DOCUMENTING INDIGENOUS KNOWLEDGE SYSTEMS IN AFRICA: PROSPECTS AND CHALLENGES

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Abstract

Indigenous knowledge (IK) systems are very important for the communities from which they come from. Such knowledge dictates how people behave generally, how they relate with the land and other resources that they have, and how they make sense of the world around them. IK's importance is seemingly being overshadowed by western knowledge which has the advantage that it is codified and is largely viewed as better, and more scientifically proved knowledge. Given the encroachment of urban lives into many African countries, indigenous knowledge is slowly being eroded. The traditions where the elders used to sit and work with the youth and pass on that knowledge are very fast being eroded. Globalisation has resulted in an inundation of western values and culture beamed through satellite television and the Internet, quickly captivating the youths' minds such that they deem their own cultures, rituals and traditions as inferior, old fashioned, and barbaric. More important, whilst we are eschewing indigenous knowledge, interest in IK and its potential has taken hold in the West. A direct result of this is that IK is being appropriated and the owners, that is, the communities have nothing to show for it. The intellectual property of the IK is being claimed by individuals outside the communities that own the knowledge, simply because they have codified it.

All of this brings the point home that there is a need to document IK in order to preserve it for posterity; and to ensure that once it is codified, it cannot be used to obtain patents by people other than those who own it. In that regard, this article considers the prospects and challenges of documenting indigenous knowledge by considering the following: definition of IK and its importance to communities, its characteristics and problems associated with that, the need to document IK, arguments for and against documenting IK and challenges in documenting IK.

Keywords: Documenting Indigenous Knowledge, Africa

Introduction

Indigenous knowledge is an integral part of communities who own it because such knowledge dictates how people carry themselves, how they relate with the land and other resources that they have, and how they make sense of the world around them. However, indigenous knowledge, which has in the past been seen

as inferior is now receiving a lot of attention from scientists and corporations worldwide. To give some examples, according to Sahai (n. d.):

> Today, faced with the threat of global warming and climate changes across agricultural zones, scientists are on the look out for crop varieties that are more heat intolerant...The global market for herbal products is exploding, it is estimated to touch 5 trillion by 2020. Four out of ten people in the US are using what they call alternative medicine, even when the cost is not covered by medical insurance.

What the above quotations seek to show is that now more than ever, the indigenous knowledge as found mostly in developing countries is increasingly on demand. Scientists and pharmaceutical companies are raking in millions of profit at the expense of communities who are the rightful owners of the indigenous knowledge that contributed to the development of new breed of crops and new medicinal products.

At the same time however, we find that given what Chisenga (2002) terms, “modernization, urbanization, and globalization”, indigenous knowledge is slowly, but surely being eroded. The traditions where the elders used to sit and work with the youth and pass on that knowledge are on a steady decline. Globalization has resulted in inundation of western values and culture beamed through satellite television and the Internet, quickly captivating the youths’ minds such that they deem their own cultures, rituals and traditions as being inferior, old fashioned, and barbaric. The dominance of westernized knowledge has also contributed to the demise of indigenous knowledge, which is viewed as untried, untested and unscientific knowledge.

A quick scan of the literature shows that the interest in indigenous knowledge and its documentation seems to focus more in the field of biological resources than any other area of indigenous knowledge. Yet, there is more to IK than plants and herbs, and agriculture. There are many aspects to indigenous knowledge such as cultural practices, spiritual practices, and many others. Indeed, there is a great deal of awareness about protecting biological diversity, but not as much concern for protection of cultural diversity (WIPO 2004).

All of this brings home the point that there is a need to document IK in order to preserve it for posterity; and to ensure that once it is codified, it cannot be used to obtain patents by people other than those who own it. *Local Pathways to Global Development*, a publication of the World Bank marking 5 years of the World Bank Indigenous Knowledge for Development Program has compiled a number of case studies published in *IK Notes* which report on IK initiatives in Sub-Saharan Africa. The articles show that there are efforts at documenting IK and its uses in different spheres of life, for example, most articles deal with IK and agriculture; environment; healing and health; rites of passage, etc. All of this represents the efforts of the World Bank in bringing all of these together. However, there is a need for individual developing countries to systematically document their own IK for their own use.

Indigenous knowledge and its importance to communities

Indigenous knowledge represents the identity and the paradigm through which communities make sense of the world around them, survive and live in peace with nature and each other. By definition, indigenous knowledge derives from communities that share culture and values. Indigenous knowledge is much more than the information held by the community, but is tied up with issues of culture and spirituality, as well as "issues of individual and collective responsibilities" (Ramirez & Holmes 2004).

Indigenous knowledge (IK) can be defined as a body of knowledge belonging to communities or ethnic groups, shaped by their culture, traditions and way of life. The term is sometimes used interchangeably with traditional knowledge. IK is home-grown knowledge that enables communities to make sense of who they are and to interact with their environment in ways that sustain life. It is knowledge that arises from life experience, and which is passed down from generation to generation through the word of mouth in the form of folklore, idioms, proverbs, songs, rites of passage and rituals. IK covers the broad spectrum of life, and therefore there are different types of IK, ranging from people's beliefs, medicine, arts and crafts, etc.

While knowledge in general is described as being explicit and tacit, IK is mainly tacit as it resides in people's heads, and has for the most part, not been codified. Indigenous knowledge has a number of unique characteristics: Any one single individual does not own IK because it is a product of the cultural tradition and way of life of a community.

It is usually passed orally from generation to generation, it is not codified or documented anywhere except in the minds of the community and the community's knowledge custodians, such as chiefs, traditional doctors, etc. It has a potential (and has in many cases) to provide economic return either to the community that owns it, or to the individuals who may have taken it away from the community for meagre economic gain, or through some other fraudulent means. It is thus a very valuable resource, and this has prompted more debate on the intellectual property rights of IK (Moahi 2004).

The importance of documenting IK

The need to document and manage indigenous knowledge has been the subject of many conferences, and a considerable number of articles have been written on the subject. Many such writers have stressed the importance of IK for sustainable development, noting that whatever innovation is brought to bear on development, it must take into account the local context and be adapted to it. Even as the topic has been written about extensively, the African Renaissance movement lends even more urgency to the need to document and preserve IK.

After all, African rebirth certainly means that the knowledge that is truly African now and then must be brought to life, and used to further African development.

There is a growing recognition of the role of IK in sustainable development, and therefore the need to document it. Indeed, development programs that do not take into consideration traditional or indigenous knowledge practices have not flourished as expected. There is a need to integrate IK and western knowledge in such a way that the IK becomes the basis of the technology or development program. It is crucial that IK be integrated with modern or westernized knowledge in order to facilitate the design of sustainable agricultural systems. Ulluwishewa (1993) notes that IK can be useful in resource management; useful in planning as it also facilitates the participation of communities; it can be integrated into western knowledge to get the best out of both; it can facilitate communication as it provides an understanding of the people who own it. Indeed Ulluwishewa (1993) points out that IK is the only thing that many poor communities have: "IK represents the richness of the poor". This however, does not mean that all IK is good. Indeed, IK must be evaluated critically, so that only the best of it is used.

Benjamin Mkapa (2004), President of Tanzania, had this to say about the importance of IK in development:

> IK is a resource that can help solve local problems, a resource to grow more and better food, to maintain healthy lives, to share wealth, to prevent conflict, to manage local affairs, and thus to contribute to global solutions. IK has contributed to building solidarity in communities affected by globalization and shielded them against its negative impacts. There is not one Millennium Development Goals to whose achievements indigenous knowledge cannot contribute.

It is a fact that IK is disappearing as modernization, urbanization and globalization take place. Traditional channels of oral communication have been disrupted (Kothari 1995). Gone are the days where children would sit around a fire at the *masimo* and have stories and riddles told them. Stories and riddles that were rich with meaning and messages about the dos and don'ts of life in general. Many of today's youth are born and bred in towns and cities, and some hardly visit or feel any connection to the rural areas where their parents or grand parents might have originated from. Many of the youth in developing countries identify more with what they see on satellite TV, and they look, dress and talk no different from their counterparts in the US or in Europe.

According to Sahai (n. d.), indigenous knowledge is technology – IK is described as a technology that "has been acquired through a few thousand years of experience, trial and error and incremental refinement". It is therefore for this reason that IK must be documented as it can offer ways of doing things that may be more cost-effective or have less adverse effect on the environment, culture, etc.

Examples abound of indigenous knowledge that has been appropriated by pharmaceutical multinationals because no one was able to claim the IK as theirs since it was not documented. Documenting IK is a way also of validating IK and granting it protection from piracy (anon.). By putting IK in the public domain, one is able to protect it from patent claims. Documentation provides evidence that IKS belongs to local communities, and would allow local communities to claim shares in profit from commercialized products derived from IK (Handawela 2001).

It is crucial to document IKS because it may lead to increased use of IK in policies, programs and decision making in general (Ramirez & Holmes 2004).

How to document IK

There are a number of ways and methods of documenting IK, many of them have already been tried and tested. They include the establishment of IK resource centres, research into IKS, setting up of IK websites, databases and databanks.

IK resource centres

Suggestions were made as far back as 1992 by Warren to establish national indigenous resource centres. Indeed, Warren has been instrumental in the establishment of 11 such resource centres in Nigeria, Mexico, Philippines, Indonesia, Ghana, Sri Lanka, the Netherlands, Brazil, Burkina Faso and Germany (Rajasekaran, Martin & Warren 1993). Such resource centres have been set up with the objective of acting as clearing houses for collecting, documenting and disseminating IK. Rajasekaran, Martin and Warren (1993) enumerated some of the functions that such centres would perform:

- "Provide a national data management function for published and unpublished IK documentation
- Design training materials on methodologies for recording IKS for use in training institutions and universities;
- Link rural people and the development community;
- Engender the active participation of rural people in the conservation, utilization and dissemination of their specialized knowledge".

Ulluwishewa (1993) adds more functions which include undertaking research projects to establish the scientific and economic validity of indigenous technologies and to evaluate the cost effectiveness of incorporating IK components to development projects. To date, 14 such resource centres can now be found in Africa in countries such as Nigeria, Ghana, Burkina Faso, Sierra Leone, South Africa, Cameroon, Kenya, and Tanzania.

Research into IK

A number of international organizations are involved in documenting IK. UNESCO is addressing IK in its activities in education, science, culture and communication. Specifically UNESCO is involved in the Local and Indigenous Knowledge Systems (LINKS) project which "focuses on the interface between

local and indigenous knowledge and the MDGs of poverty eradication and environmental sustainability. It addresses the different ways that indigenous knowledge, practices and world views are drawn into development and resource management processes" (Local and Indigenous Knowledge Systems [LINKS]).

The International Development Research Center (IDRC) of Canada launched an initiative to conduct research into knowledge systems (ROKS) in 2001 in support of research into traditional knowledge systems.

Countries such as South Africa and Swaziland have engaged in research projects aimed at documenting IKS. Research was conducted aiming at documenting IK in Swaziland focusing on application of IK on agricultural practices, natural resource management and livelihood systems (Dube & Musi n. d.). In South Africa, a survey whose purpose was to audit indigenous technologies was carried out. A result of this audit was identification of different indigenous technologies in different communities in South Africa and the recording of these in a national database.

In Eritrea a group of researchers began the process of documenting IK in 1982. Their objective was to "identify and understand IK of the Eritrean people's in a socio-economic context" (Pidatala 2001). The research attempted over a period of 20 years to study the socio-economic and cultural activities of the ethnic nationalities in Eritrea. This involved study of the practices of these groups and to capture and document these. The following steps were taken in this process:

1. Group IK into categories such as land use, farming, astrology, cultural rituals, traditional medicine, family, etc.
2. Selecting of a target culture by region and/or ethnic group; identify IK bearers within
3. Collect IK – use questionnaire, panel discussions, etc
4. Validate – exchange across panels, field visits, etc
5. Record and store by category on the computer
6. Publish – delineate into public and private information; publish public IK in print (encyclopaedia) (Pidatala 2001)

IK websites and databanks

Unfortunately, many of the web sites that are to be found on the Internet are mainly developed in developed countries. Many of the IK centres located in developed countries do have a web site presence. In addition there are a number of international organizations that have sites where IK is documented. These include: the American Society for the Advancement of Science which has developed a Traditional Ecological Knowledge Prior Art Database (TEK*PAD) which is aimed at archiving traditional knowledge in order to establish and protect IK as prior art. The Netherlands Organization for International Cooperation in Higher Education (NUFFIC) maintains a site that documents indigenous knowledge. They have until recently published a journal for issues on IK called the IK Monitor. The World Bank also maintains an IK Program website which is a

gateway to other sources of IK and aims at the integration of IK into development activities.

Communities documenting IK

Several writers have stressed the need to include communities in IK documentation exercises and activities to avoid the activities being just an extractive exercise. To encourage such participation of communities in the documentation of IK, a strategy might be for whoever is responsible for a larger project on documenting IK, to commission communities themselves to document their own IK. This has worked in Kenya where the Kynanika Adult Women Group (KAWG) were involved in a project to conserve the diversity of Kitete - a bottle gourd that is found in the Kamba's traditional and cultural life (Morimoto 2003). This was a project between the women's group, the Kenya Resource Center for Indigenous Knowledge (KENRIK) and Kenya Society of Ethno-ecology.

In addition, it is important that IK should be documented in indigenous forms of communication and documentation. For example, it could be documented in oral or pictorial form. After all, documentation of IK should be targeted mainly at the communities who own the IK.

Challenges in documenting IK

Documenting IK is not an easy enterprise and there are many challenges facing it. Ngulube (2002) has noted four main areas being, methodology, access, intellectual property rights, and finally, media and format of storing IK. Whilst the above is true, the overarching issue is that of resources – the capacity in terms of skills and expertise and the financial wherewithal. For many developing countries, documenting or even considering the worth of IK has not been seen as a priority, and is still not being seen as such even in spite of the great demand for IK by western scientists and corporations. Activities towards documenting IK are largely carried out by interested researchers with assistance from international funding bodies. Many such projects eventually grind to a halt because of lack of support as donors pull out. Governments themselves have not taken the lead in advancing the documentation of IK. There is a need therefore for governments to push for such centres.

There is a need to have individuals with the expertise to research conduct into indigenous knowledge – the ability to work within communities in a non-threatening, and non-demeaning way that would encourage communities and IK gatekeepers to give freely of their knowledge. People with research skills that would elicit the IK together with insights and understanding of the context of the communities who own the knowledge. There is need for individuals who are well versed in participatory research techniques.

Kothari (1995) raises the issue of who does the documentation, and for whom. The question relates to the fact that a lot of research into IK is carried out, but the

results usually benefit scientists and others, leaving out the communities themselves. As we consider documenting IK, there is need to consider the target – should it be communities or should it be scientists and other outsiders. Documentation should be conducted for the benefit of communities. This of course means that communities should participate in the documentation activities.

The above argument then leads us to Agrawal's (1995) point on *in situ* preservation of IK. He posits that in *ex situ* documentation, the aim is to isolate and document IK in internationally accessible databases and other sources. This negates the fact that IK is dynamic and tied in with the context and culture of the community who own it. It also places it out of the reach of the community who need to have access to it, to add to it and enrich it as cultural dynamics play themselves out. If IK is to be useful to the communities, documentation must be *in situ* – the communities must be involved in its documentation and it must be documented in the formats and languages best understood by the communities.

Simpson (n. d.) recounts the case of the Aboriginal people in Australia, where a project was initiated to document IK, and communities were assured that they would benefit from the project, but nothing came to pass. The reason for this was that the project was conceptualized without consulting and including the community by western researchers, academic and government personnel. The result was that the focus was more on the ecological aspects of IK and not on the spiritual foundation. Simpson further notes that conversion of IK to a written form has the impact of separating the knowledge from its context – relationships, world views, values, ethics, culture, process and spirituality - that give it meaning, resulting in separation of knowledge from the people who own it. Eyzaguire (2001) notes "IK is embedded in local cultures, cosmologies and local ways of doing things. Taking validated nuggets of IK out of its cultural context looses some of the IK's significance". In addition, the communities have no power over how the knowledge is collected and its interpretation and use.

Another major issue has been that of how to store IK and what formats to use in doing so. It has been noted that IK can be stored in databases, knowledge bases, and websites. At issue though has always been the question of access to the technology for rural communities. If the aim is to ensure that IK is documented for communities then efforts must be made to ensure that the communities have access. For example where the knowledge is stored in databases and websites, how do we ensure its access to the communities who own the IK. However, much as this may be a problem given the so-called "digital divide", it is possible to provide access through local telecentres (Chisenga 2002). Gonzalez (1995) has suggested the use of knowledge based systems and geographic information systems as tools that may be used to document indigenous knowledge. However, he also notes that although computer information systems are being used to manage natural resources and the environment, there is a need to integrate IK into such systems. IK may be stored

in databanks and websites, however, issues of accessibility for local communities should be considered. It is quite conceivable to develop programs that can be used by rural and illiterate communities.

The challenge of documenting IK involves intellectual property rights. The main concern is that whilst documenting IK generally serves to stake the claims of communities to it, how do we apply intellectual property regimes that are generally individualistic to knowledge that is communally owned? Moreover, when we consider IK that is documented in electronic formats, how do we guarantee that the intellectual property rights will be safe-guarded in an environment where copying of ideas is very easy to do? These are some of the issues that must be carefully interrogated when IK documentation is considered.

Conclusion

Quite clearly there is a need for IK to be documented to prevent its disappearance and to ensure that development programs integrate IK. How IK is documented can be agreed upon if information professionals such as archivists, documentalists, librarians and museum curators collaborate. This collaboration must also include other scholars and researchers such as sociologists, historians, archaeologists, scientists, computer scientists, etc who will bring to the table expertise in researching amongst communities as well as application aspects of IK. In short, in spite of the challenges that have been identified in this article, a multidisciplinary approach towards documenting IK must be taken which can find ways and means of addressing the challenges. Documenting IK is not only the preserve of information practitioners, but must include other scholars and stakeholders. More importantly, communities must be involved from the inception to the final stages of documenting IK, including participation in decisions concerning the formats and media as well as issues of access for communities.

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