

**SUSTAINABILITY IN AFRICAN ARCHITECTURE:
PROBLEMS AND PROSPECTS**

by

**Arc.Dr.I.D.Obot
Department of Architecture
University of Uyo, Uyo
Nigeria**

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Abstract

*African architecture has been more or less seen and designated internationally as being primitive. This constitutes a social problem! This 'primitivity' stems in part, from the building materials and their relatively low technological uses compared to modern western (architectural) construction techniques which culminate in skyscrapers. Africans themselves resist their existence and zone them out of the cities to the rural areas. This primitivity qualification notwithstanding, we submit here that African architecture has its rich and unique quality, rhythm, cultural affinity, among others. This paper therefore focuses on these African architectural attributes which have not been exhaustively researched into for sustainable development. The paper goes deep into literature review, extensive fieldwork experience of the author capped with examples of some African architectural expressions before arriving at the following conclusions/recommendations. First, African architecture with its enormous and inherent prospects must be appreciated by Africans and thereafter marketed internationally. Second, this appreciation must of necessity be seen in its complex cultural context. Third, further intensive research into the use of African local building materials in the context of current (21st century) technological advancement for sustainability is *sin-qua-non*.*

Introduction:

Architecture generally is concerned with many specific considerations which include dimensions, weights, stresses, styles among others. Architectural theory and history have traditionally been concerned with the study of monuments bypassing simple or vernacular buildings. The latter may be designated primitive, vernacular or indigenous.

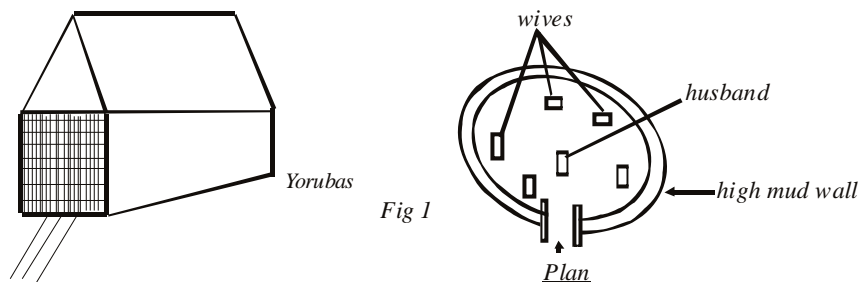
Indeed architectural jargons, city planning vocabularies and university architectural curricula pay greater attention to designing building edifices partly because of high design remunerations or show-casing their professional skills almost at the expense of esthetical forms.

Within the diversified African cultural/architectural context, there seems to be a distinction between "primitive" and "vernacular" buildings with the latter comprising "preindustrial vernacular" and "modern vernacular" buildings, (Rapoport 2000). Present day architectural design emphasizes greater degree of institutionalisation and specialization. The "primitive" counterpart buildings concern simple technological and low economic level buildings development. These include aspects of spatial and social organizations. While the dwellings produced in such a cultural/social organization may, at first glance and by higher technological standards, appear elementary, they are ,infact,designed and built by people(owners)using their intelligence, ability and resources to their fullest extent devoid of sophisticated western standards and styles. This is the thrust of this compendium-that is, there is a vernacular African architecture when seen in its socio-cultural context. This vernacular African architecture has its style, unity, scale among other components. Based on the above parameters the paper

will concentrate on vernacular African architecture rather than the “primitive” counterpart. Using the author’s fieldwork experience, backed by elaborate literature review recommendations are finally put forth for attainment of sustainability in African architecture. It is also the intention of the paper to create awareness and appreciation of African architecture in the minds of Africans.

African Architectural Style:

African architectural style can be seen as an abstraction of a particular order in that it concerns the manner in which different African cultures affect their vernacular architecture. Manner is itself an intangible quality, depending upon the perception, interpretation and recognition by an observer of a specific item.



The concept of vernacular African architectural style can be approached both through historical trend and environmental perspective. While the Yorubas of South Western Nigeria Fig 1 live in corrugated zinc roof with mud-wall units surrounded by thick and high mud walls for reason of protection against external enemy invasions, nomad cattle rearers of northern Nigeria and Mali fig 2 live in round temporary grass houses.



Fig 2

The nomads move around with their cattle in search of green grass for the cattle and therefore care little about permanent structures. The common feature in both housing style in the two cases is the slanting or pitched roof for easy rain drain. The early European explorers during the “scramble for Africa period” may have adopted and exported the pitched roof style for their architecture. The round hut of the African nomads is a typical architectural style which requires minimal technological skill to construct. It is equally economical for the low-income sector. Indeed the style is environmentally and culturally accepted by the users. The sustainability of it for the future generation is however questionable.

“Unity” in African Architecture

To find a clear-cut “unity” in African architecture is a difficult knot to tie. “Unity” in this case means “oneness”. There seems to be no international agreement on the “unity” in architecture. However, the principle of oneness calls for a clear understanding of the nature and function of a composition in African

buildings. This understanding is subject to cultural changes within a given time scale. It is submitted here that within the context of the 21st century technological advancement, African architecture is bound to be affected even if we (Africans) resist the needed rapid social change. With time, the change in African architecture will be affected by new generations. We cannot have a multi-storey bank building amidst huts, Fig 3. Our social attitudes may have to be compromised if we are to catch up with already developed economies of the world.

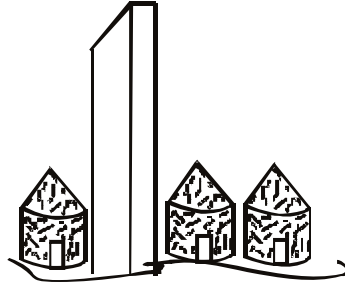


Fig 3

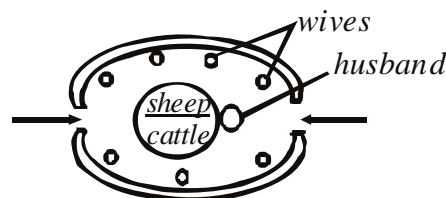
African Architecture and “Form”

According to Rapport (2000) the different forms of architectural structures are a complex phenomenon for which no single explanation will suffice. All possible explanations however, are variations on a single theme-people with very different attitudes and ideals respond to varied physical environments as deemed fit.

In the African architectural context, these responses vary from place to place because of changes and differences in the interplay of social, cultural, ritual, economic and physical factors. These factors and responses may however change gradually even in the same place with the passage of time-but lack of rapid socio-cultural change as was observed earlier in this paper and which is typical of our vernacular (African) architecture poses a problem when seen in sustainability context.

The younger generations are now struggling to review some of our social values which invariably may touch on house forms. Architectural form can in turn be modified by climatic conditions (the physical environment which makes some things impossible and encourages others) and by methods of construction, materials available, and the technology.

The architecture of Mousgoum homestead in Cameroun (West Africa)
Fig. 4



*Mousgoum homestead - Cameroons
(after Rapoport, p. 57)*

Fig 4

for example has a unique vernacular design where the husband's unit occupies a central location and the wives' units in circular forms dot around the husband's (unit) for easy reach by the former. This goes to support the fact that in some African social context, the house, the village layout shares a certain generally

accepted goals and life values. Their architectural forms are less the result of individual desires than of the aims and desires of the unified group for an ideal environment.

Still within the context of “form” in African architecture, the cosmic image stands tall. Here, traditional values are hardly questioned; the symbolic load of artifacts tied to the surrounding land jointly affect house form (Denyer 1978). Among the Dodan and Bambara of Mali every object and social event has a symbolic as well as a utilitarian function. Within these cultures, architects and builders must take cognisance of these values and reflect them in their designs if the designs are to be culturally and architecturally acceptable.

“Scale” In African Architecture:

The use of scale in appraising African architecture seems appropriate here. Architects use scale to know the exact dimensions of space. But scale here can be seen in its relative term. We know when something is “good” or “bad” in a relative scale. We also know when something has a “normal scale” or when it is “out of scale”. For this compendium we are looking at African architecture from two perspectives-relative to the surrounding milieu and (African architecture in) its “time” scale with other international architectural contexts.

Much of African vernacular architecture is what I call “architecture without architects”. People put up buildings without “normal” scale-the *lesser fair* option. They use any available materials without regards to standard architectural norms and relative to the surrounding environment. Normal standard buildings are best designed by trained architects who dream and evolve designs that (when constructed) complement or blend with the surrounding areas. African vernacular architecture can only survive if it is done in scale with standard and internationally accepted guidelines.

There is another time scale in African architecture. This “time” is relative to Western monumental architectural style. Using modern time scale, African vernacular architecture existed before the Western counterpart. High technological race left African architecture behind. Today African architecture is struggling to catch up with this race. Whether African architecture can catch up will be seen later in this compendium especially in the area of socio-cultural change, which may have to be compromised.

African Architecture and The Surrounding Environment

In the vernacular African architectural context which was seen earlier as “architecture without architects” syndrome, a building is seen in isolation devoid of the immediate surrounding as part of a total environment-as among the Lodi in West Africa; this should not be the case. Man lives in an environment in which his house is only a part, and the way he uses the total environment affects even the architectural form. Geographers and even some architects have usually separated the study of the house from that of the environment within which the house situates-this should be discouraged. The house conveys little sense outside of its setting and context. Because the living pattern always extends beyond the

house to some degree, the form of the house is affected by the extent to which one lives in it and the range of activities that take place in it.

Towards Sustainability In African Architecture

According to Mbina (2006), development as a human activity is a deliberate effort by man to improve his living condition through creative and intelligent use of resources, be they human, material or financial to transform society from a state of backwardness to a better prosperous condition of living. If this holds true, can African Architecture be sustainable? The answer is positive-but for it to happen, about four main issues must be properly addressed because they seem to create developmental bottlenecks as follows:

a. Technology and Building Materials

The African housing technology and technique is so far low hence lagging behind foreign counterparts. For the technology to be both sustainable and acceptable, there must be improvement in the context of the 21st century technological advancement. History has shown the importance and effectiveness of local building materials such as stones, clay/earth, organic products (Jolaoso 2006). These were used in construction works in the early centuries in places like Egypt and South Africa. They were delivered at a relatively affordable cost. Indeed these offer a comfortable platform on which further research could take off as they relate to vernacular architectural forms, shapes, scale, style as was seen earlier in this paper.

b. Attitude of Africans towards Vernacular Architecture

There seems to be a rather low attitude of many Africans towards accepting vernacular architecture. Indeed, there is a screen of “aesthetics” between African architecture and some African and foreign viewers. It is argued here that whatever disadvantage may be felt in this context can be turned into advantage if one completes the perspective and environmental processes by creating a full intellectualisation so that the screen is not only known but can be systematically disregarded.

One reason that some educated Africans do not like the vernacular architecture is not merely that it is vernacular and therefore injurious to their amour propre; rather it is that they have actually lost the intimate culture which allows them to see immediately the relevance of much of the vernacular architecture, to cathect it, at the same time that, for whatever reasons, they have not been interested in developing a capacity to “appreciate” it through intellectualisation (Bokannen 2000).

c. Aids

As was seen in (a) above, it is relatively cheap to develop a sustainable African architecture. The cheapness notwithstanding, developers require government aids through long-term loan with substantial interest-subsidy, repayment over a long period of time (10-25 years), without any undue hardship.

d. Climatic Condition

Climatic condition plays a major role in influencing the shape, style and form in architecture. Some vernacular homebuilders pay little attention to it when constructing homes because there are no standards-this deserves government attention.

Conclusion

It has been seen and shown in the paper that indeed there is what I call vernacular architecture in Africa which has scale, form, unity etc.in order to appreciate it, one has to see it in the diversified cultural context; Moreover, African architecture can be sustainable if the stakeholders cared enough. We the Africans must learn to appreciate our architecture if foreigners are to imbibe same.

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