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**Website: [www.ircabfoundation.org](http://www.ircabfoundation.org)**

**Email: [info@ircabfoundation.org](mailto:info@ircabfoundation.org)**

## **INDIGENOUS KNOWLEDGE, INTELLECTUAL PROPERTY, LIBRARIES AND ARCHIVES: THE ROLE OF INFORMATION TECHNOLOGY MANAGEMENT**

**OJO Joshua Onaade**

**University of Lagos Main Library, University of Lagos, Nigeria**

**onaade@yahoo.com; onaade@gmail.com**

### **ABSTRACT**

*The paper provides perspective on the growing inability of government to make available adequate information policy that can assist in the management of indigenous knowledge and intellectual property through the support of libraries and archives. The paper draws mainly on what obtains in Nigeria and some developing countries and the global world. It also shows how indigenous knowledge and intellectual property rights are protected, preserved, retrieved and disseminated by libraries and archives. The paper goes further to provide insight into various indigenous knowledge and intellectual property issues; raise the role of information technologies, copyrights matters on economic and moral rights of ownership, as embedded in some international laws and the need to develop indigenous knowledge management process and institutional structure by the practitioners before government interventions. The paper also identified some myriads of challenges (Who own IK?) and made attempts to propose solutions to them, such as providing flexibility to adapt to indigenous knowledge as time and environment demand for it; review of policies should be paramount; indigenous knowledge should be treated as national commodity for sustainable national development. The paper recommends the need for adequate information policy and domestication of international instruments for indigenous knowledge practice, control and protection. Government should create an enabling environment that will support indigenous knowledge where stakeholders will work in conjunction with their foreign counterparts, so that they can build social network, where issues pertaining to the development and management of indigenous knowledge, intellectual property, library and archives, well managed by information technology professionals.*

**KEYWORDS:** Archives, Copyrights, Indigenous knowledge, Information policy, Intellectual property, Information communication technology, Library

### **INTRODUCTION**

Information society cannot exist perfectly without the existence of information policy that will guide and regulate issues such as indigenous knowledge, intellectual property, and archives that forms the fulcrum 'for information gathering, storage, retrieval and dissemination. Indigenous or traditional knowledge is supposed to be protected by intellectual property laws. Perhaps, for the purpose of this paper, indigenous and traditional would be used interchangeably since some schools of thought have argued it out that way. Nakata (2005) for example, noted that 'indigenous knowledge is commonly understood as traditional knowledge. Mosanga (2010) also said: Traditional knowledge (TK) is 'the totality of all knowledge'. This clarification has to be made since existing literature have been using the two terms interchangeably. Thus, this paper takes the responsibility to illustrate how the two concepts are inter-related intellectually.

However, indigenous knowledge has brought the use of plants as medicines in the history of all civilisations, Saxena and Bopana (2010). In the recent past, there has been a renewed public interest in complementary and alternative medicine as a result of increased side effects observed in the allopathic system of medicine. More so that lacks of curative treatments for several chronic diseases, high cost of new drugs and microbial resistance have caused a tremendous increase in the demand for plant-based medicines. Patwardhan, et al. (2005). Copyright is also a by product of early technological advancement with the catalytic effect brought about by the Gutenberg's invention of the movable print in the mid-15<sup>th</sup> century (Adewopo, 2010). As a result of this, indigenous knowledge the basis for knowledge, intellectual prowess and property are protected by copyright, disseminated through information centres and archives in a well packaged information technology such as book or non-book materials.



## **OBJECTIVES OF THE STUDY:**

The objective of this article is to examine the role of information policy and information technology in the management of IK and IPR. Specific objectives:

1. To examine how indigenous knowledge can influence the development of information policy framework?
2. To identify the roles of library and archives as the custodian of indigenous knowledge and intellectual property rights;
3. To find out the role of technology in the management and preservation of indigenous knowledge;
4. To highlight and discuss challenges facing non-documentation of indigenous knowledge
5. To provide solution to the challenges.

## **DEFINITION OF CONCEPTS:**

In this paper certain terms or concepts were used to convey ordinary meaning according to the usage. These are:

- *Indigenous knowledge*: Indigenous knowledge in this context means a knowledge that is systematic, local, and unique initiative characterised by traditions and culture in the society.
- *Intellectual Property*: means ownership of ideas or knowledge covering a wide range of the mind, including patents, trademarks, industrial designs, geographic indications, and trade secrets.
- *Library* : means a collection of information sources, resources, and services, housed in a structure, it is organised for use and maintained , while *Archives*: It is a collection of unpublished documents and other materials preserved as a result of their lasting value for research use.
- *Information policy*: It is a rule or guiding principle by management as directed by the federal government to create standard for documentation of records about and interpretation of the collection, and public access to them.
- *Information Technology*: The application of information technology in this paper is meant for preservation and /or improving access and knowledge of their collections, through digitization process which, in effect for capturing, management and dissemination of those preserved materials.

## **PERSPECTIVE OF INFORMATION POLICY, INTELLECTUAL PROPERTY, LIBRARY AND ARCHIVES**

Public access to ideas and information is crucial and important to creativity, competition, innovation, and a democratic culture. On the other hand, material that belongs in the public domain is increasingly transformed into private property. Information theory is all about autonomy as a normative basis of information policy, or the social production of knowledge. In Nigeria and other developing countries, most of their information policies are not made available and where they are available are not implemented or enforced. Braman (2006) opined that: *information policy has been transformed from bureaucratic welfare state into the informational state; because it has always been part of ancient forms of governance, there has been phase change-a change of state-in which government deliberately, explicitly and consistently control information creation, processing, and flows and use to exercise power.*

Furthermore, indigenous peoples want to have an integral and meaningful role in making decisions about their own future. A growing body of international law, fiscal and policy support in many countries and an increasing interest in understanding the natural, cultural, and spiritual world of indigenous peoples are very important.

## **Indigenous Knowledge and Intellectual Property Rights Management**

Intellectual property is the product of creative works. These include: inventions, literary and artistic works and symbols, names, images and designs used in commerce, (WIPO, 2007). This



can be divided into two: industrial property and copyrights. The duration of copyrights is 50 years after the death of the author. In the case of joint publications, the duration of such works is 50 years after the death of the last surviving author (WIPO, 2007). Furthermore, intellectual property rights are exclusive rights granted to the creators of intellectual works, which can either be indigenous or traditional knowledge. Due to the highly acknowledged fact, that knowledge is indispensable for social, economical, and technological development, the importance of IK in sustainable development is being recognised. Since each community around the world has some sort of indigenous knowledge, IK has won global attention, Jain (2008). That is why the United Nations revises the 1957 Indigenous Knowledge People and Tribal Population Convention (107), "recognising as at today, even the scientists and development professionals are acknowledging that the concept of sustainable development can never be fully appreciated without integrating IK in the development process". The main reasons of indigenous knowledge on the focus of global interest are:

- Anthropologists abiding interest in people's knowledge systems;
- Complimentary relationship between IK and biodiversity;
- Participatory role of IK in decision-making for sustainable development;
- Growing awareness of the need to empower the poor in community with locally available knowledge;
- IK often provides cost-effective solutions to the problems faced by local and rural communities.

#### **Role of Library and Archives in IK and IPR:**

Nigeria libraries have contributed to the acquisition, storage, retrieval and dissemination of information on indigenous and traditional knowledge. Archives and Museums have also taken up some responsibilities in the protection, storage of special and specific documents and keeping of artefacts, sculpture and artistic works. There is a great difference in the acquisition and storage of these literacy or artworks from conventional books. The essence of this is to ensure protection. Adewopo, (2010) "observed the underpinnings of providing adequate protection to IK and IP rights is the need for the creators to be assured of their pride of place in the society and encouraged to create more works, which eventually becomes available for society's benefit". The role of information professionals here cannot be over emphasised, thus Byrne (2005), *has been prompted to state that, "for library, archives and informational professionals, knowledge is the stuff in which we deal. Libraries have a responsibility to curate it and ensure its transmission through good times and bad to those who may need or appreciate it in other periods and places"*.

#### **IK and IP Rights: Role of Information Technology:**

If there is anything in the world that has contributed more to the upliftment of the society in the 21<sup>st</sup> century, it is information technology. Nearly every facet of life has benefited from immense contribution to yearning and aspirations of people. The rapid change it has brought to mankind makes every major sectors in the development world aspiring to have the ICT knowledge. This view was also supported, "that the last two decades of the 20<sup>th</sup> century again witnessed a revolution with an overwhelming confirmation of the ascendancy of the knowledge economy in which information and knowledge, not machines and factories determined the fortunes of the individual, corporation or nation. At no other time in history has much information been potentially available at such cost, volume and speed. This immense capacity is largely attributable to and sustained by the ICT platform (Adewopo, 2010). Therefore, he emphasised that, "the relationship between indigenous knowledge and information technology (IT) on the one hand and intellectual property (IP) on the other is an obligate symbiotic relationship. The major IP rights: patents, utility models, industrial designs, trademarks, trade secrets, geographic indications and copyright are often the result of the synergy between the individual mind and some form of technology".



## **CHALLENGES OF IK AND IPR**

The missionaries viewed and treated Nigerian arts (indigenous and traditional knowledge) with contempt, which resulted in a general breakdown of traditional apprenticeship system; no efforts were made to provide substitutes for it. Nkom (2007). This is just one of the many other local and indigenous that was condemned by the colonial masters.

- **Who owns it?** One of the challenges facing IK is the issue of ownership, most of the knowledge bestowed on the society has no claim, and they are not well documented. Incantation from a local priest before herb can be effective in its application to cure an ailment is not made known to the user and not transferable.
- **Disclosure:** Indigenous knowledge has no source, nobody has disclosed where most of these ideas have been taken from, and these are the peculiarities that characterise IK.
- **Role of ICT:** The four chains of management of IK and IPR are: origination/production; application/access/usage; and disposition. Indigenous knowledge is supposed to be developed into something that has phase of the information product chain, such as authors/writers, artists, researchers and inventors. It is when these ideas have been made into something tangible product; it could be goods, services, processes or information items.
- **Harmfulness:** Aina, L.O., (2008) observed that, 'sometimes local people's knowledge can be wrong and harmful, since practices based on beliefs, faulty experimentation, or inaccurate information can be dangerous and become a barrier to people'.
- **Method of capturing:** Sometimes well-adapted and effective practices in a particular environment reflected in existing IK become inappropriate in another environment under different conditions.
- **Exploitation:** The practitioners are daily confronted with cheat or swindling. Because most products are not well packaged, it is difficult to identify how their intellectual inputs to any product can result into monetary gain. The reason is that indigenous people have also made some mistakes of over valuing what they have and in the process some of the medical practitioners who buy their product exploit. What they usually purchase from them does not measure to the money paid.

## **SOLUTIONS TO CHALLENGES OF IK**

The peculiar nature of indigenous knowledge in Africa and the world generally creates challenges for implementation of intellectual property rights for the indigenous knowledge products. There should be flexibility to adapt to indigenous knowledge as time and environment demand for it, challenges can also be resolved through protection, not only that review of policies should be paramount by coming up with policy strategies. It can also be argued that indigenous knowledge should be treated as national commodity for sustainable national development, as well as for cultural heritage. Part of the information policy should not allow western technology to distort the local indigenous knowledge, the intention most times is to steal it and finally, indigenous knowledge should be included into the educational curriculum throughout Africa. It can be overcome through research, publications and contribution by all stake holders.

## **BENEFITS**

It is therefore imperative that IK can be a useful tool for African development if our various governments in Africa can pool resources together and a thorough research on indigenous and traditional knowledge. IK is always available with little or no cost, since people are beginning to be aware of its value and economic implications. For instance, in India, medicinal plants as a group comprise approximately 800 species and account for around 50% of all higher plant species. There are 7,800 medicinal drug manufacturing units in India consuming about 2000 tonnes of herbs annually (Singh, 2001). 95% of medicinal plant collection to meet the demands of the pharmaceutical industry is from the farm. In terms of revenue, the international market for medicinal plant is to the tune of US\$60 billion with an annual growth rate of 70% (Belt et al, 2000). According to the World Bank report of 1998, world trade in medicinal plants and related products is expected to touch US\$5trillion by 2050 Tewair (2000). In addition, it can contribute to



our national development apart from ecological sensitive socio-economic activities. Through indigenous knowledge Africa cultures are getting known better all over the world. Regardless of all these benefits, it is imperative that IK can be a useful tool for African development if governments in Africa can pool resources together and do a thorough research on indigenous and traditional knowledge.

## CONCLUSION

Information policy is an important factor or instrument for the development of indigenous knowledge, by dictating the direction of management, by human and material resources, such as information and communication technology. It is imperative to note that with appropriate policy in place, it is expected that indigenous knowledge will contribute to the ecological, socio-economic development, the natural endowments in form of artefacts, sculpture, herbs and medicinal plants will serve as a source of alternative, and trade wise we will have more comparative advantage over members of international trade and the challenges will be overcome.

## RECOMMENDATIONS

For effective information technology management of indigenous knowledge, intellectual property, libraries and archives, government should make adequate information policy which, can assist indigenous knowledge practitioners, information professionals in the application of information technology management and control. Information policy is an essential tool for the development of our various ideas and initiatives, where there are no policies, the implementation and domesticating of such policy will not be accepted by decision-makers at every level of governance. All the concepts discussed under this topic have something to do with policy development; it is at this level that people will see the importance of information policy in workplace as regards to intellectual property, ICT, copyrights, and indigenous people. Government should try as much as possible to make information policy as the bedrock of decision-making indigenous knowledge development.

It is imperative for all stakeholders involved in indigenous knowledge development to make sure that they create awareness through advocacy programme, information repackaging, through the effort of library and information professionals, being custodian of information, will know the best approach in creating awareness, through proper dissemination of information.

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