore, indigenous knowledge were documented with recordings and visual documentation, validated in terms of significance and relevance, draft interview questions and procedures were moderated, indigenous Knowledge is edited, transcribed, summarized (English and Vernacular) and well stored and preserved.

**Research Question Three: Categories of library personnel that are involved in the documentation of Indigenous Knowledge in the research institutes?**

**Table 5: Tables showing the categories of library personnel that are involved in the documentation of Indigenous Knowledge in the research institutes**

| **Categories of library personnel** | **FRIN** | **CRIN** | **IITA** | **IFRA** | **NISER** |
|---|---|---|---|---|---|
| | **F** | **F** | **F** | **F** | **F** |
| Librarian | 2 | 1 | - | - | - |
| Assistant Chief library officer | 1 | 2 | 1 | - | 1 |
| Senior Librarian | 2 | 1 | 1 | 1 | 1 |
| Librarian I | 2 | 3 | - | - | 1 |
| Chief library officer | 1 | 1 | - | - | 1 |
| Library officer | 3 | 1 | 1 | - | 1 |
| Higher library officer | 1 | 2 | 1 | - | - |
| Senior library officer | 1 | 1 | - | - | - |
| Principal library officer | 1 | 2 | - | - | - |
| | **N=38** | | | | |

**Research Question Four:** Where is the documented indigenous knowledge practice stored in the library?

**Table 6: Indigenous knowledge documents storage**

| Storage | FRIN | | CRIN | | IITA | | IFRA | | NISER | |
|---|---|---|---|---|---|---|---|---|---|---|
| | F | % | F | % | F | % | F | % | F | % |
| Library shelves | 2 | 14.3 | 2 | 14.3 | - | - | 1 | 100.0 | 2 | 40.0 |
| Compact disc and library shelves | 1 | 7.1 | 1 | 7.1 | 1 | 25.0 | 1 | 100.0 | - | - |
| Library shelves and Recorded tape | 4 | 28.6 | 3 | 21.4 | 2 | 50.0 | - | - | 1 | 20.0 |
| Compact disc, Flash drive, Library shelves, and Digital video disc | 9 | 64.3 | 4 | 28.6 | 4 | 100.0 | 1 | 100.0 | 5 | 100.0 |
| Flash drive, Library shelves and slides | 6 | 42.9 | 8 | 57.1 | 3 | 75.0 | 1 | 100.0 | - | - |
| **N = 38** | | | | | | | | | | |

Observation from table 4.6 shows that majority of the respondents 9 (64.3%) FRIN, 4(28.6%) CRIN, 4(100.0%) IITA, 1(100.0%) IFRA and 5(100.0%) NISER indicated that documented indigenous knowledge practices were usually stored in Compact disc, Flash drive, Library shelves, and Digital video disc. Only 1(100.0%) indicated Compact disc and library shelves. This could mean that indigenous knowledge practices were mainly stored in Compact disc, Flash drive, Library shelves, and Digital video disc at the research libraries that were surveyed.

**Research Question Five: What are the various methods of disseminating Indigenous Knowledge practices by library personnel of the Research Institutes?**

**Table 7: Methods of disseminating Indigenous Knowledge practices**

| Items | FRIN | CRIN | IITA | IFRA | NISER |
|---|---|---|---|---|---|
| Electronic media | - | - | 1(25.0%) | - | - |
| Library website, Publication, Exhibitions and | 2(14.3%) | 2(14.3%) | 3(75.0%) | 1(100.0%) | 1(20.0%) |

| | | | | | |
|---|---|---|---|---|---|
| displays, and Library shelves | | | | | |
| Direct mail and Library shelves. | 2(14.3%) | 2(14.3%) | 4(100.0%) | 1(100.0%) | 1(20.0%) |
| Print media and Tape recorder. | 5(35.7%) | 4(28.6%) | - | 1(100.0%) | 4(80.0%) |
| Database, Video, Library website, Print media, Direct mail, Public lectures, Exhibitions and displays, and Exchange, transfer to other libraries. | 10(71.4%) | 8(57.1%) | 4(100.0%) | 1(100.0%) | 5(100.0%) |
| Database, Library website, Listservs, Information board, Publication, Public lectures, Exchange, transfer to other libraries, Newsletters, Tape recorder, Radio, and Library shelves. | 3(21.4%) | 2(14.3%) | 4(100.0%) | 1(100.0%) | 2(40.0%) |
| Information board, Publication, Public lectures, Exhibitions and displays, Seminars, Newsletters, Radio, Television, Library shelves | - | - | 3(75.0%) | - | - |
| **N = 38** | | | | | |

Observation from 4.7 shows the methods of disseminating indigenous knowledge practices by library personnel of the research institutes. Most of the respondents10(71.4%) FRIN, 8(57.1%) CRIN, 4(100.0%) IITA, 1(100.0%) IFRA and 5(100.0%) NISER indicated database, video, library website, print media, direct mail, public lectures, exhibitions and displays, and exchange, transfer to other libraries. Only 1(25.0%) respondent at IITA indicated electronic media. It could be concluded that the main methods of disseminating indigenous knowledge practices by library personnel of the research institutes include: database, video, library website, print media, direct mail, public lectures, exhibitions and displays, and exchange, transfer to other libraries.

**Research Question Six: What are the challenges associated with the documentation and dissemination of Indigenous Knowledge by library personnel of the Research Institutes?**

**Table 8: Challenges associated with the documentation and dissemination of Indigenous Knowledge by library personnel of the Research Institutes**

| **Challenges** | **FRIN** | **CRIN** | **IITA** | **IFRA** | **NISER** |
|---|---|---|---|---|---|
| Inadequate fund | 12(85.7%) | 11(78.6%) | - | 1(100.0%) | 5(100.0%) |
| Lack of electronic access | 1(7.1%) | 1(7.1%) | - | - | 1(20.0%) |

| | | | | | |
|---|---|---|---|---|---|
| Inadequate ICT infrastructure | 13(92.9%) | 6(42.9%) | - | 1(100.0%) | 5(100.0%) |
| Lack of staff training | 7(50.0%) | 6(42.9%) | - | - | 4(80.0%) |
| Unreliable electricity | 14(100.0%) | 9(64.3%) | - | 1(100.0%) | 5(100.0%) |
| Inadequate technical staff | 4(28.6%) | 6(42.9%) | - | 1(100.0%) | 4(80.0%) |
| Poor storage facilities | 5(35.7%) | 3(21.4%) | - | 1(100.0%) | 3(60.0%) |
| Access to students and researcher | 2(14.3%) | 3(21.4%) | 2(50.0%) | 1(100.0%) | 2(40.0%) |
| Shortage of man power | 9(64.3%) | 10(71.4%) | 3(75.0%) | 1(100.0%) | 5(100.0%) |
| Low level of patronage | 7(50.0%) | 8(57.1%) | 3(75.0%) | 1(100.0%) | 5(100.0%) |
| Time consumption | 5(35.7%) | 6(42.9%) | 4(100.0%) | 1(100.0%) | 5(100.0%) |
| Low level of interest by research institute | 2(14.3%) | 3(21.4%) | 3(75.0%) | 1(100.0%) | 5(100.0%) |
| Translation problems | 10(71.4%) | 5(35.7%) | 2(50.0%) | 1(100.0%) | 5(100.0%) |
| Lack of documentation strategy | 3(21.4%) | 3(21.4%) | - | - | 3(60.0%) |
| Obsolete and out-dated facilities | 5(35.7%) | 6(42.9%) | - | 1(100.0%) | 5(100.0%) |
| One man knowledge | 7(50.0%) | 9(64.3%) | 3(75.0%) | 1(100.0%) | 4(80.0%) |
| Time demanding | 10(71.4%) | 3(21.4%) | 2(50.0%) | 1(100.0%) | 5(100.0%) |
| Lack of resources | 10(71.4%) | 8(57.1%) | 2(50.0%) | 1(100.0%) | 5(100.0%) |
| Low socio-economic status | 3(21.4%) | 4(28.6%) | 1(25.0%) | - | 2(40.0%) |
| **N = 38** | | | | | |

Observation from table 4.8 shows the major challenges facing the Research Institutes. Most of the respondents 12(85.7%) FRIN, 11(78.6%) CRIN, 1(100.0%) IFRA and 5(100.0%) NISER indicated inadequate fund. Thirteen (92.9%) FRIN, 6(42.9%) CRIN, 1(100.0%) IFRA and 5(100.0%) NISER indicated inadequate ICT infrastructure. Fourteen (100.0%) FRIN, 9(64.3%) CRIN, 1(100.0%) IFRA and 5(100.0%) NISER indicated unreliable electricity. Ten (71.4%) FRIN, 5(35.7%) CRIN, 2(50.0%) IITA 1(100.0%) IFRA and 5(100.0%) NISER indicated translation problems. Only 1(7.1%) FRIN, 1(7.1%) CRIN and 1(20.0%) indicated Lack of electronic access. This means that peculiar challenges associated with the documentation and dissemination of indigenous knowledge by library personnel of the Research Institutes include: inadequate fund, Inadequate ICT infrastructure, unreliable electricity, low level of patronage, translation problems etc.

**Discussion of Findings**

The study revealed that indigenous knowledge documented at the research institutes were on: Agriculture e.g. planting, harvesting, fishing, hunting, etc., folk tales, legends and riddles e.g.

songs, recitations, moonlight tales, proverbs and alterations, history e.g. kingship system in towns, origin and development of towns, communal conflicts lineage system etc., traditional medicine e.g. herbal medicine among various ethnic groups, general traditional culture e.g. tribal marks, tattoos, dress culture, beautification etc, politics and governance e.g. social stratification, resource allocation and sharing etc. This is in full support of Although Jabulani (2007) who affirmed that Indigenous Knowledge is an essential resource for any human development process. These findings have implication on librarians' continued efforts to capture more aspects of indigenous knowledge that could aid national integration and development.

It was established from the findings that indigenous knowledge practices were documented with recordings and visual documentation, validated in terms of significance and relevance, draft interview questions and procedures were moderated, indigenous Knowledge is edited, transcribed, summarized (English and mother language) and well stored and preserved. This explains what Brokensha (1990) found that such knowledge system is essential for development and thus, it must be gathered and documented for a particular community. One of the interviewees at FRIN stated that the storage and retrieval of indigenous traditional knowledge is a difficult process which requires classification, indexing and assigning metadata for making the database accessible to the users. He maintained that since indigenous knowledge is vital to development, it is imperative to keep such records for generation unborn for them to understand what they never knew or met. Another interviewee at IFRA responded that indigenous knowledge is being transcribed and recorded. The implication of this result is that, library personnel should ensure the medium of documentation is users centred for easy access and retrieval.

The results shows that not all categories of library staff were involved in documentation of Indigenous Knowledge practices in the research institutes. People that work in the library are known as library personnel, though they are in different level/cadre. The findings thus supports Lor (2004) who stressed further that Librarians have highly developed theories, systems and techniques for the collection, organization, preservation and making available of recorded knowledge, or documents. As revealed by results of this study, place where repackaged indigenous knowledge are stored in the library include: flash disk, library shelves, compact disc, digital video disc, and recorded tape. This finding implies that efforts need to be intensified by

senior library personnel to conduct in-house training for all the categories of library staff thereby equipping them with necessary skills for documentation of indigenous knowledge.

The study found out that the main methods of disseminating indigenous knowledge practices by library personnel of the research institutes include: database, video, library website, print media, direct mail, public lectures, exhibitions and displays, and exchange, transfer to other libraries. This could mean that indigenous knowledge practices were mainly stored in Compact disc, Flash drive, Library shelves, and Digital video disc at the research libraries that were surveyed. This finding aligns with Ayantoye's (2015) position that indigenous knowledge is disseminated through Conferences and Seminars. It also supports the findings of Priya and Rabindra (2010) who declared that it essential to propagate the use of indigenous traditional knowledge for human causes through certain activities such as seminars, workshops, debates, lectures, and exhibitions in which such stories of indigenous traditional knowledge use need to be reflected. This result has implication for library personnel to train users in local communities on the application of modern technologies.

The findings also revealed the challenges associated with the documentation and dissemination of indigenous knowledge by library personnel of the Research Institutes include: inadequate fund, Inadequate ICT infrastructure, unreliable electricity, low level of patronage, translation problems etc. Several challenges affect the documentation and dissemination of Indigenous Knowledge in Africa. This supports the findings according to Lwoga and Ngulube (2008) who submits poor attitudes, knowledge culture and personal characteristics (age, gender, status, wealth, political influence and so on) also affect perceptions, actions and access to knowledge in the local communities. Ayantoye (2015) mentioned that lack of enough building space, Lack of adequate funds, and Manpower were challenges encountered in documenting and disseminating Indigenous knowledge. These challenges were indications that library personnel need to embark on aggressive library advocacy and teaching Information Literacy Skills.

**References**


Adam, L. (2007) Information and Communication Technologies, Knowledge Management and Indigenous Knowledge: Implications to livelihood of Communities in Ethiopia. Retrieved March 10, 2017 from: http://www.eictda.gov.et/knowledgemanagementandindigenousknowledge.doc

Ajayi, K.S. (2014) Indigenous Knowledge communication in the 21st century. *International Journal of Digital Library Services,* 4.1: 10-18

Anele, N. (2012) Nigerian Indigenous Knowledge Application in ICT Development. Journal of Educational and Social Research 2.7: 23-30

Arantes, A.A. (2010) Documenting and Disseminating Traditional Knowledge and Cultural Expressions in Brazil. Being a paper prepared for world Intellectual Property Organization (WIPO) February, 2010.

Basu, D.B.S and Goswami, R. (2009) *Farmers' knowledge and scientists' knowledge: Myth, mutualities and synergics.* In Dasgupta, Debabrata.Indigenous Knowledge system and common people's rights, Agrobios, Jodhpur.

Battste, M. (2002) *Protecting Indigenous Knowledge and heritage.* Saskaton, SK: Purich publisher.

Brokensha, D. (1990) *Indigenous Knowledge system and development*. Lanham, MD: University Press of America.

Burtis, A. (2009) Managing Indigenous and Traditional Cultural Expressions: Is Technology the Solution? Retrieved February 22, 2017 from: http://www.lis661.pbworks.com/cultural+property:Melissa+Allen++traditional+cultural+expressions+and+IP

Centre for Indigenous Knowledge Systems (CEFIKS) (2006) *Indigenous Knowledge system for Ghana.* Retrieved April 14, 2017 from: http://www.cfiks.org/

Greyling, E. and Zulu, S. (2009) Content Development in an Indigenous Digital Library: a case study in community participation. Being a paper presented at World Library and Information Congress: 75th IFLA General Conference and Council 23 – 27 August, 2009, Milan, Italy. Retrieved February 20, 2017 from http://www.ulwazi.org/index.php/publications/html

Gulbrandsen, M. (2011) *The co-evolution of research institutes with universities and user needs: A historical perspective.* In Eli. Moen (Ed.), Science and society relationships in the age of globalization: Past reforms and future challenges (pp. 188–213). Oslo: Research Council of Norway.

International Federation of Library Associations. (2003) IFLA Statement on Indigenous and Traditional Knowledge. *IFLA Newsletter*, 42:17-25

Issa, A.O (2000) Information Dissemination to the rural persons in Nigeria: A Librarian's Perspective. A paper presented at the Department of Library and Information Science, Federal Polytechnic, Offa. 22-23, March.

Jabulani, S. (2006) The Challenges Faced by African Libraries and Information Centres in Documenting and Preserving Indigenous Knowledge. World Library and Information Congress: 72nd IFLA GENERAL COBFERENCE AND COUNCIL. 20-24 August, Seoul, Korea. http://www.ifla.org/IVifla72/indexhtml

Jabulani, S. (2007) The challenges faced by African libraries information centres in documenting and preserving Indigenous Knowledge. *IFLA Journal*, 33.2: 117-123.

Koopman, B.R. (2002) Software Tools for Indigenous Knowledge Management. Bachelor of Information Technology Honours Thesis, School of Information Technology and Electrical Engineering, University of Queensland. Retrieved Apri 5, 2017 from: http://eprint.uq.edu.au/archive/00000093/

Kudakwashe, D.K.T and Gift, R. (2013) Making libraries more relevant to communities, the inclusion of Indigenous Knowledge in library information services-the potential benefits and challenges: *An Afro centric librarian's perspective. International Journal of Advanced Research* 1.5: 579-586

Labelle, H. (1997) Presidential address, Canadian International Development Agency at the plenary session on Global Knowledge and Local Culture of the International Global Knowledge 1997 conference, Toronto

Lare´do, P. and Mustar, P. (2001) *Research and innovation policies in the new global economy: An international comparative analysis.* Cheltenham: Edward Elgar.

Lwoga, E.T and Ngulube, P. (2008) The management of indigenous with other knowledge system agricultural development: Challenges and opportunities for developing country scientific and Technical Information and rural Development. IAAD World Congress, France.

Mabawonku, I.M (2002) The systematic management of Indigenous Knowledge: a review of oral information project in a school library. *Proceedings of SCECSAL Conference. Pretoria. 49-60.*

Magara, E. (2009) Community Based Indigenous Knowledge for Developing Countries: A Strategy for Uganda. Proceeding of the 15th standing conference of Eastern, Central and South African Library and Information Professionals, 15 – 19 April. Johannesburg, South Africa.

Mahalik, P.R and Mahapara, R.K (2010) Documenting Indigenous Traditional Knowledge in Odisha. *Orissa Review* May-June-2010: 100-115

Ngendello, A.M., Byabachwezi, M.S.R., and Schrader, T. (2003) Dissemination of Agricultural Technology: Narrowing the gap between Research, Extension and Farmers. Proceedings of the National Workshop on Client Oriented Research. Abuja, Nigeria.

Ntui, A.I and Ottong, E.J. (2008) Toward Global Dissemination of Indigenous Knowledge: The Case of Raffia Artisans in Ikot-Ekpene Local Government Area of Akwa-Ibom State,

Nigeria. An unpublished BLIS project submitted to the Department of Library Archival and Information Studies, University of Ibadan, Nigeria

Odia, L.O and Omofonmwan, S.I (2013) Research and Development Initiatives in Nigeria: Challenges and Prospects. *Mediterranean Journal of Social Sciences*, 4.2: 12-21

Okorafor, C.N. (2010) Challenges Confronting Librarians in Documentation and Communication of Indigenous Knowledge in Nigeria. *The International Information and Library Review* 42: 8-13

Omawumi, O.M and Oludare, A.S (2013) Exploiting the values of Indigenous Knowledge in attaining sustainable development in Nigeria; The place of the Library. *Library philosophy and practice (e-journal)* Retrieved May 5, 2017 from: http://digitalcommons.unl.edu/libphilprac/908

Osunade, M.A.A. (1988) Soil Suitability Classification by Small Farmers. *The Professional Geographer,* 40.2:11-19

Oyesola, G. O. (2010) The Contribution of Research to the Development of the National Education System. Retrieved January 28, 2017 from: http://unilorin.edu.ng/journals/education/ije/sept1988/the%20contribution%20of%20research%20to%20the%20development%20of%20the%20national.pdf

Ozioko, R.E, Igwesi, U and Eke, H.N (2011) Generation and Dissemination of Local Content Using ICT for Sustainable Development. the Pacific Northwest Library Association 75.4 Retrieved February 17, 2017 from: www.pnla.org

Priya, R.M. and Rabindra, K.M. (2010) Documenting Indigenous Traditional Knowledge in *Olisha. Orissa Review*, May-June.

Rowley J. and Farrow J. (2000) Organizing Knowledge: An Introduction to Managing Access to Information 3rd ed. England, Ashgate Publishing Limited.

Salih, M.A.N. (1992) Pastoralists and Planners: Local Knowledge & Resource Management in Gidan Magajia Grazing Reserve, Northern Nigeria. *DNP News Paper* 33.9:11-18

Taiwo, A.A. (2008) Indigenous Knowledge dissemination and use: A Discuss. *Samaru Journal of Information Studies* 8.2: 22-30

Tella, R. D. (2007) Towards promotion and dissemination of Indigenous Knowledge: a case of NIRD, *International Information and Library Review* 39.3-4: 185-93.

Wendland, W. (2008) Libraries, Intellectual Property and Traditional Cultural Expressions: Balancing Access and Control. Retrieved March 11, 2017 from: http://wo.ala.org/tce/wp

World Bank (2006) Indigenous Knowledge Notes on Indigenous Knowledge and Practices. Retrieved February 12, 2017 from http://www.worldbank.org/afr/ik/iknotes.htm