

**TAPPING THE INDIGENOUS KNOWLEDGE SYSTEMS FOR SUSTAINABLE
DEVELOPMENT IN NIGERIA**

BY

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ABSTRACT

Since Nigeria's political independence in 1960, all efforts to achieve development continue to fail. Studies have shown that all the development plans are modeled on western development plan structures. The indigenous science, technology and knowledge systems embedded in religio-cultural heritage have been neglected from the development process. The main premise of the paper is that building or tapping the indigenous knowledge systems is imperative. It is a more secure foundation for sustainable development in Nigeria. The paper observes that the indigenous knowledge (IK) has not undergone any significant changes as the people practice it today. Aspects of the indigenous knowledge and case studies involving some ethnic groups have been drawn to show that the elements of practice have not changed over the years and much is desired. Building on traditional knowledge systems is twofold in nature learning from communities and helping communities to learn. The paper proposes a frame work for action with the emphasis that empowerment of local communities is a prerequisite for the development of the indigenous knowledge and that they should be given a more decisive voice in formulating policies about resource development in their areas.



THE PROBLEM

Africa in the twentieth century was greatly afflicted by economic models of exploitation and neo-colonial models aimed at recolonization. According to Emeagwali (2003:1-2) “Built into those models were negative and unwholesome presuppositions about race, gender and segregationist policies and discriminatory models of allocation of space, resources and infrastructure prevailed” The economic situation further deteriorated or worsen by export-oriented growth, monoculture and outward –bound programs for the export of first stage mineral and agricultural products.

With the above trend of events the indigenous knowledge (IK) as an instrument of development has not received the needed attention in Africa and Nigeria in particular. There is unhealthy distortion and trivialization, and neglect of IK as inflicted by the economic education and governance of colonial and neo-colonial mentality. In another dimension, western science is incapable of appreciating traditional cultures and their knowledge systems and practices. It is also assumed that western scientific approach cannot appreciate local practices as it does not recognize the spiritual elements of IK. Gakuru (2006:1) laments over the situation thus:

For a considerable period TK (Traditional Knowledge) has been considered little more than a nostalgic remembrance of our varying pasts, being preserved only as superstitions folklore best relegated to Museums.

He is happy that the situation is changing as IK has recently assumed a global



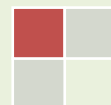
recognition especially with regard to knowledge of genetic resources and their contribution to pharmaceutical and agricultural industries (Gakuru, 2006:1).

Today governments and non-governmental organizations have realised that tapping into the intellectual resources associated with IK is not only cost effective and increased efficiency but relevant for sustainable development. Considerable and appreciable progress has been made in promoting IK in South Africa, Ethiopia, Tanzania, Kenya, Uganda, Cameroon, Ghana, and Senegal among others (Gorjestani 1-20). In these countries the recognition of indigenous knowledge system is increasingly becoming part of the development agenda; national initiatives and policies are emerging, civil society groups are forming a broad base of support.

In Nigeria, many scientific and social researchers (Emeagwali (2003), Danfulani (2007) have begun to recognize the positive role the indigenous knowledge systems of the local people can play in the formulation and implementation of sustainable development policies. However, Nigerian governments have failed to recognize indigenous knowledge in the development process due to lack of understanding of local issues necessary in development efforts hence a mismatch between indigenous knowledge and western development models.

WHAT IS TRADITIONAL OR INDIGENOUS KNOWLEDGE?

Indigenous knowledge has been defined as a subject of the broader concept of “heritage” and refers to various “innovations, technologies and practices” <<http://www.wlpo.int/globaisues/tk>>. Indigenous knowledge (IK) is accumulated



store of cultural knowledge that is generated and transmitted by communities from one generation to another about how to adapt to, make use of, and act upon physical environments and their material resources in order to satisfy human wants and needs. Such knowledge is transmitted through a systematic process of observing local conditions, experimenting with solutions and re-adapting previously identified solutions to modified environmental, religious, socio-economic, and technological solutions (Rees 1999:1-3). The IK is usually unique to a particular society and culture and could be improved upon due to contacts and interaction with other groups.. It is embedded in community beliefs, practices, institutions, relationships and religion. It encompasses knowledge on agriculture, biodiversity, health, economy, technology, folklore, and natural resources management and other activities. Because traditional knowledge encompasses several forms of cultural expressions, it also applies to religious and sacred arts, rites, customs, and other expressions of faith and beliefs. Several traits of such knowledge can be distinguished broadly from other knowledge. To sum up Nigerian indigenous knowledge systems permeates all facets of the cultural heritage of the various ethnic groups in the country.

Indigenous knowledge is a very important basis in African communities. It provides the basis for problem-solving for local communities before westernization and it is being continued on a serious note. Learning from the indigenous knowledge system by investigating first what local communities know, and how we can improve understanding of local conditions and provide a productive context for activities



designed to help the communities. Sharing IK within, nationally and globally across communities can help enhance cross-cultural understanding and promote the cultural dimension of development, exchange and integration into development programs of government and non-governmental organizations.

The World Bank is instrumental to the development of IK through her programs. The African Department of the World Bank launched the indigenous knowledge for Development program in 1998. Since then it has continue to play a greater role in the development activities of the World Bank. James. D. Wolfensohn, President of the Word Bank says:

Indigenous knowledge is an integral part of the culture and history of a local community; we need to learn from local communities to enrich the development process <www.worldbank.org/afr/ik/ikrept.pdf>.

EXAMPLES OF INDIGENOUS KNOWLEDGE

It is not untrue that the colonial structures of colonialism and neo-colonialism exploited both the human and natural resources of Nigeria and Nigerians leading to underdevelopment. In the face of the double edged sword of the colonial economic, socio-political and religious policies, the indigenous knowledge and technology were forced to slip into Limbo or cut production low. The survival of the indigenous knowledge took place against the odds and today such knowledge is waxing with much vigor. The indigenous technology and knowledge cannot be easily wiped away because it is deep rooted in people's culture. Nature itself has provided a



unique and peculiar way of doing things. This peculiarity and uniqueness provides unto such a people, a mark of identity otherwise known as culture. This also provides unto such a people, a means of surviving within the environment. Necessity as is commonly said is the mother of inventions. The need for water storage, the need for cooking, the need to have what to keep food inside before eating, the need to improve one's economic status and religious needs caused the Nigerian groups to conceive and hatch the idea of indigenous technology and knowledge system.

Today aspects of indigenous science, technology and knowledge systems, could be easily seen in traditional leadership, medicine and healing rituals. Other areas include indigenous library systems where knowledge relating to sacred objects and materials of historical significance are kept in memory of the tradition and custodians, traditional or indigenous knowledge also exists in architecture, clothing, soap making, salt making, pottery production, blacksmithing, weaving, divination, wood carving, among others.

SPECIFIC CASE STUDIES

Studies have shown that elements that sum up into African culture have remained largely native and unchanged. According to Adeniyi (2003:17) "It has itself remained virgin over the years". The elements of practice have not changed significantly over centuries. Gbenda (2007:332) in his study of Tiv (Central Nigeria) indigenous knowledge came to the conclusion that external influences have left their respective marks on Tiv culture. But the fact remains that in spite of these influences,



Tiv culture is still distinct with highly personalized characteristics. The changes are superficial rather than latent. The Tiv are still very traditional in most of their daily life, their use of land, sacred time, *akombo* (healing rituals) sacrifices and offerings are still common today, though their superficial accommodation of external influences is the path of integration into the modern worlds. Culture therefore has to be accommodating where necessary. Shishima (2008:133) in his study of ancestral veneration among the Idoma, Igede and Etulo said that ancestral veneration will continue in Africa and in Benue State of Nigeria despite the advent of modernization, education, scientific and technological know-how. Jacobs (2006:375) research on the Berom of Jos Plateau revealed that beliefs in witchcraft, sorcery and magic play an important role in their world view today. Nigerian scholars should re-examine these so called obnoxious practices with high degree of objectivity to tap the salient knowledge embedded in them. We shall now concentrate on the IK of the Mada people of Akwanga areas of Nasarawa State.

Pottery is one amongst the range of indigenous arts and crafts the Mada people are blessed with and have been in existence since time immemorial. The people uphold a culture that is peculiar to them. They are unique in their cultural artifacts. A variety of Mada arts and crafts include, pottery, carving, basketry, tie and dye and a host of other traditional crafts serve as objects of antiquities. The people practice these crafts and arts for utilitarian purposes, thought, it does not mean that they are devoid of aesthetic beauty. There are no designated factories and sites as individual homes



are used to practice these arts and crafts.

As result of the ecology of the Mada society, cultural materials are used to make earthenware objects (pots). However, with the advent of colonialism, it is observed that the trade has not undergone any significant modifications as the people practice it to date. This research takes a cursory look at the processes, techniques, methods, procedures, materials, patronage and the modifications the art of pottery has undergone in the society.

This researcher gathered that the earthenware objects (pots) undergo certain processes and procedures before they reached their final point of consumption. The processes include the digging out the clay soil known in vernacular as *Nchang* near a spring or stream with a hoe, Pounding the day soil to paste form, and using old pots to give various shapes and sizes required. Dandaura and Ngharen (1997 :8-15) explained that the stages of making earthenware objects (pots) are that, the Mada woman leaves for the River bank early in the morning to collect the needed quantity and quality of clay and water. Thereafter, she decides on the type of product she wants to make, if it is a pot, she gets an already made pot with the same size. The new pot is made with the aid of the older sample on which the wet clay is applied to get the basic shape. They explained further that the clay is allowed to settle before they are separate. The opening of the new pot is made when the basic shape of the pot is known. Then, the surface of the completed pot is smoothen with bare hands dipped in water, before a corn-cob (called *kpekpa-nkpang*) or any other material is used to give the pot a fine



pattern. This is done by rolling the corn-cob on the partially wet pot. When the porter has given her pot the desired pattern, the pot is allowed to dry before it is baked in an open fire to give it more strength. The final phase of her work is to carefully remove them from fire and a mixture of potash called in vernacular as *Nlie be tsesentes* is applied to the pots. This mixture adds glamour to the pots. The final phase is the painting of the pot to a brown colour with the aid of a substance made from plants or tree bark.

We now turn to the IK of soap making among the Sanga people of Kaduna State. Data was collected mainly through participant observation and interview with the practitioners. This example also stresses the need to develop or built on the IK. Prior to the advent of European products into the African regions, the ethnic groups have their local methods of manufacturing tools for their daily needs. However, to this date most of them in the rural areas are still making use of local traditional tools. The following items served as soap: Potassium extract known as *Touka* and plant known as *Aduwa* in Hausa. *Burburkye* (karkashi) is a leaflets plant that is generally found in the savannah region of Nigeria. It can be cultivated and it can also grow as weeds. It is greenish and edible and part of it is used as soap.

The above mentioned items were used by the Sangas as soap prior to the development of modern soap. This method of using direct raw material for washing was common in the past and gradually the Sanga people began to refined soap in their own way. They were mindful of the fact that the *burburkye* (karkashi) leaves

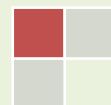


and the *Aduwa* leaves can be scarce during the dry season and even during the raining season. With the passage of time the dry method was invented in which items notably the plants were collected, dried, pounded and stored for regular and future use while the alkaline potassium extracted is still in its liquid form. But with the dawn of the modern era, these items are put together to form a marsh and palm kernel oil is added to it, thus it is slightly baked and dried to form a solid soap.

From the above examples one can see the attempts made by the Mada and Sanga groups in evolving the IK of pottery and soap making respectively. No attempt has been made by the Local, State and Federal governments to build on the IK of the people. Today the indigenous technology is still in its pristine stage of development.

A CALL FOR UTILIZATION OF INDIGENOUS KNOWLEDGE FOR SUSTAINABLE DEVELOPMENT

The previous unit on specific case studies with special reference to ethnic group in Nigeria has shown that very little has change in indigenous technology and knowledge systems. This is not a call for the return to old traditional or indigenous ways of doing things but drawing upon those knowledge systems for sustainable development. We now live in the twenty-first century but the Tiv are still using hoe in farming, no change in technique. No attempt is made to develop the hoe into a modern implement of large scale production. In same manner, the traditional architecture of the Tiv presents models of people living in huts in response to climate in the area. How do we draw upon these knowledge systems in building construction



which are both contemporary and better adapted to the realities of the tropical climate?

Danfulani (2007:69) studied Mupun Pa divination in the Jos Plateau and has shown a concrete interplay between western science and religion in African thought patterns. He demonstrated that the logic underlying both western and African thought patterns is basically the same. “The rational and basic principles involved in Pa divination system of the Mupun are basically the same with binary arithmetic...” It is now time to shed off western mentality and disregard for indigenous knowledge and look for unique ways of developing them from within hence western thought is not different from traditional or indigenous knowledge..

There is a report from Tanzania that the Pangani district traditional healers have treated over 2000 HIV/AIDs cases, using medicinal plants. The regional hospital has dedicated award to these healers to treat and counsel patients. Hence the indigenous knowledge program supported an exchange of experiences between healers, people living with AIDs, and staff (Scheinman, 2000: 1). What of Nigeria? A vast amount of traditional medicine has not been studied. There is nothing wrong building on local resources that are based on knowledge and innovation of indigenous people. Pharmaceutical companies should re-focus their resources in traditional or indigenous medicine development. The Federal and State governments should empower and help standardize not only medicinal preparations but all aspects of good value systems of indigenous knowledge. They should shun harmful or destructive knowledge and



science

A FRAMEWORK FOR ACTION

The following proposals are necessary for the adaptation of IK in the development process in Nigeria. This framework for action places responsibility on all levels of governance, non- governmental organizations, wealthy individuals and the participation of the people. Since some countries like South Africa, Cameroun, Tanzania, Ghana, Kenya among others have gone far in the adaptation of IK in their development policies, it is recommended that a study of these countries is necessary. The federal government should set up a high powered committee to visit such countries with the aim of studying how they embrace IK in development. They should pay attention to its significance, relevance in problem solving, reliability, effectiveness and transferability.

- Having done that, Research Institutes and Universities should be sponsored to carefully study the sources, record and document the indigenous practices. This will create room for their learning from local communities and the development of Data base of IK practices.
- There should be an institutional frame work to facilitate the exchange of IK among communities. They should help in building the capacity to share IK especially in local communities.
- Identification of appropriate methods of dissemination of IK among communities should also be given consideration. They include the use of local



languages in Television, Radio broadcasts, videos among others.

- There is need to apply IK in the development process. The government should prepare national policies in support of IK and the people should be involved.
- The government should enact appropriate legislation to protect the intellectual property rights of indigenous knowledge. Sensitive approaches will be needed to handle empowerments to reduce the risk of disempowerment of local communities without compromising the principle of global knowledge partnership for the benefit of all communities.
- In reviving IK there is need for its inclusion into the curricula of primary, secondary and tertiary levels of our educational system.

CONCLUSION

Nigerian governments have tried western development plan structures but they have badly failed to achieve sustainable development in the country. Selected indigenous technologies, practices and knowledge systems have been studied but they are still in their native stage of development. Harnessing the indigenous knowledge is one of the ways of empowering the local communities and improving their standard of living. There is need to marry the indigenous knowledge system and to revive them as a more secure foundation for sustainable development. To achieve this Nigerian Universities should be involved in the study and documentation and ways of developing or improving on them as well as proving a database.



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