

Tapping Indigenous Knowledge to Power the National Development Agenda: the Indigenous Knowledge Resource Centre Approach

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Abstract

The world is witnessing unprecedented impetus to leverage Indigenous Knowledge (IK) as a means of spurring development interventions. This momentum derives primarily from the appreciation that IK is vital for development and indeed a resource for addressing the myriad development challenges in different sectors. Unfortunately, due to preoccupation with ‘western’ knowledge systems the power of IK is adversely obliterated. Through literature review, this paper sought to advance understanding and appreciation of IK as a resource in national development. It concludes and recommends that Information Centers, particularly libraries should establish specialized units to handle IK – the Indigenous Knowledge Resource Centers. As a best practice, such centers should undertake action research, documentation, awareness creation, policy advisory, networking and publishing as a way of leveraging IK.

Keywords: Indigenous Knowledge; Development Interventions; Western Knowledge Systems and Indigenous Knowledge Resource Centers (IKRC).

1. Introduction

The world over, there is an unprecedented momentum to raise the profile of Indigenous Knowledge (IK). This trend has been justified almost wholly on utility of IK in development. Agrawal (2000) argued that Indigenous Knowledge (IK) forms the basis for community level decision making in areas pertaining to food, security, human and animal health, education, natural resource management and vital economic and social activities. The author further contends that, IK is used at the local levels on a wide range of issues and has been a key social capital in helping people have control over their lives. It is on this basis that

there are concerted efforts to assist communities and governments to develop and integrate IK in the development process.

IK embodies knowledge that people in their local communities have developed themselves for centuries. This knowledge is a resource that has helped people to solve local problems, grow more food, maintain healthy lives, prevent conflicts, manage local affairs and therefore contribute to global solutions. In particular, it is also acknowledged that IK can contribute to the realization of all the millennium development goals such as eradication of hunger and poverty (World Bank, 2010).

The WHO (2001) posited that many definitions are used to define IK, depending on situation and contexts which vary on the basis of field practices to methodologies. The meaning also varies depending on specific aspects that the writers want to stress. In any case, local people have their own words for the ancient knowledge and practices; the need for definition therefore only arises when the practices are translated in western terms. Generally, IK refers to local knowledge that is unique to a given culture or society. It is the basis for local-level decision-making in agriculture, health care, food preparation, education, natural resource management, and a host of other activities in rural communities. Another useful definition by the same author has it that IK is the information base for a society, which facilitates communication and decision-making. It is knowledge that people in a given community have developed over time, and continue to develop. It is based on experience, often tested over centuries of use, adapted to local culture and environment, dynamic and changing.

Njiraine (2012) refers to IK as traditional knowledge which he defined as knowledge that is held by members of a distinct community and or sometimes acquired by means of inquiry peculiar to that culture and concerning the culture itself or the local environment in which they exist. He further asserts that it is the totality of all knowledge and practices whether explicit or implicit used in the management of socio-economic and ecological facets of life. This knowledge is established on past experience and observation. It is usually a collective property of a Society. Many members of the Society contribute to it over time and it is modified and enlarged as it is used over time. It is transmitted from generation to generation. According to Mbeva (2008) Traditional Knowledge generally refer to the long standing traditions and practices of certain indigenous or local communities. TK is a cumulative body of knowledge, know-how practices and representations maintained and developed by people with extended histories of interactions with the natural environment. IK is therefore the information base for a society which facilitates communication and decision making.

Muhando (2005) looks at IK as local knowledge related to a complete body of knowledge, know-how and practices maintained and developed by peoples, generally in rural areas, who have extended histories of interaction with the natural environment. These sets of understandings, interpretations and meanings are part of a cultural complex that encompasses language, naming and classification systems, practices for using resources, ritual, spirituality and worldview. It provides the basis for local-level decision-making about many fundamental aspects of day-to-day life: for example hunting, fishing, gathering, agriculture and husbandry; food production; water; health; and adaptation to environmental or social change. Non-formal knowledge in contrast to formal knowledge is handed over orally, from generation to generation, and is therefore seldom documented.

The above perspectives of analyzing IK were summarized by the World Bank (2010) into the fundamental characteristics that underpin the concept of IK. These characteristics have it that IK is:

- Locally bound, indigenous to a specific area;
- Culture- and context-specific;

- Non-formal knowledge;
- Orally transmitted, and generally not documented;
- Dynamic and adaptive;
- Holistic in nature;
- Closely related to survival and subsistence for many people worldwide.

Categorization of indigenous knowledge into different form has also become a popular way of its analysis. Njiraine (2012) identified different forms of IK, including ecological, spiritual and astrological. In Africa, IK is often reflected in cultural beliefs, which generally derive from ancestral worship. Giving an example with the sacred belief around Mugumo tree among the kikuyu of Kenya, Muhando (2005) argued that in many African communities sacrificing cows, goats and sheep symbolized cleansing. This was practiced in many instances, accompanied by prayers for rainfall and on behalf of the sick. Apart from the cultural belief, use of herbal medicine is another defining feature of IK. The literature abound with examples of plants with medicinal values including clotlaria plant, Neem, aloe plant, sisal and the rare apple plants and many other (*Mutula n.d*). Some of these plants have been used to manage serious diseases including HIV/AIDS and cancers. Most communities possessed certain knowledge about the environmental resources which they used and still do for their continued benefit. The knowledge that cow dung has numerous benefits, for example, and its application on walls and floors and in sealing the lid of baking pots for heat preservation is all part of IK technology (Kok, 2005). Other categories of IK, have been identified variously as:

- Traditional means of education as conducted during initiation ceremonies.
- Weather prediction
- Sustainable environmental management which key to utilization of natural resources.
- Cultural festivals which were used in the past to entertain inform and educate through songs, dance and drama.
- Story telling conducted by elders in the evenings
- Traditional agricultural practices and farming methods were rich in IK.

For other theorists, the meaning of IK has been belaboured by considering the difference that exists between it in relation to western knowledge. According to warren (1989), western knowledge is centralized and those who bearer it believes in its superiority while indigenous knowledge is scattered and associated with low prestige rural life and even those who bear it believe it to be inferior. Howes and Chambers (1980) asserts that the difference between scientific and indigenous knowledge should be looked at based on scientific approaches to knowledge. Whereas science is an open system whose adherents are always aware of the possibility of alternative perspectives to those adapted to any particular point of time, the sources of indigenous knowledge are closed and rely indigenous peoples' direct experience of the workings of nature and its relationship with the social world, but oblivious of the fact there may be other ways of regarding the world ((Howes and Chambers, 1980).

Notwithstanding its prominence in mainstream society, western-based formal knowledge remains but one knowledge system, existing alongside indigenous (local or traditional) knowledge systems. Acknowledging the value of the IK has led to reconsideration of many fundamental notions about development, environmental conservation, heritage protection, and access to information and education.

2. Background Information

According to Agrawal (1995), IK has become a new area of attraction in development as demonstrated by the interest that the field has attracted among the researchers, donors, writers and scholarly debates. Earlier seen as inferior, inefficient and an obstacle to development, today's thinking has recognized the value that IK hold for sustainable development. The increased focus on IK, represents a shift from preoccupation with scientific knowledge which has failed to alter the lives of a majority of the poor over the last decades.

These arguments have placed IK at the forefront of the international development agenda. In particular, the World Bank launched the Indigenous Knowledge for Development Programme in 1988 to help learn from community based knowledge systems and development practices and to incorporate the same in development initiatives. The programme acknowledges that knowledge is not an exclusive domain of technologically advanced nations and should be used as a tool to give new meaning to empowering poor people and helping to give them voice – not as recipients of knowledge but as contributors and protagonists to their own development. Under the same programme, the WB has documented cases and notes to demonstrate how communities can use indigenous knowledge systems and practices for empowerment in areas such as agriculture, health and education. Further, in pursuing efforts towards effective dissemination of IK, the World Bank behind many initiatives related to the establishment of Indigenous Knowledge Resource Centers (IKRC).

The IKRCs act as a platform for the promotion of IK as a factor in development. These centers usually comprise of academic institutions, NGOs, CBOs and individuals engaged in study, documentation, dissemination and advocacy of IK.

One of the latest developments in the growth of IK in the world is to do with the emerging networks in IK management such as the Participatory Ecological Land Use Management (PELUM), which brings together small scale farmer from East and Southern Africa to share knowledge and skills in indigenous agriculture. UNESCO and many other donors have strongly rallied behind such cooperative networks in the recent years. Out of such initiatives, there exists a comprehensive database of best practices illustrating the good use of IK in the development of cost-effective and sustainable strategies for poverty alleviation and income generation. Such cases derive from Africa, Asia, Europe and Latin America.

Apart from the World Bank and Unesco, the Netherlands Organization for International Cooperation in Higher Education (Nuffic), in its efforts to making education accessible all over the world, especially in countries where educational infrastructure is lagging behind, has invested immense resources in becoming a centre of expertise on IK. This has also seen the institution become part of a global network and a partner on issues involving local knowledge, higher education and development. In this vantage role, Nuffic has become a clearing house for IK; facilitates efforts to make information on IK available at the interface between policy development, research and development cooperation. Most importantly, the organization maintains an international network for the exchange of information about the application of IK for the benefit of development experts and scientists. In addition, the organization has put in place different IKMS including producing a newsletter called Indigenous Knowledge World Wide (IKWW) and publishes the IK pages online.

The above initiatives parallel the UNESCO's Management of Social Transformations Programme (MOST) which started in 1994. This was the first intergovernmental social science research and policy programme to be created under a UN Specialized Agency, which aimed at fostering interdisciplinary and comparative research on important areas such as multicultural societies, international migrations, cities and urbanization, local-global linkages, poverty, governance and sustainability, that was defined to be truly international by design, conceptualization, methodology and participation. As one of its initiatives, MOST maintains a best practice database that encompasses issues to do with Poverty Eradication, Social

Exclusion/Integration, Women and Gender Equality, Urban Governance as well as Indigenous Knowledge.

The indigenous knowledge for Africa gives a clear insight on how indigenous knowledge can be applied to enrich the development process. Out of this initiative, many African countries have incorporated indigenous knowledge elements in their country's national strategies especially those concerned with poverty reduction. Such countries include South Africa, Ethiopia, Burkina Faso, Malawi, Tanzania and Uganda (World Bank, 2004). This trend derives from the efficacy and sustainability of indigenous practices in development. Again, the support of different donors has significantly bolstered the work of the World Conservation Union (IUCN). Since 1990, the IUCN had been working in South Africa on matters related to the ecological knowledge. This programme has helped in the global integration of knowledge of the indigenous people and local communities in the global programme. As mandated by its congress, IUCN is firmly committed to supporting the preservation, revitalization, and application of IK to biodiversity conservation and sustainable use within the framework of equity.

Today, there is a global move towards integrating IK into development plans, particularly those to do with poverty reduction. The countries which have made efforts in this direction include Uganda where Poverty Eradication Action Programme has incorporated IK as a component of science and technology. Not just individual countries, some regional organizations are also incorporating IK in their development strategies. An example is SADC which has included IK as a component under Science and Technology in its Regional Indicative Strategic Development Plan

In Kenya, one of the boldest policy steps in recognition of IK derives from the new constitution 2010. Article 8 of the constitution urges for respect and preservation of IK that embody traditional ways of life relevant for the conservation and sustainable use of biological diversity and promote the wider application in development with the approval and involvement of the holders of such knowledge. Prior to the new constitution, recognition of IK was reflected in different ways including the inclusion of folklore in the copyright act and the Kiswahili in the educational curriculum. However, by and large, recognition of IK at policy and institutional levels is highly inadequate (Njiraine, 2012).

3. Need for Indigenous Knowledge

Hobart (1993) argued that since the World War II, the views on development strategies have lumbered through several stages from economic growth, to growth in equity, to basic needs, to participatory development and sustainable development and that today IK stands out as the latest and best strategy in the fight against hunger, poverty and underdevelopment. Globally, many economies are strengthened by incomes from indigenous knowledge products, tangible or intangible. It is estimated that the global annual world market profit of medicines derived from plants is estimated at over 43 billion US dollars, but sadly, indigenous people receive only 0.001% of this amount (Melchias, 2001).

The World Health Organization (WHO) recognizes the enormous contribution of indigenous healing practices in health care management. Currently, 80% of the world populations depend on indigenous health care based on medicinal plants, with experience indicating that indigenous health care systems are as effective as western medicines (Hobart, 1993). The author further argues that whereas western medicines are based on germ theory, the witch doctors, soothsayers or traditional healers go deeper in to the spiritual realm to diagnose the causes of diseases. Treatment of many diseases including obesity, cancers, drug addictions and many other diseases have benefited from IK. Today many pharmaceutical companies have commercialized the medicinal values of many indigenous plants. Such companies often have agents on the ground to help them tap the knowledge of indigenous healers and run different botanical gardens, which research on plant varieties which can benefit them across Africa. Some of these plants are not only medicinal; they are used as food to sustain communities, for construction of shelter and decorations.

In the area of HIV/AIDS, indigenous solutions have been used to effectively check the spread of HIV/AIDS, working better than western approaches which are based on Abstinence, Behavior change, Condoms and Treatment (ABCD) (Sibisi, 2004). In Uganda, the operationalization of the indigenously evolved zero-grazing philosophy worked best in reducing the spread of the disease. The Tanga Aids Working Group (TAWG) in Tanzania has provided an excellent example of a low-cost sustainable programme based on IK, for the care, support and treatment of People living with HIV/AIDS (PLWHA). Under this programme there is the use of herbal medicine for the treatment of opportunistic diseases. This initiative has been fundamental in dealing with the inadequacies of the current health financing arrangements in Africa.

According to Eyong (2007) agriculture probably comprises the largest collection of indigenous practices world over. At the foundation of this lies the fact that the introduction of mechanized agriculture, fertilizer and phytomedicines has made modern agriculture to be too expensive for local people as compared to indigenous agricultural practices which were affordable. On the other side, introduction of modern agriculture and land use changes has brought about the reduction of genetic variability. In consideration of this, experts have called for the reintroduction of indigenous species of crops and animals. The problem of pests, diseases and weeds remain high in the agriculture sector. In response, many researchers have identified myriad indigenous technologies used in their control. Apart from these dimensions, IK has been used in other areas of agriculture including water harvesting, land reclamation, food security and conflict over access to natural resources. Modern science and technology had increased food productivity and agricultural output globally by propagating high yielding indigenous crops. In Kenya, this has been called indigenous food revolution identified with crops such as grain amaranth, cowpeas, jute mallow, Ethiopian kale, spider plant, African nightshade and pumpkin leaves among many others.

In regard to natural resources, Africa has rich natural resources such as forests, wetlands, wildlife, minerals, and fisheries among others. These resources have been important source of people's diet, economy, and culture. For example, people living near forests rely on their flora and fauna as source of food, medicines, building materials, incomes and sources of inspiration while rivers are relied on for fish and transportation. Therefore in many African communities, many indigenous practices were based on sense of harmony with the natural environment. In many Africa societies, it is considered a taboo to kill a pregnant female animal; some animal species could not be hunted to avoid their depletion; access to and use of water was governed by spirituality while other societies established secret sites. These were initiatives to preserve and sustain such resources. Modern life styles have come with a lot of compromises in these areas particularly in the areas of wildlife management, conservation of water catchment areas, historical sites and forest.

Among the Masai community, pastoralists immunize their herds by inoculating healthy animals with saliva from freshly diseased ones. In many indigenous societies, farmers had their own systems of weather forecasting based on observing cloud formation, birds' migration patterns, and seasonal winds among other indicators. These approaches are more popular and reliable than the newscasts by weathermen in the media.

The cases above are selected demonstrate the wide scope and application of IK in development. The list is far from complete. Some of the other unique fields that have been influenced by IK include literacy and education, local governance and democracy, healing of people affected by war, trials by jury, local negotiations, village banking and maternal health care. According to Agrawal (1995), IK has contributed to building solidarity in communities affected by globalization and shielding them from its negative impacts. On the other hand, when it comes to development, lessons from indigenous knowledge initiatives indicate that IK provide communities with development ownership, improve local capacity, self-reliance and empowerment. All these issues are critical to development sustainability, which is one of the missing links of prosperity in Africa. To this extent, building on IK will help communities to substantially reduce the risk of failure of development projects and save money from government, donors

and multilateral organizations. Therefore as a matter of synergy, IK and the global knowledge should be working together in a democratic way to foster sustainable development.

4. Indigenous Knowledge Resource Centre (IKRC)

Indigenous Knowledge has suffered for decades from several strategies of disinformation embedded in western education, science, technology and religion (Eyong, 2007). It is widely known that colonialism widely inhibited the development of indigenous technology in Africa. On the other side, modern knowledge enjoys strongly established ground for information. In all communities, IK was passed on to the next generation through oral transmission. Even the method of discovery is always intuitive, accidental, conjectural or inspirational.

Today, however, there is a cataclysm to bring IK and practices through organizational approaches that go beyond traditional institutions and systems by embracing scientific approaches. These emerging forces aim at ultimately turning indigenous knowledge and traditional practices into legal institutions accepted by the government and the larger society. For this to be realized, the existing IK must be put within the context of contemporary social, economic and cultural realities and also adaptable to continuous change. In the light of this, Steiner and Oviedo (2004) argues that the management of IK should be done in relation and combination to modern knowledge on equal footing, so that there is ultimately, an amalgamation of traditional practices and institutions with formal regulations and structures. This would provide a renewed foundation to indigenous knowledge while making the society aware of its values.

Given its value in development, all modern societies have demonstrated interest in leveraging their indigenous knowledge. Given the fear that indigenous knowledge faces extinction, many societies have been concerned with not just its preservation but also dissemination. Arum (1994) has put these efforts into two dimensions: traditionalists and modernists. In the traditional sense, the author argues that the need to conserve IK override any other concern. This work is founded on the establishment of IK museums charged with the duty of isolating, documenting and storage of IK for utilitarian purposes. In the contrary, today there is a movement for the establishment of IKRCs, particularly at national levels. Arum (1994) explains that the centers act as clearing houses for the collection, documentation, comparison with global knowledge systems, dissemination and utilization IK and so that IK can be transferred from one ecological zone to another within a country. This approach has been criticized for being laced with the risk of divorcing IK from the indigenous people who created it. However its supporters contend that it is the surest way of protecting IK against the onslaughts of modernity and the free market economy.

Going by the arguments by Ocholla (1993) an IKRC therefore should be seen as a generic concept that characterizes those centers of information that emerged to supplement the work of libraries by responding to the need for rapid information collection and delivery. The transition from information to knowledge society has come with the change of names from information centers to knowledge centers, to reflect their expanded roles. Dove (2004) argued that a Knowledge Center is a "knowledge working" space, designed to encourage the sharing and creation of knowledge by bringing together existing library resources and services with technologically advanced tools for the discovery, use, and effective presentation of information. A resource center collects and organizes materials that are useful to a particular group of people.

Materials may be very varied, including training manuals, handbooks, reference books, directories, leaflets, posters, games, videos and samples of equipment

Using libraries are the point of reference the currently evolving centers for information are regarded as special libraries by the nature of their collection and users. Valls (1983) identified the general functions that are fundamental to all these centers to include acquisition, processing, storage, repackaging and dissemination of information. These centers emerged in the 20th century and after. They include documentation centers, information analysis centers, information evaluation centers, data centers, information referral centers, knowledge centers and bibliographic centers. In 20th century with the development of industrial, technological and scientific advances the concept of special libraries came in to existence. The growing need for specialized information for further development and research came to play a vital role in the expansion of special libraries (Gupta, 2010). According to American Library Association (ALA) glossary of library and information science, a special library is a library established, supported and administered by a business firm, private corporation, association, government agency, or other special interest group or agency to meet the information needs of its members or staff in pursuing the goals of the organization. Scope of collections and services is limited to the subject interest of the host or parent organization.

Along these lines, IKRC are some of the latest evolution in the development of special libraries. As pointed out in the literature, the IKRC are generally formed by stakeholders in the indigenous knowledge sector. They include academic institutions, NGOs, CBOs, and individuals engaged in the study, documentation, dissemination and advocacy IK. They perform duties that are primarily geared towards leveraging indigenous knowledge in development programmes. One of the most outstanding achievements emerging from IKRCs is the development of strong knowledge base of best practices in IK. The practices give researched and authoritative examples and cases that illustrate the use of IK in developing cost-effective and sustainable survival strategies for poverty alleviation and income generation. Indeed they cover all the major economic sectors like health, agriculture, natural resource management, education and many others. The aim of the database of best practices on indigenous knowledge and sustainable development is to encourage researchers and policymakers to incorporate indigenous knowledge into their project proposals, feasibility studies, implementation plans and project assessments, and to take indigenous knowledge and practices into account in all activities affecting local communities.

As many projects arise in the area IK, it is important that information about these kinds of projects is made available worldwide so that other people can learn from the experiences and replicate them for their development needs. This underscores the need to bring the practices to the attention of a wide spectrum of audience, particularly people who are dealing with development and poverty alleviation matters including county governments, national government agencies, intergovernmental institutions and NGOs, civil society and all those who can use them as a source of information and inspiration. The idea behind the IKRC derives from this need among many other factors. In the recent past, the establishment of IKRC has been dramatic globally. According to the indigenous knowledge and development monitor, IKRCs have been started in many countries in Africa including Burkina Faso, Cameroon, Ethiopia, Ghana, Kenya, Madagascar and Nigeria.

The Kenya Resource Center for Indigenous Knowledge (KENRIK), was established in 1995 under the Center for Biological Diversity (CBD) department, National Museums of Kenya. The

aim of KENFRK is to document and preserve the endangered /threatened indigenous knowledge held by different communities in Kenya which has traditionally served an important role in environmental conservation, natural resource management, food security and traditional healthcare systems. In line with this mandate, the center has different programmes in place, including:

- Conducting research, documentation and promotion of I.K with a view to preserving cultural and biological diversity for sustainable development in Kenya and in the world
- Establishment of national Indigenous knowledge base for storage and management for end users of in various development programs
- Creation of institutional linkage that will promote equitable and wide participation in natural resource management, research, conservation as well as add value to community products and systems.
- Disseminate IK to contribute to policy formulation and other initiatives affecting indigenous communities within Kenya and in the region.

Under the above programs, the center has recorded remarkable achievements in terms of research into traditional medicine and medicinal plants, community based conservation (restoration and sustainable harvesting), traditional foods and their inventories, ethnobotanical surveys and ethnoecological technologies. These research initiatives have resulted into the development of databases in medicinal Plants of East Africa (MPEA) and that of Kenyan recipes.

5. Role of IKRCs: Global Experiences

The significant potential of indigenous knowledge in enhancing development efforts is being accepted throughout the world and in all sectors of development. This recognition is accompanied by a number of policy and institutional reforms witnessed in many countries. IKRC is one of the features of these reforms, which has been embraced in Kenya.

IKRS are firstly libraries or information centers in the traditional sense. As such, they subscribe to the traditional sense of information resource centers as posited Valls (1983) to serve the functions that include acquisition, processing, storage, repackaging and dissemination of information. However, they should be viewed as special libraries or information centers. As such, their services go beyond providing a collection of well-organized IK materials. They will be expected to share the information that it contains by encouraging people to materials in their custody. Today, Information Resource Centers (IRC) have evolved from being an information depository to becoming a center for distributed, interactive information. This achievable when IKRCs acquire and use Information technology in their activities. To serve the required role of harnessing IK in the society, IKRCs should ascribe to the following functions:

i) Action Research

According to the business Dictionary.com action research is a process of uncovering solutions through progressive problem solving techniques, whose outcome is intended to improve practices and address issues. Action research often involves a group of participants carrying out investigation through activity rather than theoretical response. This kind of research can be applied in the discovery and validation of

IK. Many IKRCs are attached to research institutions as an appreciation of the need for continued research in this area. Research into IK has helped many countries to map their IK. Research into IK is very important given the fact that a good percentage of the existing IK is unknown and is threatened with disappearance. Hart (2010) argued that the only available tool for rebuilding traditional knowledge from its roots is research. Research is therefore one of the key objectives of any IKRC. In Kenya, KENRIC has conducted a number of research activities in the areas of economic plants, medicinal plants and ecology.

ii) Documenting Indigenous knowledge

This arises from research on IK. In the recent past, a number of initiatives have been witnessed in documenting IK. Emphasizing the need to document IK, Nakata and Langton (2005) assert that libraries must consider indigenous knowledge not simply part of a historical archive, but a contemporary body of relevant knowledge. The International Institute of Rural Reconstruction (IIRR) in 1996 suggested identifying specialists, case studies, field observation, in-depth interview, participant observation, participative technology analysis, surveys, brain storming, games, group discussions role play, SWOT analysis, village reflections, village workshops, flow chart, mapping, taxonomies, participatory video and photo/ slide documentation. The IIRR also reported that AIK could be documented in the form of descriptive texts such as reports, inventories, maps, matrices and decision trees; audiovisuals such as photos, films, videos or audio cassettes as well as dramas, stories, songs, drawings, seasonal pattern charts, daily calendars and so on. Indigenous knowledge could also be stored in local communities, databases, card catalogues, books, journals and other written documents, audiovisuals and museums. This list provides a wide spectrum of strategies that IKRCs can adopt in documenting IK within their areas.

iii) Awareness and Information Sharing

From research, the world has documented significant information on IK. This information can only be useful if it is brought to the attention of its potential users. Borrowing from traditional librarianship, any IKRC must put in place effective information services that cover current awareness services, SDI services, everyday information services, catching up information services and exhaustive information services among others. These services enable IKRCs to play the role to educate and let people know about the importance of IK and its application in development. Some IKRC rely on seminar, workshops, meetings, conference, community events, press conference and publishes publications based on its research findings and observation. The publications are disseminated to grassroots people, policymakers, media institutions, government departments, educational institutions and development organizations to create a shared responsibility advocating in establishing the rights of grassroots people, particularly natural resources dependent communities

iv) Policy and Advocacy

This role is mostly associated by those IKRCs that are existing at national levels under a research entity or otherwise. Under policy advocacy, such centers motivates people and encourage them to embrace a culture of respect for IK in areas such as conserving biodiversity, protecting forest degradation among other issues. On the other side, the centers should come up with strategies for attracting attention of policy makers so that they can lend the required support to IK activities and develop relevant policies.

v) Promoting Networking

IKRCs should be used as platforms for bringing people together so that they could communicate and exchange knowledge and skills on indigenous knowledge and its application in development. Experiences from the existing IKRCs indicate that they create forums where they invite different focus groups to share knowledge in IK. These groups include farmers and other occupational groups. These meetings seek to identify the diverse problems that they face and how they can be solved through IK. To give more

meaning to these networking ventures, not just local but also best practices from other communities should form subjects of learning and sharing.

vi) Publication

Publication is another common feature of IKRCs across the world. These publications can take the form of journals, newsletters, books, research reports, bulletins, booklets, leaflets and posters. These publications cover different functions defined by their nature. Journals usually cover IK based practices and experiences. Bulletins have been used to aid understanding of IK through use of stories, rhymes and illustrations that describe indigenous practices in the fields of environment, health, agriculture and many other areas. The books and research reports are meant to document research findings on indigenous knowledge. They can take the form of ethnographies on indigenous communities, books on agriculture, climate change and environmental preservation. These documents target grass root extension workers, local development workers, NGOs, community-based organizations and other practitioners. Through these approaches and many others IKRCs are able to extend the frontiers of their IK dissemination activities and to ensure that the same is integrated in development activities in rural areas.

6. Conclusion

Today, libraries have been viewed as the dinosaurs of the digital age. This fact has sent librarians repackaging their services and exploring new values and niches in the society. A number of responses have been proposed including taking roles of ICTs in organizations. This paper presents a new territory where our librarians can claim, not for the mere sake of being relevant but for the good of the society. It should concern every librarian, information worker and knowledge specialist that the IK is threatened with loss. This paper proposes the IKRC framework as the *modus operandi* in taking up this challenge.

7. Recommendations

i) Indigenous Knowledge policy framework

The world has embraced IK as a resource for development, and accompanied this with institutional, policy and resource commitments within the ambit of the World Bank and other international bodies. There are in place a number of conventions which bind countries to the preservation of IK. In Kenya, our constitution commits the country to the preservation of its indigenous heritage. However beyond this, there is need for the country to have a master policy and strategy for harnessing of its IK. Such a policy should then be cascaded to the lower units of our society. The Ministry of Culture and Sports which is entrusted with IK issues and resources can lead the country in this direction.

ii) IKRCs within the library Framework

In Kenya, as pointed out, the Museums of Kenya has an IKRC which is meant to serve the whole country and may be through its branch networks. This is not adequate, especially given that IK is context specific. It is therefore, recommended under this paper that all our libraries, in regard to their missions should come up with IK units.

iii) Training on indigenous knowledge

In some countries, universities have gone a notch higher by initiating IK departments which specialize in teaching of IK issues such as history, languages, culture and many other issues about the indigenous people. In some cases, aspects of IK are taught as a course in academic institutions, an example is the teaching of Chinese Medicine. In Kenya, Kenyatta University has unit that does almost the same but is focused on arts and craft perspectives. Even knowledge management units and courses in our universities do not come closer to the issues at the heart of harnessing IK. This therefore means that our country needs a new curriculum of IK issues.

iv) Partnerships to leverage Indigenous knowledge

Partnership lies at the foundation of strategies for harnessing IK. This partnership should have a local, regional and global face. Whereas IK is localized in nature, its applicability can be global. Thus there is the need to bring IK to the global platform. This is what informs the massive investment by the World Bank to document IK. It also provides a basis of sharing. It times it is driven by bringing together practitioners in the IK field, through lobby groups or unions. This paper therefor recommends that KLA should lead the mobilization through forums that bring IK practitioners, whether they are elders, medicine or any other players, together.

References

Agrawal, A. (1994). *Dismantling the Divide between Indigenous and Scientific Knowledge*. USA: University of Florida.

Eyong, C. (2007). *Indigenous Knowledge and Sustainable Development in Africa*. Journal of Sustainable Development in Africa 5(2).

Gupta, A. (1992). *The Right to Resource: Peasant Knowledge, Protocol of its Extraction*. India: Indian Institute of Management.

Hobart, M. (1993). *An Anthropological Critiques of Development*. London: Routledge.

Howes, M. and Chambers, R. (1980). *Indigenous Technical Knowledge: Analysis, Implications and Issues*. USA: University Press of America.

Kok, J.A. (2005). *Can models for knowledge management be successfully implemented to manage the diversity of indigenous knowledge?* At: <http://www.sajim.co.za/>

Lado, C. (2004). Sustainable environmental resource utilization: a case study of farmers' ethnobotanical knowledge and rural change in Bungoma district, Kenya. *Applied Geography*. Vol. 24.

Maharaso, M. & Maharaswa, M. (2004). Men's initiation schools as a form of higher education within the Basotho indigenous knowledge Systems. *South African Journal of Higher Education*, Vol. 18, Issue 3.

Muhando, J. (2005). Sacred sites and environmental conservation: a case study of Kenya. *Indilinga African Journal of Indigenous Knowledge Systems*, 4, (1).

Njiraine, D. (2012). *Mapping and Auditing Indigenous Knowledge and its Management Environment: A comparative study of Kenya and South Africa*. South Africa: University of Zululand.

Ocholla D. (2007). Marginalized Knowledge: An Agenda for Indigenous Knowledge Development and Integration with Other Forms of Knowledge, *International Review of Information Ethics* Vol.7 (September).

Sibisi, S. (2004). *Indigenous Knowledge and Technology: conflict, counterdiction or convenience*. Ghana: Environmental Protection Agency.

Steiner, A. and Oviedo, G. (2000). *Indigenous Knowledge and Natural Resource Management* at: <http://worldbank.org/>

Valls, J. (1983). *Information Service for Developing Countries*. Bangkok: Asian Institute of Technology.

Warren, D. (1990). *Using Indigenous Knowledge in Agricultural Development*. Washington D C: World Bank.

World Bank (2004). *Mainstreaming Indigenous Knowledge*. Available at: <http://www.worldbank.org/>