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Challenges and opportunities in the protection and preservation of Indigenous Knowledge in Africa

Abstract:

This paper presents challenges and opportunities in the protection and preservation of Indigenous Knowledge (IK) in Africa. Specific examples have been taken from the Maasai pastoralists and the Sambia and Zigua traditional medicine-men of North Eastern Tanzania. The paper argues that there is a threat of IK extinction due to lack of recording and problems associated with preservation and protection of the knowledge from pirates. Examples on efforts made by Tanzania in IK preservation, including efforts made by Economic and Social Research Foundation in developing IK database and training initiatives at University of Dar es Salaam are discussed. Ethical issues in IK Systems are also discussed with emphasis on returning IK benefits to the owners of the knowledge, and involvement of people in IK researches. Finally, the paper highlights challenges in IK prevention and suggests measures that can be taken to alleviate the challenges. These include among others, developing appropriate IK policies and practices, establishing IK resource centres, training, researching and developing South South IK networks.

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Introduction

Indigenous Knowledge (IK) is defined as a systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments and intimate understanding of the environment in a given culture (Rajasakeran, 1992). Indigenous knowledge can be seen as local or traditional knowledge that is unique to every culture or society. The knowledge influences planning as well as decision-making in local areas.

IK is regarded as a problem solving mechanism to rural communities. It is recognized as having relevance to the daily life of most individuals, economic development, culture preservation and political transformation, which lead to poverty reduction. IK plays a substantive part in poverty eradication among communities in different parts of Africa. The knowledge is implicit and thus difficult to systemize. It is embedded in community practices, institutions, relationships and rituals.

IK is effective in helping to access the poor with information as in most cases it is the only information they control and certainly the one which they are familiar with. When they are empowered with IK, they can use it to solve critical problems using the information. IK is said to be as old as human race itself.

Johnson (1992) identifies the following characteristic features of IK:

- It is locally bound; that is, indigenous to a specific area;
- It is culture and context specific;
- It is non formal knowledge;
- It is orally transmitted, and generally not documented;
- It is dynamic and adaptive. It is not static. It changes as the society changes socially, economically, culturally etc.
- It is holistic in nature;
- It is closely related to survival and subsistence to many people worldwide;
- It belongs to the community. The knowledge is communally owned.

Based on the above, it can be concluded that Indigenous Knowledge is scientific in the sense that it is obtained through many years of practicing and practicing, and therefore provides scientific solution

to problems. It is used to solve problems that communities are facing. IK belongs to the community. It is there to solve peoples problems and communally shared. Those who possess the knowledge are so doing on behalf of the community. IK is meant to benefit all the people in the community.

IK Practices in Tanzania

The Maasai of Northern Tanzania

The Maasai people of Northern Tanzania are pastoralists. They interact directly with the environment right from childhood. In this way, they have acquired a lot of knowledge on their environment. They have ensured that the knowledge gained on physical resources is used sustainably.

The strategy of mobile grazing that they use allows their animals to utilize a wide variety of forage vegetation types that are widely dispersed. This increases seasonal grazing and the carrying capacity of the land. Through their intimate association with the natural grasslands Maasai pastoralists are familiar with every plant in their rangelands and pastures. They can even describe the palatability of each plant for the different animals they keep and they know each plants seasonality, nutrition value, toxicity, and medicinal properties.

The pastoralists have knowledge and experience of supplementing their animals diet with minerals, which not only provides resistance to illness, but also enhances their appetite, growth, fertility and milk production. The Maasai are fully aware of the migration pattern for effective land use and conservation. This is an example of true indigenous knowledge that belongs to the community for the community.

The traditional Medicine-men of North-Eastern Tanzania

In the North Eastern part of Tanzania lives the Sambia and Zigua people. These communities are well known for their famous traditional medicine. They cure people with health problems through use of herbs and other traditional means. The knowledge is said to be transmitted among family members from one generation to the next. The father in the family works very closely with the

eldest son who carries over the skills and do the same to his eldest son. They know the herbs that

can cure tropical diseases such as malaria, wounds, stomach pain etc.

The same is practiced by the mother who will do the same to her eldest daughter. This knowledge has all characteristics of IK outlined above. Some have even specialised in assisting women in labour. The knowledge is however, threatened as formal schooling takes over. As children go to school, the potential successors have a choice between abandoning western education and being a traditional medicine man or joining modern school and getting a formal career. This is the dilemma facing sons and daughters of the Sambia and Zigua medicine men and women.

Current issues in the Management of IK in Africa

There are pertinent issues with regard to the management of IK systems in Africa. One of them is the threat of IK to extinct. As it was revealed earlier, most of IK practices are not in written form. The knowledge is transmitted from one generation to the next orally. In this way it is easy to face extinction due to lack of records.

Among the leading factors that explain the possible extinction of IK is the fact that concentration has been to IK that has direct cash value, ignoring the non cash knowledge. In the area of research for example, attempts have been made to research and document medicinal plants since such initiative leads to discovery of medicine that can be used by huge pharmaceutical industries to develop medicines. On the other hand, not much has been done in areas such as traditional dances, rituals, languages as they do not contribute directly to productivity.

The main area of concern on IK in Africa therefore, is how to preserve it. What measures need to be taken to ensure preservation of the knowledge so that it is transmitted from generations to generations.

Lack of written memory on IK has also led to its marginalization. IK is not documented. It is orally transmitted as we have seen in the case of the Maasai pastoralists and the Sambia and Zigua medicine-men of Tanzania. The new generation that spend most of their time nowadays in formal education are exposed to western education systems and less to IK. As such, there is no appreciation on the existence of IK. Africa has not been able to docu-

ment IK so as to protect and prevent it from extinction and pirates.

It should be noted that there is less appreciation of IK today than it used to be in the past. The Western knowledge has taken over in the education system. Any one practicing IK as a means to solve problems such as local medical technology is looked down as outdated and considered primitive. The western medical technology has taken over. The issue therefore, is how to ensure that IK is integrated in the World Knowledge System for its survival.

There is also a concern on the needs to take stock of what is in Africa as far as IK is concerned. For example, the following needs to be addressed:

- What kind of IK exists in different parts of Africa?
- Where is it? If some one wants a certain knowledge, where can he/she get it from?
- Who owns or have to be consulted to access the knowledge?
- Under what conditions is the knowledge accessible? In other words, what Intellectual Property Rights (IPR) exist in getting access to the knowledge?

Protection and Preservation of IK in Africa

Protection Versus Promotion of IK

It is a common knowledge that Africa is very rich in Indigenous Knowledge. The issue of protection of the knowledge is currently a topical issue. There is however, a debate on promotion and development of the existing knowledge. Which one should be given priority? Should Africa put more emphasis on protection of what is currently there or promote it first for wider awareness?

During the conference on African Information Ethics held in Pretoria, South Africa in February 2007, IK Panel members deliberated on the issue of prevention versus protection of IK. The argument was on which one should be given priority?

The discussion was very stimulating, and at the end, it was agreed that Africa has to focus on Promoting IK particularly in areas of medicinal plants, game reserves, environment etc. and add values to the knowledge as a prerequisite to its protection. Whereas protection was acknowledged to be impor-

tant, the argument was that let it be known widely through promotion after which the next stage be protection. Protection before promotion was considered to be an inward looking approach. Other members in the debate however, were of the opinion that the two should be taken simultaneously.

Preservation and Protection of IK in Tanzania through ESRF database

There are several efforts that have so far been made in Tanzania with regard to the protection and preservation of IK. One of such efforts is the Tanzania Development Gateway database of the Economic and Social Research Foundation (ESRF).

The Economic and Social Research Foundation (ESRF) is a Non Governmental Organization in Tanzania whose main objective is to build and strengthen human and institutional capabilities in economic and social policy analysis and decision-making and to enhance the understanding of policy options within the government, donor community and in the growing non-governmental sector in Tanzania.

ESRF has developed a database on Indigenous Knowledge which is a product of the Tanzania Development Gateway, an initiative that uses information technology and the internet to promote social and economic development within Tanzania. The database was established by ESRF to enhance sharing and dissemination of IK information, experiences and practices in Tanzania, its objectives being to:

- provide a platform where IK is captured, stored and disseminated;
- provide a mechanism of sharing this knowledge and also integrate it with modern science and technology to enhance information dissemination;
- promote sharing and dissemination of IK information, experience and practices in Tanzania; and
- in realisation of IK and its contribution to socio-economic development, the database will promote development of IK systems to improve information provision to the local communities.

Training in IK Systems

Some IK training initiatives have been developed to train people in IK principles and practices. The

Faculty of Law of the University of Dar es Salaam in Tanzania for example, has a course on IK Systems. The course is however, taught from a legal point of view. At the moment, it is taught as a module in Intellectual Property Rights. This is an effort on the right direction.

Ethical issues in IK

As highlighted earlier, IK has been practiced in Africa since time in memorial. With globalization whereby the countries in the world are open and connected in all spheres of life, there are ethical issues that need to be considered when one is discussing IKS in Africa.

One of such issues is the ownership of research findings or discovery. For example, if a research on IK is conducted in a certain remote village in Africa, with information provided by the villagers themselves as respondents, then who owns the findings of that research or the innovation for that matter?

The tendency has been that researchers from the west conduct research and after data collection, they are not seen any more. The ownership remains to the researcher who patents the findings. The indigenous people are only used to generate data and have no knowledge of the outcome of the data they produced. If the innovation is say a resource with economic value, then it is patented by the researcher without involving the respondents. This is unethical.

Equally important is that research methods used in IK should be appropriate to the indigenous community. The kind of data collection methods, data analysis and presentation of the findings should be brought down to the level that the indigenous people understand. It should be considered unethical to use research method that may have negative impact whether physically or otherwise to the people. Research methods that may subject respondents to torture or harmful practices should be considered illegal.

Another ethical issue is that IKS should be inclusive. It has to include all groups in the community. No group should be marginalised in IKS. Age wise for example, all groups such as the youths, the elders should be included in research and enjoy the benefits accrued from IK.

In terms of gender, both men and women should be involved in IK research process. In many areas in

Africa, women have been marginalised and given low priority when it comes to information generation and use (Nkebukwa, 2007). IK researches should tap information from all social groups. More important, they have to be gender sensitive.

In terms of use of IK, the profit has to be returned to the people who are the owners of the knowledge. Any benefit accrued from IK, must also benefit the owners of the knowledge. Many incidents exist where Indigenous Knowledge discoveries have been made and patented elsewhere without the knowledge of the indigenous people. The ownership and utility of the knowledge ends up benefiting the researchers who claimed the owners of the innovations.

There has to be a promotion of positive identity and consciousness of IK. People have to appreciate the existence, relevance and use of IK available in their local places. IK is a knowledge just like any other knowledge that can help people in a local setting. It has to be valued and used appropriately. In this way, it can help liberate people in Africa from over dependence on Western knowledge.

Equally important, is that the negative side of IK has also to be identified. This implies that we have to present IK in critical manner and analyse it objectively to be able to see the negative side of it. In other words, there has to be a balanced view of IKs. We have to be able to present and discourage the negative side of IK. It has to be noted that not all IK is good. For example, there are people in Africa who practice witchcraft. This is an Indigenous form of knowledge but harmful as it affects others. Such type of IK should be revealed and completely discouraged.

Challenges in the Preservation of IK in Tanzania

As pointed out earlier, most of indigenous knowledge is not in written form. It is mainly in practice and transmitted from one generation to the next orally. This renders it difficult in preservation. Education in Africa has traditionally been transmitted orally from one generation to the next. Africa is basically an oral society. In this case, IK has followed the same pattern. Worse still, the transmission has mainly been family based or in small ethnic groups.

People on a certain community may have a certain knowledge on a certain aspect. The problem how-

ever, is that, in some cases they are not conversant on how that knowledge works, scientifically. For example, in the Usambara area of North Eastern Tanzania, and indeed in many other parts of Africa, there is sound knowledge of traditional medicine men who prevent thieves from stealing properties such as cattle or any other form of wealth. This is believed to be true and practicable. The issue here, is the science behind this knowledge. How does it operate scientifically? With electronic security system, one can tell exactly how it works. With this type of IK, it is difficult, though it really works.

Another challenge with regards to IK is that owing to its local or environmentally specific in nature, IK has traditionally not been viewed in the business sense as 'capital.' It has tended to be exclusive at times, susceptible to suspicion, and at times to abuse (Kaniki and Mphahlele, 2002). Thus, IK has not effectively been managed like scientific knowledge which is well managed because it is taken as knowledge that can be interpreted as capital valued or taken as profit.

Not many researches have been conducted in IK and the findings documented. It is therefore difficult to obtain that knowledge and incorporate it in the educational curriculum for the purpose of transmission from one generation to the next. In this way, even the development and subsequent improvement of the knowledge is apparently difficult.

It is understandable that knowledge generated from universities and research institutes is considered a resource just like any other resource that can be used for development. It is well organised, preserved in libraries and information units, and disseminated for wider access to user community. This is not the case with indigenous knowledge.

There is sufficient evidence (Covin and Stivers, 1997) that IK is drawn from a wide range of disciplines such as:

- Environmental conservation,
- Traditional education system
- Health practices and prevention
- Medical technology
- Sustainable agricultural practices,
- Local industry and technology and many other areas

The problem however, is on how these local knowledge practices, principles and methodologies appreciated and applied. Whereas as the modern scientific

knowledge generated through scientific research process are highly appreciated, IK is still questionable in many facets.

Recommendations on the Management, Promotion and Preservation of IK

The following recommendations are put forward with a view to improving the generation, collection, preservation and use of IK:

Appropriate Policies

Each country needs to have in place appropriate policies that encourage and provide guidelines on the innovation, conservation and preservation of IK. South Africa for example, adopted IK policy in 2004 (Saleti, 2007) which provides government stance on those areas.

The policies are expected to address among other things:

- Government appreciation of IK;
- Political commitment on IKS;
- Copyright and Patent issues;
- Use of IK;
- Trans-border IKS and how to share it;
- Statement on Protection of IK;
- Preservation of IK;
- Distribution of benefits accrued from IK.

Researching in IK Systems

There has to be deliberate efforts to conduct researches in the area of IK. This role can best be undertaken by universities and appropriate research institutes. Areas can include disclosing, recording, and preserving IK.

Issues such as:

- What specific IKS exist in Africa?
- How is the knowledge applied for productivity?
- What practices, traditions and norms surround the innovation, use and transmission of IK in Africa?
- How can specific community based measures be used to promote IKS?

Establishing IK Databases

Equally important, is the creation of databases on IK. Libraries and Information centres have this role to play. Other stakeholders such as private organizations, relevant ministries and government organizations, NGOs can all join hands in recording and preserving Indigenous Knowledge.

Establishment of IK Resource Centres

There are some countries that have IK resource centres in place. For example, Nigeria where the following activities are carried out:

- Conducting and coordination of research activities on IK;
- Dissemination of IK information;
- Networking IK initiatives;
- Exchange of information on IK with other centres;
- Quality assurance on IK practices;
- IK policy formulation.

Each country needs to have IK centres legally established and its operations guided by the law

Government and NGOs Involvement in IKS Development

African governments need to take a leading position to intervene and participate fully in the creation, development and protection of IK. The commitment is essential as it provides room for actors to invest in this initiative. In this way, there is a political commitment in this endeavour which is an important aspect of IK development. Individuals and NGOs will have the courage and strength to involve themselves in IK if they realise that the government puts value and emphasis in IKS.

Equally important is the involvement of NGOs in IK development initiatives. The government on its capacity needs only to set policies, rules and regulations governing aspects related to use and protection on IK. The core IK activities such as researching, use and dissemination of IK can be done by individuals and governmental and Non Governmental Organizations. In Tanga region Tanzania for example, there is an NGO known as Tanga Aids Working Group (TAWG) which is an HIV/AIDS organization. The organization uses IK local expertise and modern medical experts to fight against HIV/AIDS. Both the western and indigenous medi-

cal facilities provided plus counselling have proved to be very successful in helping people living with HIV/AIDS. Scheinman (2002) points out that this is low cost alternative to imported therapies.

[Http://www.tanzaniagateway.org/ik/ikabout.asp](http://www.tanzaniagateway.org/ik/ikabout.asp)
Accessed on 18th December, 2006.

Formation of collaborative teams with others Developing Countries

International Conventions on IK are world forums that many African countries are not conversant with. It is therefore important that in IK development at international level, African countries collaborate with developing countries in other continents which are interested in IKS, for example Brazil, India, China, for joint negotiations and collaborations. This is a struggle that developing countries can not be given free, but has to work on it to acquire collective strategies at regional and international levels.

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