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Role of Information and Communication Technologies (ICTs) in repackaging Indigenous Knowledge: A 21st century perspective

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Abstract

The purpose of this paper is to discuss the role ICTs can play in repackaging of indigenous knowledge. An exploratory approach through extensive review of related literature was adopted for this study. Conceptual framework was developed to understand indigenous knowledge and the ways it can be documented and communicated by packaging and repackaging it for preservation and consequent dissemination from generation to generation. This paper found out that ICT tools and techniques can be leveraged on for the efficient acquisition, documentation/preservation, transmission or communication of age long customs and traditions summed up as indigenous knowledge in order to impact decision making in areas of agriculture, medicine, education etc. Indigenous knowledge has the potential and capability of saving lives and increasing food security/income; providing a basis for problem-solving strategies for local communities; being used for the treatment of a variety of ailments e.g. fevers, headaches, malaria, respiratory and nervous disorders; helping in the aspect of pest control, food processing and storage among others. With the accrued benefits of indigenous knowledge and the essence of repackaging it, it is still bedevilled by a number of encumbrances such as: misconception by many natives as to the extraction of their IK from its borders. They see it as a form of theft; inadequate finance to achieve effective IK documentation and communication; cultural homogenization and death of indigenous people among others. It was recommended that librarians should gain the confidence of the natives and make them understand the need for their IK to be collected, repackaged and preserved for future generation; library professionals should be proactive in handling and managing community's knowledge resources; they should ensure accessibility of IK materials by preparing inventories and registers among others.

Keywords: *indigenous, communication, repackaging, indigenous knowledge (IK), ICTs, indigenous knowledge communication.*

Introduction

It is somewhat difficult to expressly define or ascribe a definition to indigenous knowledge or fully capture what it really means since there are approximately 370 million indigenous people in the world belonging to 5,000 different groups in 90 countries worldwide. Indigenous people live in every part of the world, each independent of the other in all aspects of life ranging from culture, religion, belief systems etc. Indigenous knowledge simply put refers to the beliefs, culture, health system and practices that are peculiar to a given group of people or region.

There are some unique practices and knowledge that only members of a particular place or region knows about. Some of these practices range from medicine, social, religion to belief systems. They are often times embedded in the culture and traditions of a particular people. These are referred to as 'indigenous knowledge' (IK). They are inculcated in the younger generations as they grow up and are invaluable assets of the people. It can also be seen as local knowledge. It is the basis for local level decision making in almost all aspects of life. They are knowledge about a particular community passed down from generation to generation by word of mouth (orally). Transmission of IK gradually became increasingly difficult to obtain and passed down owing to the fact that there is a limitation on the memory capacity of human beings generally of which not much information could be recalled especially in the case of the elderly ones. Also, their demise contributes to the difficulty in acquiring indigenous information as it can be likened to the destruction of an entire library. There is need therefore for information professionals to devise a means of collecting, documenting, repackaging and easily disseminating or communicating IK using ICTs as a tool which forms the crux of the discourse.

Nature of Indigenous Knowledge (IK)

Knowledge generally is defined as the facts, information, understanding and skills that a person has acquired through experience or education. For our own purposes, knowledge should be seen as an organized body of information shared by people in a particular field. Therefore, indigenous knowledge (IK) are facts, information, understanding and skills peculiar to a traditional community which have been accumulated and transmitted from generation to generation by word of mouth. It can also be seen as testimonies of the past which are deliberately transmitted orally. These testimonies may be accounts of events and the people transmitting them might not have witnessed those events, they may also be descriptions, narratives or how certain operations are carried out. Jain (2008) asserted that IK is knowledge which is specific to a particular culture, dynamic, constantly evolving and instigating from age-old beliefs, traditions, experiences and observations, indigenous to a specific area, non-formal, orally transmitted and usually not documented. In-line with the foregoing, World Bank in Shaw (2007) opined that IK refers to the large body of knowledge and skills that have been developed outside the formal education system. It is embedded in culture and is unique to a given location or society.

Indigenous knowledge is closely linked to sustaining the age-long traditions/customs from ancestors and its transmission to other generations in different forms. Therefore, the term IK is synonymous with traditional knowledge, local knowledge, community knowledge, rural peoples' knowledge, farmers' knowledge. IK in a nutshell is the local knowledge that is unique to a given culture or society which forms the foundation for local-level decision making in agriculture, health care, food preparation, education, natural resources management, and a host of other activities in rural communities. Herbal medicine for instance is a good example of IK, which has had an impact on the lives of people around the globe. A practical example is the case

of Madagascar a country in East Africa that produced a herbal remedy to the dreaded corona virus (COVID-19) which is undergoing clinical trials and testing so as to ascertain its efficacy in battling the virus which at this point has not been confirmed to do so yet. However, this can be seen as an accumulation of IK peculiar to them that gave rise to the production of such herbal medication.

Several traits distinguish IK broadly from other knowledge. It is characterized by the following:

- Indigenous knowledge (IK) is predominantly oral and can be transmitted through imitation and demonstration
- It concerns past events or the way certain things were done in the past
- They are not first-hand experiences
- They are distinct from rumors
- They constitute a form of historical knowledge that may be political, religious, medical, agricultural, technological etc.
- They are learned through repetition which aids memory retention and reinforcement of IK
- They are dynamic in nature
- They are local. That is, it is rooted in a particular community and situated within broader cultural traditions

Importance of IK

Indigenous knowledge (IK) is an enabling component of development and many are aware of its relationship with development. The basic component of any indigenous system is its

indigenous knowledge which encompasses the skills, experiences and insight of people, which they apply to maintain or improve their livelihood. For many years now policy makers, development planners and the general public have become fully aware of the important role of IK which cannot be overemphasized especially as it relates to sustainable development. IK is important in the following ways:

- Indigenous knowledge (IK) has the potential of helping to save lives and increase food security/income
- IK provides a basis for problem-solving strategies for local communities
- It is important in the area of medicine as traditional medicine is used for the treatment of a variety of ailments e.g. fevers, headaches, malaria, respiratory and nervous disorders among others
- It is also important in the area of agriculture in the aspect of pest control, food processing and storage etc.
- It can be integrated in education by commercializing IK on literary forms, theatre and dance, visual arts and crafts, textiles, pottery and smiting etc.
- It involves minimum risk to rural farmers and producers, and above all, they are widely believed to be the means of conserving resources
- It is important because it enables us to rediscover ourselves and give up aspects that are negative

Forms/types of IK

Indigenous knowledge take various forms, some of them include –

- **Folk media:** Folk media or oramedia is a type of IK that is made up of dialogue and verbal exchange in the presence of one or more listeners. It is grounded in indigenous culture produced and consumed by members of a group. Oramedia is very important for the purpose of providing teaching and initiation with the object of imparting traditional aesthetic, historical, technical, social, ethical and religious values. They also provide a legal code of sorts which are based on stories, plays, dance, puppet shows, proverbs generated through spoken word.
- **Oral history/tradition:** Oral history involves the reconstruction of the past and the preservation and documentation of culture. It can also be seen as the recording and processing of planned interviews with selected persons who are able to narrate recalled memory and thereby aid in the reconstruction of the past. Oral history is as old as human memory and yet as recent as yesterday's news (Lanman, 1987). It is an extension of the arts of story-telling.
- **Set phrases:** This is the type that are used on special occasions and are usually transmitted with great accuracy because their value depends on their being accurately repeated for instance incantations, formula etc. Any inaccuracy may be sanctioned with the death of the person that made the mistake.
- **Oral evidence:** Oral evidence also called testimonial evidence is a proof of truth given by means of statements made by a witness in a law court. It is the commonest type of judicial evidence. Also, evidence by a witness who is unable to speak (dumb) given in

any manner in which he/she can make it intelligible, as by writing or by signs is deemed to be oral evidence provided such writing or signs must be written or made in open court.

- **Oral literature:** Oral literature is the verbal tradition of non-literate societies which has been composed rapidly before a traditional audience and is transmitted from one generation to another by word of mouth. It is characterized by the predominance of sound, patterns and repetitions and use of formula (mnemonic devices) which aids in memory retention. Oral literature can be sub-divided into prose, narratives, poetry and drama.

Documentation and dissemination of IK

Indigenous knowledge is knowledge that is peculiar to a particular culture or community. It involves various spheres of life, which includes management of national environment. According to Kudakwasha and Gift (2013), it makes up the basis of survival for the people who own the knowledge. Documentation is the process of gathering, compiling and preserving this particular knowledge for posterity, national growth and sustainable development. It is also an act of keeping documentary evidence in form of print and non-print such as audio tapes, CDs and DVDs among others. The essence of documentation cannot be overemphasized such that records of knowledge peculiar to a group of people if well preserved can stand the test of time, teach and adequately inform younger generations on the modus operandi of the ancients as well as help to inform their decision making process. The need to extract IK from over elderly ones/custodians and imprint it on print or media of various kinds have become imperative as the death of an elder could be likened to a whole library been burnt down. Good and proper documentation leads or results to adequate dissemination of documented information. As with every other process, documentation has been bedeviled by a number of obstacles such as lack of national IK policies,

complexity in documenting certain IK like traditional medicine knowledge without validation and claim of its potency etc. low patronage, the tacit nature of IK etc. also affects documentation. Notwithstanding the prevalent obstacles that abounds, the essence of documenting IK for proper communication or dissemination cannot be overlooked.

The whole point of dissemination is to spread, communicate or make available relevant information. In this context, it simply means the act of communicating or spreading IK that have been repackaged through proper documentation of oral and other indigenous practices obtained from custodians of such knowledge to people in need of it. Dissemination according to Priya and Rabindra (2010) can be made possible through seminars, workshops, debates, lectures and exhibitions in which stories of indigenous traditional knowledge use need to be reflected. With the emergence of globalization or digitization where ICTs abound, the act of dissemination has evolved tremendously. ICTs incorporate the tools with which an individual can easily collect or document, preserve, repackage and disseminate IK within a split second. This is not to say that the use of ICTs are devoid of challenges, one of the most threatening challenge is the existence of virus. Virus is a cankerworm of which if not prevented could destroy volumes of information stored especially on external storage devices. This however, can be prevented by regularly-updated anti-virus software or the utilization of cloud computing which involves cloud storage. The tools used to transfer and repackage IK include – audio tapes (which is the most important tool), video recordings, DVDs, slides and photographs, radio, television, computers, electronic databases, newspapers (printed and electronic), internet, emails etc. The tools in consonance with adequate motivation of the originators to create, adapt or exchange it will guarantee proper collection, repackaging and dissemination of IK.

Strategies for the collection and repackaging of IK

It is agreeable that the tools together with the cooperation from originators of the information are powerful instruments for collection, repackaging and dissemination. However, librarians have to adopt certain strategies that will assist him in carrying out the exercise successfully. According to Maundu (1995), some of these strategies include –

- Set goals and objectives
- Map out a general area where information is to be obtained
- Draw up questions to be used during the study bringing to bare how data is to be collected and analyzed
- Determine resource individuals to talk to or interview, their location, how and when to meet them
- Develop a good rapport with key players such as administrators, traditional rulers and opinion leaders by orienting and informing them
- Establish a plan to mobilize necessary resources both human and material

Repackaging means assembling information from various sources and organizing it to be meaningful. Repackaging IK alludes to presentation of IK in progressively reasonable, comprehensible, satisfactory and usable forms. It takes into account the necessities and needs of the individual or groups and matching them with the information to be provided so that diffusion of information occurs. There is need for repackaging the indigenous information in a way and manner that will be justifiable, decipherable, satisfactory and usable (Mole, Ekwelem and Din, 2018). Repackaging IK simply put refers to the process of putting together or organizing various local contents according to user specifications or needs.

Repackaging can be done in various ways for instance; use of songs, drama, popular theatre, story-telling etc. Modern day technologies (ICTs) make it easier to repackaging information through the reconciliation of designs and texts. ICTs help with repackaging into oral structures for instance, the use of pod casts in rural areas to record oral history and songs. According to the authors, the utilization of recording devices helps with catching a blurring memory concerning traditional information. Modern day technology is crucial in executing a paradigm shift because ICTs are liberated from the shackles of time and space. Libraries need to use ICTs to elevate access to indigenous information with respect to advancing a culture of information sharing amongst both indigenous and non-indigenous people.

With the emergence of ICT apparatuses and indigenous ICT competences, a great part of the significant conventional information can be saved, archived or documented, enhanced, digitized, repackaged (to preserve for posterity and so on) and transmitted for the utilization of networks in and outside a specific nation. In other words, for ICT to be an empowerment instrument and a transport of the locally important messages and data, it needs to provide opportunities for local people to interface and speak with one another and with the outside world, communicating their thoughts, information and culture in their own dialects. This empowers the individuals to take choices that influence their lives, handle monetary catastrophes and so forth (Mole, Ekwelem and Din, 2018).

Furthermore, IK can be made accessible to the less proficient by means of printed word and other learning materials. Likewise individuals and agencies such as researchers and groups involved in biodiversity activities could utilize it to improve their comprehension of IK. It could likewise be applied in grown-up education classes through perusing and finding out about, say, the benefit of indigenous food plants and conservation, as well as about the need to preserve their

culture. Some of the tools that are relevant to the repackaging and communication of IK include – Tape recorders, radio, television, newspaper, telephones, computers, cameras (message, list servers and different offices, fax, camcorders and so forth). ICTs by means of web, printed materials/reports (for example pamphlets, banners and so on), diskettes, social get together in networks. These tools can be utilized either independently or collectively, in combination with others or in consolidated form for a decent impact or effect.

Despite the strategies for collection of IK listed, librarians still encounter challenges in the process of collecting IK which can be seen in the following:

- Many natives consider the extraction of their IK from its borders as a form of theft and understandably, have been reluctant to share the depth and breadth of what they know with outsiders.
- Adequate funding is needed to achieve effective IK documentation and communication services. This is crucial due to the cost of equipment and qualified manpower.
- IK is often communicated through family members from the elderly generation to the younger. As a result, it disappears because of cultural homogenization and the death of indigenous people. For it is said that when an elder dies, it's like a whole library has been burnt down).
- Libraries may not have the time or resources to find indigenous knowledge in existing collections and to find people to provide information or give access to it.
- Lack of professional and institutional document list. IK is tedious and not many people may be interested in working in this department.

Limitations of IK

Indigenous knowledge has generally been bedeviled by a number of factors which include but not limited to the following:

- IK is scientifically unverifiable; they are usually shrouded in secrecy/mystery.
- Stories and events contain elements of distortions and /or exaggerations.
- Most times, indigenous people are unwilling to share their indigenous information.
- IK can be eroded by wider economic and social forces.
- Limitations of the human memory; most times, one cannot recollect certain information.
- In the area of medicine, there is no stated dosage for medicine intake.

Conclusion and Recommendations

There is no iota of doubt that IK is important in many respects and as a result cannot be overemphasized. It plays a critical role in cultural identity and development. It is a key component of culture when it comes to international discussions on cultural policy and development planning. That notwithstanding, IK which is enormous is the most underutilized national resource in most developing countries (Gramser and Appleton, 2005). Various development activities and programmes of which education is one have failed in most developing countries, Nigeria inclusive because IK has not been accorded much attention. IK materials or resources constitute a rich research resource in university libraries which enables library patrons come to terms with the fact that knowledge for development is not limited or restricted to scientific and technical knowledge but also community based knowledge system peculiar to that particular community. IK has become indispensable to those that depend on it in their daily lives and to modern industry and agriculture also. To serve the purpose for which it was meant to serve, IK must be properly collected or retrieved, documented, repackaged and

efficiently communicated to indigenes and non-indigenes alike in a decipherable manner significant to their needs.

Drawing from the above therefore, it can be recommended that library professionals need to be proactive in handling and managing community's knowledge resources which involves preservation and management of IK just as they do other documentary materials. They should ensure ease of accessibility to IK materials by preparing inventories and registers of IK systems, developing collection development policies for IK, developing standardized tools for indexing and cataloguing of IK, developing marketing strategies, compiling bibliographies of IK resources among others. With these highlighted strategies in conjunction with the use of appropriate tools, IK can be effectively obtained, repackaged, communicated and harnessed to impact decision making in various areas i.e. agriculture, medicine, education etc. accordingly.

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