Indigenous Knowledge In Education

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PREFACE

Indigenous Knowledge Systems (IKS) constitute an important area of human endeavour which has been part of our society from the past. A growing awareness of the values of IKS to national development became evident in Nigeria in 1993 through the Iowa-Nigeria University Development Linkage Project (UDLP) funded by the United Nations Agency for International Development (USAID).

Indigenous Knowledge (IK) has been defined as "a systematic body of knowledge acquired by local people through the accumulation of experiences, informal experiments and intimate understanding of their environment in a given culture". IK has potential value for sustainable development, and it can help people learn how to live in harmony with nature and the environment.

The earliest Nigerian educational system was introduced by the colonialists with the initial concern for the maintenance of law and order. The system was essentially meant to produce interpreters, teachers, pastors, clerks, administrators and policemen. One major weakness of the system, however, is that it failed to appreciate the fact that there was an indigenous foundation upon which the western type could have been built. There has therefore been a near-total neglect of traditional system of learning, teaching, communication, research and experimentation. This situation has a negative effect on development in all ramifications and also on people's creativity, ingenuity, novelty, technology and skill. Although IK has been recognised as a necessary springboard for technological improvement in a society, this has thus far been neglected in Nigeria's education system.

The need to integrate IKS into the country's education system from the primary through the secondary to the tertiary levels forms the basis of sub-national workshop the papers of which are presented in this book of proceedings. The need is anchored on the philosophy of moving from known to unknown. People learn better and faster from what they already know. In addition, schools exist as agencies for the transfer of culture of the society from one generation to the next. Thus, a good deal of what is to be learnt in schools should be decided by reference to the culture of the society.

The cardinal aim of the workshop therefore is to make recommendations towards evolving a more comprehensive education system that recognises the contribution of the Nigerian communities to the generation of valuable

Chapter Five

INDIGENOUS KNOWLEDGE SYSTEMS AND THE HUMAN SETTLEMENTS: TOWARDS INTEGRATION INTO EDUCATION CURRICULUM

Bolanle Wahab

> It may be that what we call modern is nothing but what is not worthy of remaining to become old.
>
> *Dants Alighieri.*

Introduction

Indigenous Knowledge Systems (IKS), though a relatively new discipline, is an important area of human endeavour which has been part of traditional society. Warren and Rajasekaran (1993), defined IK as 'the systematic body of knowledge acquired by local people through the accumulation of experience, informal experiments, and intimate understanding of the environment in a given culture. IKS rest on a validated assumption that an indigenous community is guided by those principles and practices which they have developed from many years of experience and from generation to generation often based on the oral tradition (Titilola, *et. al.* 1924). IK is part of the people and their development representing a people's creativity, ingenuity, novelty, technology and skill.

Rural communities in many parts of the world, and especially in Nigeria, have been known for their indigenous and self-reliant strategies in food production, provision of functionally efficient and appropriate shelter, efficient planning and management of settlement, and alleviation of ill-health, protection of forest and, fragile ecosystem, long before their exposure to external forces especially the colonial western educational system. All members of traditional society – farmers, rural artisans, folk singers, drummers, hunters, priests, palm-wine tappers, young and old, men and women-are the custodians of IKS and their knowledge was acquired outside a formal educational system.

A cursory look at the current curricula for primary and secondary schools, colleges of education, agricultural institutes, polytechnics and universities in Nigeria, as in many countries, shows that they hardly contain IK components. This is one major weakness of the colonial educational system which emphasized reading, writing and Arithmetic while it neglected the indigenous foundation upon which the western education could have been built. For instance, mathematics and science are often regarded as Western phenomena by both teachers and students. The result of this attitude has been a devaluation and disregard for local knowledge and retardation of mental ability of the people.

From the foregoing, it is clear that there is an urgent need to formulate a policy that would promote the integration of IK into Nigerian educational system. This will allow cultural capital to be added to existing curricula. Essentially, schools exist as agencies for the transfer of culture of the society from one generation to the next. On the basis of this, a good deal of what is to be taught in schools should be decided by reference to the culture of the society (Titilola *et. al.*, 1994).

The integration of IKS into the curricula of primary, secondary and tertiary institutions in Nigeria will create a more comprehensive educational system that recognizes the contribution of Nigerian communities to the generation of valuable indigenous knowledge in all spheres of human endeavour including history, linguistics, settlement planning, economic science, human organizations, physical environment, human settlements, health, crops, weeds, pests, and religion. Other benefits are

(i) sensitization of sizeable percentage of the population on the values and qualities of IKS;

(ii) less dependence on foreign and, often-times, inappropriate solutions to local problems.

(iii) promotion of traditional or cultural heritage;

(iv) greater participation of local people in the prioritization of their needs and decision-making;

(v) greater awareness of the valuable role of IK as a national resource which is capable of reviving a battered economy or strengthen a weak one;

(vi) it will facilitate communication among people coming from different backgrounds;

(vii) promote greater understanding of various forces shaping the built environment, the consequences of human activities, and the indigenous methods or approaches to achieve sustainable development; and

(viii) promotion of interdisciplinary and cross-cultural researches on IKS.

The Concept of IKS

Warren and Rajasekaran (1993), defined IK as 'local knowledge that is unique to a given culture or society. It is the formation base for a society which facilitates communication and decision making ...IKS form the basis for decision-making, which is operationalized through indigenous organizations, and they provide the foundation for local innovations and experimentation.'

The characteristic features of IK as given by Titilola *et. al* (1994), are that IK is unique to a group of people; serves as a spring board to technological development; dynamic rather than static; oral (not formally documented); experimental, and highly accessible.

Other characteristics of local knowledge as noted by Thrupp (1989), and Chambers *et al* (1989) are that local knowledge is not only possessed and practised by men but also by women; the type, extent, and distribution of valuable local knowledge is not uniformly observed in the less developed countries; local knowledge is couched in a broader socio-economic and political context, that is, influenced by the dominant western culture and market economy and it is increasingly regarded as an "intangible resource" which is highly vulnerable to (commercial) exploitation. In addition, Indigenous knowledge is of great relevance to all cultures especially in the developing world and the traditional societies. IK enhances the socio-psychological value of a people; it promotes meaningful communication between extension agents and their clientele; and it is particularly relevant as a springboard to technological development and improvement especially in the less developed societies.

Indigenous knowledge is extremely relevant to all human activities as it promotes the full and active participation of local people in their own affairs in all ramifications. As a science itself, IK is capable of being integrated into

modern sciences. It is resource concerving, environmentally friendly and a ready tool for the attainment of self-reliance and sustainability. It is also a tested and accepted local knowledge, that is easily adaptable. IK can help people learn how to live in harmony with nature and the entire human settlement.

In terms of the sphere of influence, IK has a very wide scope covering the whole spectrum of the physical/natural, social, cultural, and political environments. It is universally encompassing and covers all range of disciplines and issues. IK features prominently in almost all areas of human endeavours including agriculture, human settlements, trade and commerce, savings and credit, transportation, health and diseases, education, natural resources, training, politics/administration, and law.

Concept of Traditional Human Settlement (THS)

Human settlements have been defined as concentrations of activities and people, whether they are the smallest village or the largest metropolis (Ministry of Land and Settlement, Kenya, 1978). According to De Blig (1993), settlements are purposely grouped, organized clusters of houses and non-residential buildings. The smallest cluster of houses is called a hamlet (which may contain about a dozen buildings) and a bigger cluster is the village. A settlement may either be rural or urban: it may be linear, dispersed, compact, or nucleated. The sitting of settlements is, in most cases, governed by such factors as defence, fertile and well-drained soil, availability of water and climate.

Human settlements are focal points of commercial, industrial, administrative, health, education and recreational activities required by the population. Human settlements perform the following more specific functions (Ministry of Land and Settlement, Kenya, 1978).

(i) *Service function:* Human settlements facilitate the provision of schools, health services, public utilities, commercial banks, cooperatives, administration, judicial, recreational and other social services on an economic basis.

(ii) *Economic function:* Human settlements provide employment in industrial, commercial functions. They provide markets for the produce of surrounding areas which stimulates the conversion from a subsistence to a cash economy.

(iii) *Residential function:* Human settlements nearly always have a residential function for people working in non-agricultural employment.

Traditional Settlement Planning

Traditional settlements are cognitively clear and legible and perceptually complex and rich. Elements of the town are conceptually related, closely linked and self-explanatory. Traditional human settlements assume similar pattern in the way their constituent parts were arranged. Settlements in the same major geographical region of the world possess the same form in their overall layout. As Lagopoulos (1972), observes, with the exception of certain linear settlements, all African settlements are organized around a central feature either concentrically (south of the equator) or quadrilaterally (north of the equator). The central feature may be a tree, an open space, a cattle enclosure, a hut, a crossroad, a hill, an alter, a mosque, a mausoleum, a market place, or a palace as with most Yoruba traditional settlements.

The layout of most Yoruba traditional settlement is very similar in all ramifications. It is based on an unwritten concept/technique that is universally adopted to the extent that the Oba's palace and the town (or Oba's market) form the centre (and a major reference point) from which other areas or elements of the settlement take off. 'Streets are laid out in a rectilinear pattern and each street sometimes formed a quarter consisting of a number of compounds ...the traditional unit of set'lements' (Mabogunje, 1974). From Ile-Ife to Abeokuta, Owo, Ekiti, Oyo, Iseyin, Iganna, Ilaji, Osogbo, Ilesa, and far away Kisi, the patter is the same. Buildings were of similar indigenous materials, design and constructional method; roads looked alike – narrow, winding and dusty; there was a hierarchy of open spaces – from the small courtyard of individual extended family compound to the large courtyard of the Oba's palace (Aafin).

(a) *Traditional Residential Buildings*

Traditional houses were built by the indigenous people using all available local resources (mud and wattle walls, timber frames, thatched roofs, stone, cob) including their skill; ingenuity, intuition, and ability (Wahab, 1984). Traditional houses whether in Timbuktu, Nairobi, Ibadan, Iseyin, Ara or even Kano, are characterized by simplicity of design and maintenance,

functionality, flexibility, high additive quality, and easy comprehension, speedy completion through communal assistance/participation ("Oowe") or mutual (collective) labour freely offered 'on loans', 'paid back' through reciprocation. As Gamber *et. al.* (1990) put it, 'The traditional building process is integrated into a framework of resiprocity and collective organization'.

The attributes of traditional house are: informal layout; social acceptability; high aesthetic quality and sensory richness; enhancement rather than destruction of ecological equilibrium; harmony with surroundings; busy street life and multiple uses; allowance for higher physical densities; high level of urban complexity, and ease of expansion.

In contemporary times however, many modernists including professionals regard traditional houses as old-fashioned, backward, inappropriate for the life-style of the rich, and unbefitting. Their design and construction are thus being increasingly discouraged. In this era of economic recession, high rate of inflation, of unemployment, high cost of construction including land and professional fees, it becomes pertinent to turn to tradition. The indigenous way of housing finance is highly required.

(b) *Location of Facilities*

Location of principal facilities in traditional human settlements (THS) and especially in Yorubaland was governed by common factors, most of the time with occasional variations which may bother on topography, soil and climate. The factor of religion was crucial in traditional societies where religion was an all-powerful tool used in the shaping of not only the settlement but also the people. 'In fact, all decisions about where to site important things such as market places, shrines, palace grounds and chiefs' quarters were guided by signals from IFA... the infallible source of wisdom' (NISER, 1994). The location of the Aafin determined the location of other elements of the town including roads and vital institutions, all which required adequate safety and security which the Aafin readily offered. In addition, prompt and effective relay of strategic information and military intelligence to the Oba and transmission for directives from the Oba required proximity of all relevant institutions (NISER, 1994). The Aafin in all cases was therefore centrally located to emphasize leadership, to command followership and obeyance, to emphasise centrality of political authority, a

mark of traditional power structure divulging from top to bottom, and also the fact that all matters end in Aafin. The town (or Oba's) markets, as they were called, was also always located centrally and in any case, adjacent or opposite the Aafin, the palace of the King, the "Oloja" (owner of the market) for safety and security reasons.

(c) *Open Space and Recreation*

Open spaces in human settlements constitute a natural ventilation system and can enhance and protect the fundamental resource base-air, water, soil, plants and animals (NEST, 1991). In traditional settlements, people spent their leisure time on recreational activities as a form of entertainment and also for physical and mental health of individuals. Adults would gather under the shade of trees in the various intra-compound and inter-compound open spaces to play "ayo", tell stories, and engage in traditional wrestling while children engage in moonlight plays. Masquerades entertained people with songs, dance and magical displays in the available open spaces, plazas, and squares which were in hierarchy.

It is sad to note however, that modern life has changed the pattern of recreational activities which were the prominent features of social life in various traditional communities. Many of the open spaces in big and medium size traditional settlements especially in the south-west Nigeria have been "criminally" converted to other uses – residential, commercial and, of late, religious (Wahab, 1991a). Open space provision has continued to decline in various layouts and development schemes existing in towns now; trees are also no longer an important feature of settlements; adults can no longer gather together in the evenings to play games; no more bird-watching, sand-pits, hide and seek games and other traditional entertainment for children; no more public provision for meeting places or social concourse; public purpose of any kind is frustrated (Wahab, 1984).

One notable practice in traditional human settlement is forest reservation which encouraged the continued existence of certain animal and plant species. NEST (1991), observed that in traditional human settlements, land in varying sizes were set aside for various purposes: as hunting forests ("Igbo Ode"), religious groves (e.g. "Igbo Oro", "Igbo Awo", "Igbo Egungun"), isolation of quarantine forests, and to serve as abode of fairies and spirits ("Igbo Iwin", "Igbo Irunmale"). Such land, according to NEST

Table 1: *Proportion of Open Space in Selected Nigerian Cities*

Cities	*Total Land Area (ha)*	*Land Use*		
		Open Space (%)	*Residential (%)*	*Others (%)*
Lagos	16,177.00	2.80	51.20	46.00
Ibadan	45,312.50	1.38	57.25	41.37
Jos	33,916.70	5.00	56.00	39.00
Lokoja	2,817.00	12.60	45.40	42.00
Abuja	24,793.00	4.20	36.80	59.00

Source: NEST (1991) Nigeria's Threatened Environment, Ibadan, p. 228.

(1991), served as community forest estate protected by local law and custom and serving the spiritual or natural needs of the people or both. In modern settlements, the various forests have been over-run by timber merchants, large-scale hunters, hewers of wood, estate developers, land speculators and large-scale farmers. During the 1994 and 1995 fuel crisis in Nigeria, trees were felled with impunity in all the teak plantations in Ibadan.

(d) *Infrastructure*

In traditional human settlements, infrastructural facilities were provided on the basis of need, available technology, and ability to sustain them. Compared with modern settlements, facilities were very few and mostly lower-order ones. There were no pipe-borne water but residents had their water from rain, wells, brooks, springs, running streams and rivers. Roads and alleys were provided in reference to human scale and were communally constructed and maintained. Pedestrians, especially mothers with babies, children, the elderly, the handicapped and the feeble have more mobility in traditional cities than they do in modern ones. Traditional settlements possess pedestrian character and are thus the major source of learning in any design of pedestrian environment.

(e) *Management of Human Settlement*

Every aspect of life in traditional settlements was regulated as there was prescribed ways of doing and not doing things' (Rapoport, 1969). Traditional settlements were relatively more peaceful, sociable, secured and easy to administer with the application of traditional power structure. In Yorubaland, towns were administered by the Obas on a strictly hierarchical partriarchial system. The Oba controlled the whole town through the council of chiefs each of who administered his respective quarter with the assistance of compound heads (Baale) who administered their own compounds. The chiefs also controlled smaller and newer towns founded in their sector of the rural hinterland.

Integrating Traditional Human Settlement Into Education Curriculum

In the area of traditional human settlement (THS), the following issues should be considered for inclusion or integration into the curricula of primary, secondary and tertiary institutions in Nigeria.

(i) Concept of traditional human settlement – meaning, classification (types) and characteristics of THS.

(ii) Origin, growth and decline of human settlements.

(iii) Patterns/forms of traditional settlements and their planning.

(iv) Traditional architecture and building technology, indigenous housing cooperative.

(v) Traditional settlement administration and environmental management.

(vi) Traditional open space system.

(vii) Infrastructure in THS.

(viii) Planning THS: importance of historical knowledge in planning cities and villages. Planning problems in THS.

(ix) Planning THS: importance of historical knowledge in planning cities and villages. Planning problems in THS.

(ix) Indigenous knowledge solutions to problems of human settlements.

At both the primary and secondary levels, IKS may not be made a separate subject, rather various indigenous knowledge and practices as relate to the built environment should be mentioned to the pupils and students in relevant subjects such as science, social studies, physical and health education, religious studies, literature, agriculture, family living, language, history, and home economics including arts and crafts. The pupils/Students should be taught in very simple and clear language with emphasis on local names and local examples.

At the tertiary level, apart from incorporating aspects of IK in the contents of relevant courses, including General Studies (GS) courses, students should be encouraged to undertake studies or write dissertations on topics that will have IKS component. In the Town Planning Department of the Polytechnic, Ibadan, students are being encouraged to write their dissertations on some IKS-specific and IKS-related subjects. Table 2 contains a list of such dissertations.

It is necessary as a first and urgent step to undertake the documentation of all existing IK-specific or IK-related materials in the library of each school as this will reveal the adequacy or otherwise of IK reading materials. The annotated bibliography of IK materials in the various libraries of the four UDLP participating institutions (The Polytechnic, Ibadan, the University of Ibadan, the Nigerian Institute of Social and Economic Research, Ibadan, and the Obafemi Awolowo University, Ile-Ife) which is currently being compiled should be completed soon, published and made available in the main libraries of the four institutions.

Table 2: *A List of IK-Specific and IK-Related Dissertation Topics in the Department of Town Planning, The Polytechnic, Ibadan (1993/94 and 1994/95 Sessions)*

Session	*SN*	*Author*	*Topic*
1993/94	1.	Olabisi D. O.	Self-help project as a strategy for rural development: Tede as a Case Study.
	2.	Akinade, O. E.	An appraisal of Community Development Project in Ijaye.
	3.	Adewumi, A. M.	The Role of Community Based Organization in Rural Development.
	4.	Azeez, R. A.	The Growth and Structural Pattern of Yoruba Towns: Iseyin As A Case Study.
	5.	Adelu, M. A.	Mis-Use of Open and Recreational Spaces in Festac Town, Lagos.
	6.	Fagbenro, O.	Conserving Historic Areas in Lagos.
	7.	Okekeye, I. A.	The Traditional Market of Oyo Town.
	8.	Adejumo, J. A.	The Role of Home Town Association in the Development of Ipetumodu.
	9.	Adelani, A. O.	The Role of Community Development Association in Physical Development: A Case Study of Ifo Local Government, Ogun State.
	10.	Ogungbenro, J. A.	The Nature of Ilesa Palace.
	11.	Adebayo, J. A.	Traditional Courtyard Compounds in Ile-Ife.
	12.	Akinwumi, A. O.	Community Involvement in Service Provision and Maintenance: A Case Study of Ipapo.
1994/95	13.	Taiwo, J. A.	The Role of Religious Organizations in Community Development: A Case Study of Old Iganna Catholic Parish.

Session	SN	Author	Topic
	14.	Oyelami, T. E.	Women Organizations and Development: A Case Study of Women Development Projects in Ara, Osun State.
	15.	Oyeyinka, A. O.	Indigenous Knowledge Systems and Housing: A Case Study of Gbongan.
	16.	Oladepo, T. O.	The Roles of Community-Based Organizations in the Development of Oke-Ogun Region: Focus on Kajola Local Government Area.
	17.	Ilori, M. A.	Indigenous Organizxations' Efforts in Sustainable Rural Development in Iseyin Local Government Area of Oyo State.
	18.	Akinpelu, C. O.	Analytical Study of Traditional Markets in Ile-Ife.
	19.	Babatunde, S.D.A	Appraisal of Traditional Residential Quarters in Ibadan: Focus on Gege Area.
	20.	Olaniran, R. W.	The Evolution of the City in Ibadan.

The four existing IK Study Groups in the four UDLP institutions should organize awareness programmes not only in their individual schools but also in the various agricultural institutes, secondary schools and, in particular, colleges of education where secondary school teachers are being trained. Radio and television discussion programmes to popularise IKS should be arranged. IKS study groups should be established through the help of the four existing study groups in all schools around from which south-west regional IK network would be created to facilitate regular exchange of information among members. Collaborative research works on various aspects of traditional human settlement should also be initiated and vigorously pursued.

Conclusion

There is much to learn from traditional human settlements by the modern society. The distinction between traditional and modern societies can be understood in terms of the contrast between informal controls, affectivity, and concensus in the former and impersonality and inter-dependent specialization in the latter (Breeze, 1966). Traditional settlements, which were highly place-specific and culture/specific, worked well in their physical and socio-economic milieu, congruent with lifestyle, communicate effectively with their uses, energy efficient, congruent with site and responded well to climate. Traditional forms enhance urban and landscape quality which often deteriorate with a departure from such forms as in Mexico and Istanbul (Rapoport, 1983).

One is not advocating a retrogressive or static situation, rather one is trying to draw attention to the consequences of doing away with indigenous practices in the name of civilization or modernity. The virtues of indigenous settlement planning and administration, cooperative housing delivery, building types, construction methods, facility provision, utilization and maintenance must not only be jealously preserved but injected into contemporary human settlements.

Indigenous Knowledge Systems are timeless and capable of being adopted at any period to solve varying problems in any given society. Efforts should be made to educate or create greater awareness in the citizenry through seminars, talk-shops, enlightenment campaign, and adult education programmes but most importantly, by making IKS a major component of the relevant subjects at all levels of education in Nigeria.

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