Marginalised knowledge: An agenda for indigenous knowledge development and integration with other forms of knowledge

Dennis N. Ocholla

The purpose of this chapter is to re-examine indigenous knowledge (IK) in order to suggest an agenda for its development and integration with other forms of knowledge. The chapter discusses what marginalisation of IK means, examines the challenges of integrating IK into the mainstream of other forms of knowledge, and suggests an agenda for IK development. The agenda focuses on mapping and auditing IK capacity in Africa, legal and ethical issues, IK management, IK education and training, integration of IK and KM, and IK brain drain. The chapter concludes by recommending that information on IK be widely shared for evaluation, use and further development.

Contents

Author's details

Prof. Dennis N. Ocholla

Department of Library and Information Science, University of Zululand, X1001, KwaDlangezwa 3886, South Africa

✉ docholla@pan.uzulu.ac.za

Introduction

Present-day literature proffers several definitions of indigenous knowledge (IK). The broadest of these (see, for example, NRF, 2003), which we intend to use, defines IK as:

... a complex set of knowledge and technologies existing and developed around specific conditions of populations and communities indigenous to a particular geographic area, [with an emphasis on how] these forms of knowledge have hitherto been suppressed […] therefore, IKS should be brought into the mainstream of knowledge in order to establish its place within the larger body of knowledge.

Essentially, indigenous knowledge (i.e. local/ traditional/folk knowledge/ethnoscience) is a dynamic archive of the sum total of knowledge, skills and attitudes belonging to, and practised by, a community over generations, and is expressed in the form of action, objects and sign language for sharing. Numerous examples (e.g. Kaniki & Mphahlele, 2002:4–6) exist as to how IK thrives in the following areas (World Bank, n.d.):

- Beliefs
- Medicine (traditional medicine using herbs)
- Community development (e.g. communality or the *ubuntu* support system)
- Art and craft (e.g. pottery)
- Sealing
- Energy production (through charcoal burning)
- Education (knowledge transfer over generations)
- Communication and entertainment (festivals, drama, songs, dances, storytelling – what we today could call "reading clubs")
- Farming practices (soil conservation, intercropping, farm rotation)
- Food technology (fermentation, preservation)
- Arts and crafts (e.g. painting, carving, decoration, weaving,)

These skills, knowledge and attitudes, when shared, adapted and refined, sustain communities and bring development in areas such as:

- Healing (e.g. alternative/traditional/herbal medicine; physical and mental fitness; the Maasai's treatment of foot-and-mouth disease; the Fulani's treatment of cattle ticks with *Euphorbia* plants)
- Nutrition (e.g. vegetarian cuisine; the *Hoodia* stem/cactus used by San people to stave off hunger and control thirst on hunting trips)

- Wealth, income and business (e.g. intellectual property, tourism, the informal sector or small, medium and micro-enterprises)
- Education (e.g. customs, traditions, culture, language)
- Entertainment (e.g. traditional music and dance)
- Politics (conflict resolution through an *indaba, baraza, imbizo, kgotla,* etc.)
- Architecture and design (some wonderful African architecture exists in Egypt and South Africa; clothes/attire), and countless more.

One of the focus areas in knowledge management (KM) is the conversion of intangible knowledge (i.e. indigenous knowledge) into tangible knowledge. Nonaka & Takeuchi (1995:62) define intangible knowledge as personal knowledge that is created through individual experiences. It is largely embedded within the culture and traditions of individuals or communities. Tangible knowledge, on the other hand, is recorded, documented or codified knowledge, widely conveyed through formal language – textual, electronic or digital. The manner in which this kind of knowledge is presented has made its storage, conveyance and sharing extremely easy and its popularisation overwhelming.

However, Nonaka & Takeuchi (1995:8) caution that tangible knowledge and intangible knowledge are not two entirely separate entities – they supplement each other. This is an area in which the integration of IK into mainstream knowledge and, more particularly, into knowledge management, is inadequate. Knowledge, according to these authors, is created and extended through the social interaction between tangible and intangible knowledge, and may follow four basic patterns:

- Intangible to intangible (socialisation), where individuals share intangible knowledge through personal contact
- Intangible to tangible (externalisation), where the knowledge base is extended by the codification of experience, insight and judgment so that it may be utilised by others
- Tangible to tangible (combination), where individuals combine the tangible knowledge of others to create a new whole
- Tangible to intangible (internalisation), where individuals use others' codified knowledge to broaden their own intangible knowledge

This chapter re-examines IK in order to suggest an agenda for its development and its integration with other forms of knowledge.

What does marginalisation of IK mean?

Marginalisation refers to exclusion – a state of being left out or insufficient attention being given to something, for example IK. Although IK (which is still largely tacit or intangible) is inseparable from any realistic knowledge and KM or classification paradigm, marginalisation of IK has occurred over the years and has retarded its development and integration. While IK has existed within our communities since time immemorial – indeed, there is no community that does not have elements of IK – the degree of such possession varies, and seemingly the more a community possesses or practises it, the more the individual or community is marginalised or stigmatised.

There are many speculative causes or reasons as to why this occurs. Of these, some stem from the characteristics of IK, namely:

- Tacit knowledge is not codified or systematically recorded, and is therefore difficult to transfer or share.
- It lives solely in the memory of the beholder and is mostly oral, meaning that unless transferred, it dies with the beholder.
- It is embedded in the culture/traditions/ideology/language and religion of a particular community and is therefore not universal and difficult to globalise.
- It is mostly rural, commonly practised among poor communities, and is therefore not suitable in multicultural, urban and economically provided communities.

The marginalisation of IK can also be seen in the light of how some global organisations, such as the World Bank and the Netherlands Organisation for International Cooperation in Higher Education (NUFFIC), associate IK with the poor. For example, World Bank Group (n.d.) states:

Indigenous knowledge is also the social capital of the poor, their main asset to invest in the struggle for survival, to produce food, to provide for shelter or to achieve control of their own lives.

Marginalisation has also occurred because families and communities are becoming increasingly disintegrated and globalised, a trend that may have stemmed from the push and pull of technologies and the overextensive supply of mass products, services, mass media gadgets and content to private spaces where IK once thrived.

During periods of domination, which have been varyingly described with terms such as "forced occupation", "invasion", "colonialism", "servitude", "apartheid", "ethnic cleansing" and "imperialism", IK was subject to yet another level of marginalisation. It was often referred to in a negative or derisive manner, with phrases such as "primitive", "backward", "archaic", "outdated", "pagan" and "barbaric". This demeaning reference did not create space for IK's integration with other forms of knowledge, commonly referred to as "scientific", "Western" or "modern knowledge" (largely products of explicit knowledge). Thus, if a community or a person recognised and utilised IK more, then that community or person was supposedly inferior to those that did not. Put simply, a person or community practising or using IK was stigmatised.

Therefore, in order for an individual or community to be admitted into a "civilised" or modern society, that individual or community had to abandon practising and using IK. IK was vindicated, illegitimated, illegalised, suppressed and abandoned by some communities, and the countries and peoples practising it were associated with outdatedness, a characteristic most people find demeaning. This form of marginalisation produced a generation which, for the most part, does not understand, recognise, appreciate, value or use IK. Arguably, this situation has produced an intellectually "colonised" mindset. These are communities that the celebrated world novelist, Ngugi wa Thiongo, in his essay "Decolonizing the mind: The politics of language in African literature", considers intellectually colonised. The question is how much they have gained through losing. Or, put another way, how much have they lost through gaining?

Marginalisation has also been fuelled by stereotypes. There has been a tendency to associate IK with traditional communities. Studies on IK tend to focus on the poor, the developing countries, the Aborigines of Australia, the Maoris of New Zealand, the Saskatchewan of Canada, the American Indians of the US, the Maasai of Kenya, and so on. The nature of these studies raises problematic questions, such as:

- Are the studies done to improve the welfare of the communities, or are they done to demean such communities?
- Would such studies be done in order to gain and share knowledge on how well the communities can solve their problems by using IK systems and methods?
- Are studies done to unravel or demystify the stereotype paradigm? Alternatively, are such studies merely adventurous outlets justifying where research money has been spent?
- Would it not perhaps also be interesting to study the IK of Western or industrialised communities? Whereas much can be gained from IK studies conducted on any community in the world (since each community contains elements of IK), the demeaning tendency to focus IK studies on traditional and poor communities has been an added cause of marginalisation.
- Ultimately, has marginalisation occurred in the way we define IK in relation to broader knowledge or in the context of KM?

A definition of knowledge worth challenging in this context is that of Bell (1973:176):

Knowledge is that which is objectively known, an intellectual property, attached to a name or a group of names and certified by copyright or some other form of social recognition (e.g. publication).

Bell's definition of knowledge is a good example of modern or Eurocentric definitions of knowledge that can easily be used to marginalise or exclude IK, particularly if knowledge must be attached to a name or a group of names and certified by copyright or some form of social recognition. This could be a biased approach that favours modern knowledge, recognises explicit knowledge at the expense of tacit knowledge, and emphasises codification and the ownership of knowledge that IK does not necessarily comply with.

Challenges of integrating IK with other forms of knowledge

Fundamentally, integrating IK with other forms of knowledge first begins with knowledge creation and development processes that can be viewed in six steps, all of which are recognised by the World Bank (1998):

- The first step or process includes recognition and identification, in that IK has to be recognised, identified and selected from a multitude of other knowledges.
- The second step involves IK's validation or affirmation by identifying its significance, relevance, reliability, functionality, effectiveness and transferability. This signifies an ability to support problem solving. For example, the HIV/AIDS scourge, particularly in Africa, has invited a number of IK experimentations, most of which have not been validated (i.e. tested over time and used for problem solving), culminating in disaster in many cases. There are also interesting IK developments and practical achievements that are worth considering (World Bank, n.d.).
- The third step involves codification, recording or documentation. Explicit knowledge thrives because of its tangibility, shareability, transferability and storability, etc., all of which originate from knowledge recording systems. Although there are some contestations to the recording of IK – the argument being that IK owners easily lose moral and material ownership of their intellectual property or capital, which is relegated to third parties – explicit knowledge thrives because of its visibility, access and use.
- The fourth step consists of the storage of IK for retrieval. This requires the creation and development of IK repositories requiring taxonomies, databases, recording, indexing and preservation for easy access and use. The IK database developed by the World Bank (n.d.) and those listed by Le Roux (2003) are essential examples. However, although IK databases are a brilliant idea, reliable content in the databases would be of greater value. (An example of a World Bank database for Kenya is given in Table 1.)
- Evidently, creating meta-data capturing capabilities and multiple-storage approaches is becoming increasingly essential. The fifth step borders on IK transfer. Such transfers go beyond focusing on human recipients.
- Following this, the sixth step would be the dissemination and use of IK. The knowledge is put to the test for acceptance and further validation with a view to development. Therefore, in essence, the six steps or processes are essential if the gap between IK and other forms of knowledge is to be closed.

The second consideration for integration borders

No.	Country	Domain	Technology	Title
10	Kenya	Agriculture	Agriculture	Botanical knowledge of the Maasai
41	Kenya	Health, nutrition and population	Traditional medicine	Medicinal use of plants to alleviate health problems of both humans and livestock
42	Kenya	Environment	Biodiversity, conservation	Taboos restricting felling of trees in the Maasai steppe
43	Kenya	Agriculture, environment	Agricultural meteorology	Weather forecasting on the basis of astronomy and ecology
44	Kenya	Agriculture, environment	Biodiversity, taxonomy	Use of plants and animals determines their taxonomy
46	Kenya	Agriculture	Taxonomy	Classification of livestock disease names assists the Maasai in sharing knowledge, diagnosing diseases and preventing their impact
47	Kenya	Health, nutrition and population	Knowledge management	Sharing of medicinal knowledge among the Maasai
51	Eastern Africa region, Kenya	Agriculture, health, nutrition and population	Biodiversity	Traditional societies in East Africa use wild plants for different purposes and means to survive
58	Eastern Africa region, Kenya, Tanzania	Education	Informal education	Storytelling is the traditional means to bridge past and present and to transfer ethical values through the generations
63	Kenya	Health, nutrition and population	Traditional medicine	Use of plants for their antibiotic effects

Table 1: Indigenous knowledge records – search results in the World Bank database on Kenya

on pragmatism; thus, what can we reap from IK. Other forms of knowledge have thrived because of their functions, importance or benefits. The recognition and development of IK are picking up momentum, largely due to the benefits being derived from it. For example, as mentioned, IK is increasingly being used for health services and agriculture, among other things. IK activities and practices are reported by the World Bank (n.d.) in its *IK Notes on Indigenous Knowledge and Practices*, which covers 93 documents from 1998 and largely focuses on Africa and Eastern and Southern Asia (e.g. India and Sri Lanka). These notes show ongoing activities and practices of tremendous achievement in the field of traditional medicine and health, agriculture, biodiversity, education, natural resource management, conflict management, energy generation, preservation, etc. that are of great benefit to those communities.

Additionally, business and trade through tourism have created significant interest in indigenous food, arts and craft (weaving, painting, sculpture, pottery, etc.). Significant growth has also been driven by pharmaceuticals. Unfortunately, most IK practices are currently being held in the informal sector or unregulated economy, and are therefore subject to abuse. It is acknowledged that IK provides skills, experiences and insights into individuals and communities which may, in turn, be used to improve the livelihoods of those mostly situated in the informal sector of the economy (World Bank, n.d.). Furthermore:

- IK provides local communities, especially the poor, with problem-solving strategies.
- IK is an important contribution to global development knowledge.
- IK systems risk extinction.
- IK is relevant for the development process.
- IK is an underutilised resource in the development process.

Thus, learning from IK by investigating first what local communities know and have, can

assist with understanding local conditions and provide a productive context for activities designed to help communities (World Bank, n.d.).

However, the said document strongly views IK to be a survivalist instrument of development, meaning that its use is likely to occur less in areas where the lives of communities are better, or beyond the norm of survival. Will this be the case with pharmaceuticals, IK practitioners or even IK users, some of whom are not poor, and do not belong to the rural community? Put another way, how many people are employed in the IK industry who are not poor or do not come from poor communities? Despite the rather sad denigration of IK, the World Bank recognises that IK could be relevant in at least three levels of development, the first being its importance to the local community in which the IK knowledge owners live and practise.

Secondly, development agents such as non-governmental organisations, civil society and governments need to recognise, value and appreciate IK while integrating with local communities. Essentially, before incorporating IK into their approaches, they need to understand and critically validate it against the usefulness of their intended objectives. There are unique examples, such as South Africa's recent policy document, "Indigenous knowledge systems", produced by the Department of Science and Technology (South Africa, n.d.), where the government has integrated IK health workers, such as traditional healers, into mainstream national healthcare services through traditional health practitioners legislation. This mandates the establishment of a "Traditional Health Practitioners Council to preside over the activities of approximately 200 000 South African traditional healers". According to the said policy document (South Africa, n.d.):

The Traditional Medicine Strategy of World Health has noted that the use of traditional medicine is widely growing within Africa alone, as up to 80% of its population uses traditional medicine for their health needs, largely due to accessibility and affordability.

Thirdly, IK forms part of the global knowledge system. In this context, it has a value and relevance in and of itself. Thus, IK can be preserved, transferred, or adopted and adapted anywhere in the world. Of great significance are

some of the World Bank's achievements as at 2005, in areas such as integrating IK in Bank projects (18 cases), mainstreaming IK in development (14 cases), building capacity to facilitate IK exchanges (22 cases), collecting and disseminating IK (12 cases) and building partnerships (10 cases) (World Bank, n.d.). The third consideration is epistemological. The nature, origin, foundation, limitations and validity of IK require further exploration and interrogation. For example, Agrawal (2004), among others, identifies the key issues in a manner that poses the following questions:

- How does IK differ from scientific, modern or Western knowledge?
- How do the two differ in dealing with immediate or concrete necessities as opposed to distant and abstract issues?
- What are the methodological and epistemological differences?
- What are the contextual differences?

It is therefore necessary to provide more epistemological content, concept and context to IK in order to broaden its understanding and application to research and education in Africa and wherever else there is such a need.

Agenda for IK development

The following issues apply:

- *Mapping and auditing IK capacity in Africa (e.g. health, agriculture and food, trade and tourism).* This may involve creating an awareness of IK policies, legislations and strategies; management structures, programmes and activities; research output and recordable activities; centres and systems; support and funding; and knowledge holders and practitioners. This agenda appears to have been echoed also by Kaniki & Mphahlele (2002:14), as well as being given attention by the South African Department of Science and Technology (South Africa, n.d.) but not necessarily in other countries of Africa.
- *Legal and ethical issues (e.g. policy, legislation, intellectual property rights).* The issue of the San people alluded to earlier is an example of why legal issues are important.
- *IK management issues.* Matters bordering on management structures in a country or institution, research, visibility publication (see

Ocholla & Onyancha, 2006), IK databases, creation of an IK website for its publicity and promotion (see Le Roux, 2003) are equally valid issues.

- *Education and training.* For example, workshops, seminars, conferences, short courses, IK knowledge, fair sharing of best practices, IK marketplace, popularisation of IK (e.g. in schools and in the curriculum of education institutions), which extends to the teaching of African history and literature to students (see the African Writers Series – works written by Ngugi wa Thiongo, Chinua Achebe, Wole Soyinka, etc.), thus bringing them closer to indigenous context.

- *Integration of IK with KM.* This should feature in KM research and teaching, curriculum development, publications, funding, etc.

- *IK brain drain.* This first occurs in instances when an IK holder dies with knowledge that has not been widely shared through knowledge codification. Thus, when an IK holder dies, a whole "community library" disappears without a trace. This type of brain drain is frequently ignored, yet quite important. Brain drain also occurs in the form of migrated archives, where the IK of a community is displaced or transferred from its original location to a foreign location, thereby rendering access and use difficult or impossible. The third instance is when a community's IK disappears due to the displacement or relocation of community members as a result of natural or artificial causes or disasters such as war, flooding or urbanisation.

Conclusions

The achievements made thus far in the revival of indigenous knowledge, such as in South Africa and by the World Bank and other organisations, should be encouraged, supported and interrogated for further development in South Africa and other parts of the world.

REFERENCES

Agrawal, A. 2004. Indigenous and scientific knowledge: Some critical comment. *Indigenous Knowledge Monitor,* 3. http://www.nuffic.nl/ciran/ikdm/3-3/articles/agrawal/html. Accessed 15 May 2007.

Bell, D. 1973. *The coming of post-industrial society: A venture in social forecasting.* New York: Basic Books.

Kaniki, A.M. & Mphahlele, K.M.E. 2002. Indigenous knowledge for the benefit of all: Can knowledge management principles be used effectively? *South African Journal of Libraries and Information Science,* 68(1): 1–14.

Le Roux, C.J.B. 2003. Tapping indigenous knowledge on the world-wide web. *Indilinga African Journal of Indigenous Knowledge Systems,* 2(1): 107–113.

National Research Foundation (NRF). 2003. *Indigenous knowledge systems.* http://www.nrf.ac.za/focus areas/iks/. Accessed 10 November 2005.

Nonaka, I. & Takeuchi, H. 1995. *The knowledge-creating company: How Japanese companies create the dynamics of innovation.* New York: Oxford University Press.

Ocholla, D.N. & Onyancha O.B. 2006. The marginalized knowledge: An informetric analysis of indigenous knowledge publications, 1990–2004. *South African Journal of Libraries and Information Science,* 71(3): 247–248.

South Africa. n.d. *Indigenous knowledge systems.* Department of Science and Technology. http://www.dst.gov.za/publications/reports/IKS_Policy%20PDF.pdf.

Wa Thiongo, N. 1986. *Decolonizing the mind: The politics of language in African literature.* Nairobi: Heinemann Kenya.

World Bank. n.d. *Indigenous knowledge (IK) Program.* http://www.worldbank.org/afr/ik/.

World Bank. 1998. *Indigenous knowledge for development: A framework for action.* http://www.worldbank.org/afr/ik/ikrept.pdf. Accessed 20 May 2007.