QUEST FOR KNOWLEDGE AND KNOWLEDGE MANAGEMENT IN RURAL SOCIETIES IN AFRICA

J.R. Ikoja-Odongo

Abstract

To survive in a knowledge society, people ultimately engender a knowledge culture by grappling with Information, Knowledge and Knowledge Management: develop expertise, tools and resources in handling their knowledge. Curiously, at a time of talk of the global village, research trends show that Knowledge Management is limited to modern corporate institutions mostly located in urban areas and extensively in developed countries. This situation begs the questions: Is there no Knowledge Management in rural communities in Africa? If so how can this exclusion be solved? This paper, conceptual in nature, explores the nature of knowledge in rural communities of Africa; identifies knowledge management practices, expertise, tools and resources rural communities in sub Saharan Africa use and makes proposals for Africa to better manage its knowledge resources to become competitive. Implications for knowledge management professionals are stated.

INTRODUCTION

The world, our world is a knowledge laboratory. It is a place in the universe where we find human species ‘homo sapiens’ who over millions of years have learnt ways of generating, storing and using knowledge. The human species, unlike other creatures that rely on their instinctual impulses for survival, are endowed with superior brains that set them apart as rational beings. Knowledge is their artificial creation, a social construct and perhaps the most versatile and valuable social asset. Knowledge is a pool of human experience, which can only be known through communicating and applying it in whatever form. Human beings use knowledge as vehicle for managing issues in their lives and institutions they create. The quantity and purpose of knowledge available to them is dictated by the objectives and circumstances existing in particular environments but otherwise knowledge is available in all spheres of life and is infinite. In the developed world knowledge is flagged as a tradable resource used and reused to gain economic and business success. In developing countries knowledge is applied to cultural and social advantage. How knowledge, as an intangible resource is managed, differs from one firm, institution and from country to country and even from continent to continent. This paper is about the quest for knowledge and knowledge management in Africa.

AIM

This paper will answer the following questions: Is there no knowledge management in rural communities of Africa? If so how can this exclusion be solved? By answering these questions, the paper attempts to create some understanding that whereas Knowledge and Knowledge Management (KM) are essentially an economic affair in the companies, firms and institutions of the developed countries, in Africa and at her level of development she has knowledge and knowledge management is practiced in different context and that is for cultural and social advantages.

LITERATURE REVIEW

Three main concepts namely knowledge, knowledge management and Africa are discussed here to put them in the context of the paper. Each of the concepts is defined or explained according to statements made by different authorities. Only a sample of them is given to elucidate the meaning and purpose of each concept.

Knowledge

Knowledge has a natural coherence with everyday experience. What knowledge is, involves the cumulative understanding of human kind, an ‘everything that can be known’ that according to Calantone & Hawkins (1999) is an attribute of a person, and is the ability of that person to take effective decisions. Knowledge is a fluid mix of framed experience, values, contextual information, expert insight and grounded intuition that provides an environment and framework for evaluating and incorporating new experiences and information. It originates from and is applied in the mind of knower. In organizations, knowledge is embedded in documents or repositories and also in organizational routines, processes, practices and norms (Tiwana, 2002). Therefore Knowledge is defined as what we know.
and this knowledge involves the mental processes of comprehension, understanding and learning that go on in the mind and only in the mind, however much they involve interaction with the world outside the mind, and interaction with others (Wilson, 2002). It is a vital determinant of competitiveness and growth in institutions, firms, and countries (Abu-Rashid et al 2005) and is one of the productive resources and for that, the prime resource that has become the first asset among the factors of production (Nonaka and Takeuchi, 1995; Davenport and Prusak, 1998). Knowledge is conceptualized as tacit and as explicit knowledge. It is therefore valued here that knowledge is a resource people use for their benefit and this knowledge is available in tacit form and can be made explicit as documented experiences from records people create.

Knowledge management

Precisely what KM is about means makes a continuous debate. First, it is a relatively new concept (Jacobs, 2004). Secondly, the domain is widely distributed across fields of practice (Wilson, 2002) such as computing and information systems, Information science, Information management and librarianship, medicine, management, Artificial Intelligence etc such that one uniform definition is unlikely. Thirdly, KM is also attracting increasing research attention and most especially since 1997 when the growth has been exponential. Fourthly, there is some uneasiness about the meaning of the concept where in most cases it is equated with ‘information management’. In some cases KM is a misleading concept as argued by Sveiby in Wilson (2002) while Nonaka also quoted by Wilson prefers to use other concepts such ‘Knowledge Focus’ or ‘Knowledge Creation’ to make it better understood. KM is said to be something between two ears and only two ears as Drucker in Wilson (2002) says and the debate continues. But in all KM is a practitioner-based, substantive response to real social and economic trends.

At the very basic level KM’s main ingredient is knowledge and there are hundreds of definitions and explanations of what KM is about but a few are offered here. According to Bill Gates (1999) KM is a fancy term for a simple idea. It is about managing of data, documents, and peoples efforts. Its aim is to enhance the way people work together, share ideas, sometimes wrangle, and build on one another’s ideas and then act in concert for a common purpose. According to him KM is not a software product or a software category. KM does not even start with technology. It starts with business objectives and processes and recognition of the need to share information. It is nothing more than managing information flows, getting the right information to the people who need it so they can act on it quickly. As a general concept he reasons that KM is about gathering and organizing information, disseminating the information to the people who need it, and constantly refining the information through analysis and collaboration.

However, KM can be defined as a process of knowledge creation, validation, presentation, distribution and application of knowledge (Bhatt, 2001). It is the management of organizational knowledge for creating business value and generating a comparative advantage (Tiwana, 2002). Kidwell et al. (2000) describe it as the process of transforming information and intellectual assets into enduring value while Gupta et al (2001) consider that it to be the process that helps organizations find, select, organize, disseminate, and transfer information and expertise necessary for activities such as problem solving, dynamic learning, strategic planning and decision-making.

Therefore KM is an organized effort to espouse, develop, and support a programme of change to create and operate a knowledge environment within the organization. A knowledge environment in this context is an organization, business or government, environment that enhances the organization’s ability to deliver on its mission - e.g. competitive advantage (Al Banna, 2000). It is a discipline that promotes an integrated approach to identifying, managing and sharing of an organization’s knowledge assets including unarticulated expertise and experience resident in individuals. It encompasses identifying and mapping intellectual assets within the organization, generating new knowledge for competitive advantage within the organization, making vast amounts of corporate information accessible, sharing the best practices, and technology that enables all the above -- including groupware and intranets (Barclay and Murray, 1997). KM principles therefore recognize that it is important that organizations “know
what they know" because all organizations inherently store, access, and deliver knowledge in some manner.

The synthesis of these expositions is that KM is about people and their knowledge, expertise or intellectual capital, infrastructure such as technology as a facilitator, and communication in business environment such as ear-to-ear or computer-to-computer via e-mail. Succeeding in its management means harnessing organizational resources or assets to achieve the best and remain the best.

Africa the Continent

Africa is a well-known landmass constituting the second largest continent in the world (The World Book Encyclopedia, 1994). She has a population of about 850 million people. She occupies a land mass space of 30,300,000 sq. km. It is a biographic sub region of the world divided into 53 countries that comprise, mainly black Africans who speak more than 800 languages and dialects (African Global Competitiveness Initiative, 2005). Despite its great area, Africa is a relatively simple landmass surpassed by many schemes of development.

Much of what is known about Africa reflects indicators of a troubled continent. Despite having rich natural resources, poverty, high indebtedness, hunger, disease, wars, fragile economies, poor human resource capacity known by sharp shortages of skilled professionals are indicators for which the continent is known. Other indicators include low levels of enrolment in schools and low literacy levels. Africa is also weak in technology density. She has few information and knowledge support facilities. After nearly four decades of independence, Africa continues to fall behind due to corruption and ineffective planning of their economies. Limited development is taking place in respect of integrated information and knowledge management unlike it is in the developed world. Apparently far less appreciated has been the necessity for a systematic exploitation, on a national basis, of information and knowledge resources. Increasing dependence on foreign and international organizations for conducting research, investment and planning are a common phenomenon among our nations. Africa is a continent of rural communities.

Briefly thus, the status of Africa on the world development scene is remarkably well known. Africa is the continent that lags behind among all other major continents. The low level of development is evident in all sectors ranging from infrastructure, business, and social services to governance (Olomi, 1999). Africa’s low economic performance is not associated with inadequacy of natural resources because these are abundant and less exploited but because of poor organization and direction of human and other resources. To be effective, it is argued, economic development endeavors must be geared towards improving the organization and direction of African resources. It is these resources that will deliver Africa out of the state in which it is today.

Knowledge Management in Developed Societies

As a basis for understanding KM in Africa, it is essential to discuss how this knowledge is managed in developed countries. It is also important to understand that KM practices differ from one firm or organization to another and from country to another. Therefore only a general picture is presented.

In the developed countries, knowledge is generated within the international systems such as universities, research institutes and private firms such as Imperial Chemical Industries (ICI), Microsoft or Toyota that produce world-class products. This is knowledge of universal significance and not bound to contexts. In such countries KM is placed in three categories. The most commonly used of them is the technology-centred approach that focuses on installing and using intranet webs, Lotus Notes and other knowledge-oriented software with the influence stemming from the notion of 'knowledge bases' in the expert systems field (Wilson, 2002). The second focuses on organizational learning largely by addressing cultural and behavioral issues. And the third is where a company builds its quality through re-engineering efforts (Johannsen, 2000) making a combined use of the first two approaches.

To support knowledge management at least four components are vital, namely the availability of knowledge systems, networks, knowledge workers, and learning organizations. Then there must be commitment to:
creating new (task related) knowledge, disseminating it (sharing) throughout the organization and embodying it in the products, services and systems (Nonaka as quoted by Johannsen, 2000). This underscores one of the principal aims of KM that it must ensure transformation of knowledge from the tacit (in the head) to explicit (out of the head as physical object like a book) and from individual to collective or social knowledge (Johannes, 2000). The following example provides a good example of the way KM is managed.

Skymne and Amidon (1997) investigated the state of knowledge management in various companies around the world. Their findings reveal that nearly 90 per cent of senior managers believed that their organizations were in a knowledge-intensive business, whatever their industry. The study identified common activities in knowledge management initiatives: that is, creation of knowledge teams - people from all disciplines to develop the methods of knowledge management; sharing of best practices - from one part of the organization to another, through databases, but also through personal interaction and sharing events; development of knowledge databases - best practices, expert directories, market intelligence etc.; creation of knowledge centres - focal points for the development of knowledge skills, managing and enhancing knowledge databases and facilitating knowledge flow; collaborative technologies - the use of intranets (internal Internet) or groupware for rapid information access, intellectual capital teams - to identify and audit knowledge. Briefly this means that KM in developed countries is about getting the right knowledge at the right place, at the right time. This done, the benefits would be better customer service, improved new products coming to market more quickly, business processes continually improving, and innovative new ideas brought to commercialization.

To attain these benefits firms or organizations invest in the development of human resources, and Information and Communication Technologies (ICTs) infrastructures, including Internet and are using them to transform the way people work with knowledge in their firms. Developed countries know that knowledge is critical for development, because everything they do depends on knowledge. They are transforming the resources they have into the things they need, and that takes knowledge (World Bank, 1999).

The developed countries are doing even more. They have in place additional enablers. The culture of transparency that encourages the spirit of sharing knowledge among those involved has been nurtured; political will that encourages positive policies and maintains a conducive environment to allow people share and use knowledge are known across society; enhanced educational institutions to produce skilled knowledge management workers who understand, and are motivated to design strategies and apply this knowledge and technology to attain increasing levels of production are in place and continue to improve or expand. The right of everyone to know has become solidly entrenched and accepted as one of the norms of social interaction (Kazimi, 2005). It proceeds therefore that a society realizing the benefits of using knowledge, is an information society. This is a society where most persons are employed in knowledge-based activities. That is what firms, organizations of developed countries have been able to achieve and continue to build on. Could these standards be applied to the African context as well or does Africa provide a scenario that would require another way of dealing with its knowledge and knowledge management practices? These are some of the mind searching questions this paper tries to answer.

**ISSUES IN KNOWLEDGE MANAGEMENT IN AFRICA**

Before tackling knowledge and Knowledge Management in Africa, it is necessary that I raise issues that impact on its management. The argument is that without knowing them, it is likely that we may misrepresent why knowledge is managed the way it is done in Africa. Managing knowledge like it is done in the developed countries requires certain enablers. For instance, one of the significant inputs to KM is good education and high literacy levels. How does Africa fair on this? Enrolment in schools in Africa is among the lowest in the world. Africa is also known for its low literacy levels. Uganda is for instance 32 percent illiterate, and Mozambique, 30 per cent (Africa Education Initiative, 2005). This undermines content creation and use of knowledge. Even the people capable of using IT are few and restricted to few institutions. The point is that education is the key to creating, adapting and spreading knowledge. Basic education increases people’s capacity to learn and integrate information (World Bank, 1999).
Another great facilitator in KM is Information Technology (IT). This is equally inadequate in Africa. Though not a sufficient condition for KM, it is a necessary condition for it (Arora, 2002). IT makes it easier and faster to catalogue and convey this knowledge. Constraints associated with ICT are: high cost of access to telecommunications, Government policy towards ICT, underutilization of existing technologies, limited indigenous base; digital illiteracy (Mutula, 2004). Jain also quoted by van Wyk (2004) identifies a few more as: a lack of skilled and trained manpower, inadequate IT exposure in schools; lack of national IT policy; poor communication infrastructure; ignorance of IT benefits; expensive ICT equipments and resistance to change. Additionally the continent suffers from various shortages such as PCs, partial Internet access, and inadequate telephone lines etc. This situation is exacerbated by high costs of access, inappropriate or weak policy regimes, and lack of locally created content (Acacia, 2004). Low bandwidth and high dial-up tariffs levied on Internet users, inability to sustain IT equipment confound the situation. The IT use is made even more difficult due to utility infrastructures. The electricity needed for supporting any digital technology is largely deficient in Africa (Bakuli in Mutula, 2004).

Against that background, there is no doubt that Africa which “owns” a great deal, both in terms of natural resources, as well as human resources, paradoxically finds itself languishing in an almost inexplicable state of poverty and underdevelopment. The greatest threat facing Africa according to Al Banna (2000) are neither technology, lack of capital, illiteracy, nor threats of diseases – thought all of these are serious threats, but existing social impediments to the rapid creation of new knowledge, the rapid diffusion of innovations, and the recycling of new knowledge. Another threat seems to be a belief system – its culture – that is more focused on identifying and fending off threats, perceived or actual, from inside or outside, than enabling local, social mechanisms of change to flourish and lead the change process (van Wyk, 2004). Therefore if Africa is to log in to knowledge management circuit, those are the issues to be addressed because they are the very issues stalling her knowledge management development.

Under those conditions, one would be tempted to say that KM in Africa is impossible or if not impractical. But this is not so. Managing knowledge in Africa has been and still is possible. Africa has knowledge and a lot of it and knowledge management is practiced in African societies. The way that knowledge is managed and what this knowledge is managed for is what make the difference. Africa can continue to manage its knowledge the way it is and remain stagnant but to move the continent out of the state of underdevelopment she is in require a new approach towards business knowledge management. This is how the exclusion gap will close.

**KNOWLEDGE AND KNOWLEDGE MANAGEMENT IN AFRICAN SOCIETIES**

In terms of knowledge and KM, Africa has specific status. Though it has knowledge, the focus for which this knowledge is used is different. For most of Africa, the widely available knowledge is the indigenous knowledge (IK). This knowledge is context related. Different people have different types of IK. There are those who are skilled in traditional medicine (TM). There are those who know how to set bones. There are artisans, potters, hunters, and there are custodians of culture and so on. IK is therefore a social product restricted to cultural and environmental contexts and shared through social networks. The other type of knowledge available in Africa is formal knowledge. Formal knowledge is limited and centred mainly in universities, research centres and industries.

Africa uses its IK mainly for social advantage and not for a competitive, and comparative advantage. It is survival knowledge amidst the untapped plenty. Therefore the quest for knowledge and Knowledge Management in Africa should not be looked at in the space of the already existing IK but something beyond. It must be knowledge that will liberate Africa from its problems. Africa’s knowledge is used as a basis for local decision-making pertaining food security, human and animal health, education, natural resource management, and other vital activities (van Wyk, 2004). This gears up to the point that Africa provides a scenario that requires another way of dealing with its knowledge and knowledge management practices.
AFRICA'S KNOWLEDGE: TACIT OR EXPLICIT KNOWLEDGE?

Much of Africa’s knowledge lies with the illiterate and semi illiterate though experienced people, which is the opposite of developed countries where executives are knowledge managers. Except perhaps for South Africa or Arab north, Africa is still at the stage of pre capitalist stage of development. This makes Africa a long way away. African knowledge is tacit mostly but one that becomes explicit from activities people do within their localities. Little is written and a lot of it is discriminated against by the educated as a sector of primitivity. It is exchanged ear to ear. This form of knowledge is mostly shared orally, and practically. It is less development-oriented kind of knowledge. And it is estimated that Africans have knowledge on anything that attracts their attention but when defeated, they resort to speculation or metaphysics. This is the problem that has to be tackled and Knowledge redefined for Africa.

Africans practice KM in many ways. They for example, study winds directions, cloud formation and mist presence to determine weather changes without weather equipment. African people can tell seasons without the aid of technology. Specific indicators help them in determining the onset of say the rainy season such as flowering of plants, movement of bees. Africans know how to preserve foods using different traditional methods. Africa takes advantage of abundant supply of solar energy to preserve their food and other activities. They know what indigenous plants to eat and those not to eat. They know plants to harvest for people and animal treatment as herbal remedies. African pharmacy is their bush. Customs play a big role in knowledge management because it is from them that knowledge is stringed from generation to the next. Age sets are significant in this regard. Science and Technology are available in Africa though rudimentary and exists in the form of manufacturing systems like iron smelting in traditional furnaces to make tools by casting iron. African artisans for example make salt from its salty water such as they do in Uganda’s Lake Albert by process of vaporization and digging salt slabs from the lake floor. They also know how to make salt from plants and use its distillate (Abalang in Ateso, muno kisula in Luganda, Uganda indigenous languages) for cooking food. Africans have knowledge about trapping insects, birds, animals and fishing. African technology is indigenous and limited to the needs of its people and it is affordable and largely not patented. Africa’s productive resources are its people, the land, the forests, water bodies, wildlife, and its air resources.

AFRICA'S TOOLS AND EXPERTISE FOR KNOWLEDGE MANAGEMENT

African people use specific tools and expertise for knowledge management throughout the continent. Most important of them all are the peoples’ heads that act as conservatory of knowledge. The shortcoming of this tool however is that “an old person dying is like an entire library burning. Unfortunately no one can prevent old people from dying, but one can produce books so that knowledge does not die with them.” (Mba, n.d). This is the danger with this knowledge although it is very important. But because most of it is tacit and the most knowledgeable people are the elderly who die irreplacably, it is difficult to retain it the same way for long. Therefore KM becomes extremely difficult. It is perhaps the reason developed countries developed ways to make that knowledge explicit.

Other ways are customs in which totems, norms and mores play a significant role. Totems can either be animals, birds or other natural objects that are chosen and respected as a symbol of tribe or family. It is through totems that people personalize the spiritual world and humanity becomes immortal.

African peoples use story telling as a means of sharing information. Other ways are group activities such as ceremonies (marriage, birth, burial, festive seasons), fables, riddles, proverbs, parables, poetry, folklore, music, dance and drama to educate themselves and disseminate and thread knowledge among different age groups and chaining their knowledge and practices from generation to the next.

Gathering under a huge tree in a village on appointed days is a moment for (networking facility) information, knowledge and knowledge sharing. Compound hearth (fire place) is a family meeting spot during evening times for knowledge sharing, education and knowledge exchange. Communal watering spots (wells and swamps) are centres where female
folk and pastoral herders meet and exchange among others things, knowledge. Market places are institutions for knowledge access. Hunting episodes are moments for information and knowledge sharing just to mention a few. In all these, persons with knowledge and wide experience keep passing knowledge about the best practices of a trade to others and the chain continues.

All this knowledge and practices are useful for Africa but cannot save Africa out of her problems of the present times such as poverty, disease and ignorance. A new approach to knowledge and knowledge management is needed. Africans must learn to select and use knowledge that can improve themselves. This is what the countries in the vanguard of the world economy have done and are doing. They were once like us centuries, ago but have shifted the balance between natural resources to knowledge-resources and knowledge has become the most important factor determining the standard of living much more than land, than tools, than labour (World Bank, 1999).

CONCLUSION

Knowledge management in Africa requires that there is need to revisit her knowledge management thinking and practices. Africa also needs to develop facilities of KM such as have an educated and skilled workforce, continuous education, ICTs, reassuring political environment, and cultures towards hard work and positive attitudes to sharing as a way forward. African knowledge base is still limited, largely oral and little has been codified. African knowledge is vital for African communities and the world at large but she needs to shift to making this knowledge profitable without losing cultural aspects. Africa has natural resources to enable her come up. Africa needs to reorganize. By assuming responsibility for change on the continent, Africa will become a competitive continent. She needs a package of initiatives to get into the mainstream of knowledge management. Information professionals, researchers, and company-based practitioners should develop ideas to that end. Improving African competitiveness will require placing the continent to African Knowledge Development Agenda and no body else will start this except Africans themselves. “Nations and individuals who are without knowledge are certainly going to find themselves subjugated under those nations and individuals who, though not owning, do know” Mazrui in Kazini (2005).

QUEST FOR KNOWLEDGE MANAGEMENT IN AFRICA: PROPOSALS

Faced with a widening knowledge gap, social and economic gaps, Africa urgently needs careful and purposeful management of knowledge resources to create real opportunities for accelerating [her] pace of development, and possibly closed the gaps. Managing knowledge needs profound changes in culture and behaviors because managing change is not only critical to knowledge management but it also enables the leveraging of the opportunities provided by e-transformations (Al Banna, 2000).

Approaching development from a knowledge perspective – that is, adopting policies to increase both types of knowledge, knowledge and knowledge about attributes – can improve people’s lives in myriad ways besides higher incomes. For example better knowledge about nutrition can mean better health, even for those with little to spend on food. Knowledge about how to prevent the transmission of AIDS can save millions from debilitating illness and premature death. And micro credit programs can make it possible for poor people to invest in a better future for themselves and their children. In short, knowledge gives people greater control over their destinies (World Bank, 1999).

To this end, getting Africa to a level of competitiveness and have comparative advantage in some aspects requires deliberate steps towards African Knowledge Development Initiative. Commitment to African development must start from Africa itself. To fast track Africa, many things need to be re-examined. Africans need to rethink the role of knowledge they are using in their lives and seek ways to make that knowledge profit oriented. We cannot win overnight. The journey is long but every step forwards is a safe distance away from the bad. It takes time but a beginning must be made. Hard decision must come from some quarters. Some ideas are presented below.
Leadership. African leaders must learn to lead their people properly. Environment for development thrives best when a country is peaceful to develop democratic institutions that are relevant to development. African countries must develop national ethos to enable citizens’ respond collectively to development issues. Involvement of citizens in national affairs without discrimination creates room for positive attitudinal changes and national values. African countries should work towards creating enabling environment so that people have time to think positively, critically and creatively and remain focused. A lot of time is wasted in Africa discussing non-issues or issues that are discordant to development like gossiping about individuals in politics or entertainment.

Education. Countries must invest in education. There must be deliberate efforts to widen opportunities for universal primary and secondary education, and creating and sustaining opportunities for lifelong learning as a means to rid the countries of illiteracy. Governments must invest in tertiary education and put emphasis on science, technical education, management and engineering all of which are so crucial in development. This increases routes for absorbing knowledge and creates foundations for development. It builds up the labour force that can keep up with a constant stream of ideas of technological advances. It also enhances people’s capacities to harness knowledge. Governments would do this through deliberate policy framework in areas such as sponsorship, creating and increasing opportunities for technical institutions to grow, committing most resources to equipment and human resources training. The aim of this all is to develop capacity capable of participating in development initiatives such as ICT use and management so essential in knowledge management.

Research. To build African knowledge base, research is essential. Africa must first take into account its indigenous knowledge. IK is Africa’s first knowledge that should form the platform for other knowledge to be built up on. This knowledge must be captured before she moves to promote local or adaptive research and encourage the adoption of modern technologies. Local research must focus first on more essential needs of the people. Strategic institutions of research should either be established or existing ones strengthened, and adequately supported with enabling legislation to develop research capacities in different knowledge areas that countries have high potential to compete locally and internationally. Africans are not allergic to development but must be stimulated to it to grow. For example why is it that Africans are farmers of coffee but the price of this commodity is decided outside the producers land or country? Making coffee final product within the country would create competitiveness of a country in a particular crop. For this we need engineers, food scientists, food technologists, accountants, IT specialists, and other information professionals etc. This is where ideas of African Renaissance fit in.

Technological capacity. Once education especially tertiary education is aligned to science and engineering and management, African governments must build own capacity. Governments of Africa should take an opportunity to recognize and support artisans to upgrade their technologies and provide them with recognition through a mechanism of local patents and standards all of which are designed to provide innovators an opportunity to grow. This is where the developed west defeats us. The west provides Intellectual Property Rights (IPRs) to protect all their innovations and we have no chance of exploiting them to our advantage. In Africa the subject of standards and IPRs is inadequately understood. We take innovations for granted and others exploit that weakness.

Africa should be prepared to put in legislations that help her to protect her creations or innovations. For example African countries should deeply engage World Intellectual Property Organization (WIPO) to increase its involvement in the IPRs legislations such as the development of sui generis for developing countries so that these too can accommodate frameworks that are flexible enough to allow exemptions such as the protections of cultural effects, symbols, music, designs, motifs and marks like China has done (Xu, 2002). Latin America and the Caribbean have for instance actively promoted the increasing involvement of the WIPO in the development of a sui generis regime for traditional knowledge. Costa Rica’s Biodiversity Law of 1998 in section 82 protects sui generis community rights (Correa, 2002). African governments should develop proposals and pass legislation for the protection of inventions that cannot be protected under the current international patent regime but unique to their own countries. The arrangement should be such that a two-tier patent
system is presented, one that follows international regime and a local one that recognizes lower level innovations.

**Knowledge Documentation and Exploitation.** Africa especially the tropical Africa, has a vast landmass of forest containing thousands of very useful species of medicinal plants, and insects (bees) from which to obtain herbal remedies. Africa could have a big market and comparative advantage in the world in this area if her medicinal plants had been coded and conserved and exploited as prime raw materials for the pharmaceutical industries of the west or in their own countries. African countries should enact national laws about the protection of these resources especially the plants. At continental level governments through the African Union, should make regional treaties prohibiting unhampered exploitation of pharmacological and other genetic resources than it happens at present. These plants represent a national heritage resource that must be protected, promoted, developed and, where appropriate conserved for future generations. Africa should not look at traditional medicine (TM) as backward or primitive knowledge or something difficult to do. Determination is essential. African peoples need to change their mindsets and regain their honour about Africa and its creations. We can learn lessons from other countries like India, that have taken steps to protect her medicinal resources and have codified their knowledge and gone ahead to create databases for it. This is to avoid bio-piracy. Development and strengthening of academic and research institutions for this purpose is the right direction. Besides documentation, institutions dealing with medicinal plants should move a step further to provide values why each plant is useful and what it would cost to reach an economic level to prove their value.

**Language.** A disturbing factor in development is language. Africa is home to more than 800 languages most of which have less than 100,000 native speakers. Presently the world is using mostly English language for most information and knowledge on the Internet. Africa has very little of its own knowledge there and yet it has a lot to give the world. It is a proposal here that protecting and sustaining African languages through writing and publishing and getting information and knowledge on the Internet using her languages would create a scenario that the west would require co-operation especially in things they would need in Africa and written in local languages. Africans would prepare their local content texts in their languages and ask for a payment for information to be translated. After all not all information and knowledge is free on the Internet. Prime knowledge is encrypted and can only be accessed upon payment. So far Africa generates only 0.4 percent of global content (Chisenga, 2002)

**Knowledge Sharing.** The idea that knowledge for development should be shared is obviously old and most important but the transfer of knowledge is inherently difficult. There are many roadblocks to it especially laws, languages and infrastructure that facilitate trans border information and knowledge flows. But Africa cannot develop alone without using other nations knowledge. Isolation makes things even worse. I believe Africa should push for fairer Access to Knowledge (A2K) held by developed and other developing countries. Africa needs access to a lot of knowledge. She needs not reinvent the wheel in some instances. Rather than re-create existing knowledge, Africa has the option of acquiring, adopting and in some cases adapting much knowledge already available in the developed countries. African governments should convince the rest of the developed world she has dealings with that she needs their knowledge in defined critical areas. Where specific knowledge is required, it should be transferred under terms supportive to the recipient country. Such knowledge could then be adapted or adapted to suit local conditions. But if it is cheaper to rely on foreign knowledge especially in science and technology then so be it.

**OTHER CONCERN IN KNOWLEDGE MANAGEMENT FOR AFRICA**

Proposals have already been made above about what African governments can do to improve knowledge management in the continent. It is additional here that governments concern themselves with taking stock of remaining issues that act as bottlenecks to KM. For instance governments should tackle the issue of inadequacy of infrastructure (electricity distribution, telephone penetration, information institutions) necessary for knowledge management. It is important that African governments strengthen and reform their informatics and telecommunications so as to allow better
access to the Internet, as well as the strengthening of basic data and information gathering capabilities (Denning, 1998). Denning calls upon the international community to support developing countries to make faster progress on coping with the demand of the knowledge era through training, benchmarking, consulting, information and referral services, publications, study tours, research and advocacy. The World Development Report (1999) proposes that we look at development in a new way through adopting policy initiatives to narrow knowledge gaps between and within countries as a matter of moving from worst or average practice to better or best practice. Africa should also consider putting in place policies that foster acquisition and tapping of knowledge from different sources. For this to succeed, Africa needs more technical training in Library and Information Science, training of technical experts, National web servers and conscious government policies and committed efforts to contribute to global information (Chisenga, 2002). Taxation on ICT could for instance be reduced or removed. Technology licensing could be made easy. The countries could move forward if their economies opened up to allow foreign direct investment through favourable policies like liberalization of the economies, technology transfers are some ways to do so (World Development Report, 1999).

**KNOWLEDGE MANAGEMENT AND INFORMATION PROFESSIONALS**

Finally, there is restlessness among librarians or information professionals in sub Saharan Africa about their failure to serve people. Africa definitely requires a lot of development knowledge but this is not easy to come by in our information institutions. Knowledge in Africa is mostly tacit knowledge. How can African information professionals capture this knowledge? This is the challenge that information professionals must respond to in knowledge and knowledge management in Africa. One way in my view is for information professionals to begin with understanding of the complexities of African societies and through participatory approaches, start programmes of knowledge gathering, codification and conservation. A beginning must be made. The new approach to knowledge management through digitizing is an appropriate opportunity that African information professionals should invest their thinking and actions in. Digitalization of existing documents, manuscripts, artifacts, and making them accessible over the information super highway is one of the major ways of contributing to the cultural content of global information (Chisenga, 2002). Institutions need to develop knowledge management electronic databases, and networks. They need to compile directories of African knowledge professionals to share best practices. Information professionals should form national chapters for strengthening African Knowledge Frameworks. To do this the professionals must be guided by vision and overall strategy. Recent formation of Africa Copyright and Access to Information Alliance in Kampala (November 2005) is a good initiative in the right direction.

**REFERENCES**


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