

Behavioral use of courtyard in a Nupe cultural landscape of Nigeria

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ABSTRACT: Courtyards especially in tropical climates over time has attracted more research inclination on its bioclimatic effect on buildings. However, spaces such as courtyards in cultural landscapes are not necessarily carved out for environmental performance alone but to also fulfil the requirement of people's daily routines. Doko village, a Nupe community in central Nigeria is characterised with vernacular architecture that incorporates multiple courtyards within its compound layouts. The spatial characters of the courtyards were captured with the aid Google earth images and then followed by a phenomenological assessment. It involved an eight month ethnographic study of Doko community with a periodic activity log of 12 families during the course of their interactions with the courtyard. The result shows an adaptive behavioural use of courtyard and its effect in shaping the activities of people, thereby serving as a place more than its function as space.

1 INTRODUCTION

Courtyards in residential buildings have been a subject of interests especially in the tropical research. It is asserted that courtyards especially in residential buildings originated from the hot and dry climates (Almhafdy, Ibrahim, Ahmad, & Yahya, 2013). This possibly shows the long time inclinations of studies towards thermal comfort and ventilation provided by courtyards in buildings, such examples are seen (Berkovic, Yezioro, & Bitan, 2012; Das, 2006; Ettouney & Fricke, 1973; Mohsen, 1979; Raychaudhuri, Ali, & Garg, 1965; Schwerdtfeger, 1984). The question that arises is whether courtyards especially in vernacular architecture are based on bioclimatic functions alone. This is because most studies as highlighted in the foregoing did not look at how courtyards have function in the daily routine of people especially in rural cultural landscapes. Although there exist some exceptions such as Das (2006) in which the study set out to understand the Bioclimatic, Socio-Cultural and Typologies of courtyard houses in Kolkata, India. The research emphasis however, was more on the typology and bioclimatic effects of courtyards; the phenomenological aspect was left to historical narrative. The importance of phenomenological use of courtyards in cultural landscapes cannot be overemphasized, to buttress this, Al-Azzawi (1994), gave a checklist for the appraisal of courtyard to include how they function in satisfying the needs of inhabitants. The neglect of behavioural use of spaces such as courtyards in vernacular architecture has resulted into wrong rural development policies. Such is seen were policies are still formulated and presented based on vernacular forms and not on the concepts of cultural way of living (Donovan & Gkartzios, 2014).

Courtyards form the core of spaces in residential buildings (Alkhalidi, 2013). This is because they form part of the functional spaces for the daily activities of people especially in rural cultural landscapes. To recap, research emphases on the vernacular tropical courtyard spaces have been more on their bioclimatic effects and seldom are they studied based on their functions in the daily activities of the people who inhabit such spaces. Again most cultural studies in Nigeria have been more on the three major ethnic groups of Hausa Yoruba and Igbo and little or no much study carried out on the minority ethnic group such as Nupe. Consequent upon this, the study sought to explore the behavioural cultural interactions of a rural Nupe community which employs a multiple courtyard system of vernacular architecture. The study was conducted using ethnography due to its suitability for gathering information associated with phenomenological studies (Patton, 1987; Risjord, 2007). The data gathering process therefore, involved participant's observation in the elicitation of the behaviours of the people as they use the courtyard in their daily routine.

2 SPACE AND CULTURE

Space is characterised with different meaning, scale and interpretations. However in the context of courtyard study in this research will be regarded as a man-made creation bounded by built up structures which form part of the features people interact with during the course of their daily routine. The premise for the definition of space here thus applies to courtyards in this study both in scale and meaning.

Cultural landscape which is the interaction of human, environment and man-made features consist

of four variables which are space, time, meaning and communication (Rapoport, 1993). The functions of space, its meaning and the type of human interactions changes with time. This is because; there is the tendency for activities to vary over 24 hour time period in a given space. Certain activities which takes place within a cultural landscape may be devoid of cues that would make them visible or discernible to the first time observer and if care is not taken false interpretations are likely to occur (Stephenson, 2010)

Culture is an important variable which has effect in the use of space such as courtyard (Rapoport, 1969). Just like there is cultural uniqueness in how spaces are laid, so is it with how spaces are used by people (Hillier & Hanson, 1984). Also, human social interactions are reflected in the use of spaces (Dawson, 2002). As such the built environment after its creation, gets influenced and adapted by cultural activities (Berker, 2011). People's culture which includes their economic activities such as farming influences the use of space such as courtyards. In understanding the phenomenology in the use of space, it requires a comprehensive look at what, why and how activities are carried out (Rapoport, 1993). This gives the proper articulation of how spaces such as courtyards function in the daily routines of the people. When courtyards are considered as space alone, then it would be limited to it being defined by its structural and geometrical form (McIlvenny, Broth, & Haddington, 2009). However, Spaces such as courtyards drive their pure existence from place. Courtyard as a place which is the inclination of this research, will thus be the combination of human behaviour, physical character and its meaning to the people that uses such a space (Parsae, Parva, & Karimi, 2014). The behavioural and meaning people ascribe to a space requires the knowledge of their history and belief system (Norberg-Schulz, 1971). This thus, takes us to the next section on Nupe people as a community.

3 THE NUPE COMMUNITY

3.1 Landscape and vegetation

The Nupes are located in the middle belt of Nigeria with river Niger and Kaduna crossing through the communities. The landscape of Nupe communities is characterised with undulating land formations of hills, rivers, flood plains and highlands. There is always a seasonal change of landscape character especially during the raining seasons when river Niger and river Kaduna overflow their bounds, which turns highland open bush into swamps. The location of Nupe community within the heart of Nigeria makes the landscape a mixture of arid savannah of the north and rainforest-like vegetation of southern Nigeria. Some of the popular economic trees found within the landscape are locust bean tree, (*Parkia biglobosa*) baobab tree (*Andansonia digitata*) and the shea nut tree (*Butrysperrum parkii*) trees. Mangoes and oranges, which are European imports, are also found within the cultural

landscape. The crops cultivated on the highlands of Nupe communities are millets, yam, cassava, maize and groundnut. Sugarcane and rice are however cultivated on the flood plains (Nadel, 1942). As such the landscape types of either flood plain or highlands has historically formed the basis on the speciality of crops cultivated by various Nupe communities.

3.2 Nupe people and culture

The Nupe people are constituted in various communities with different landscape and occupation. The landscape type and occupation has distinctively been used by the Nupes to identify themselves. Those living within the river banks and whose occupation is primarily fishing are regarded as the *Kyadya*. While the non-riverine communities refer to themselves as *Beni* (Nadel, 1942). This distinction which is based on two types of landscape has also historically formed the basis of spirituality for the various communities. The *kyadya* communities had a cultural unity in the performance of rituals to avert dangers of flood and safety of fishing. The unity was constituted through leaders chosen at one time or the other in one of the riverine community to head the procession. The *Beni* group on the other hand had their rituals associated with the celebration of the first rain, the first harvest and the marking of end of raining seasons (Nadel, 1937). They can be considered to have an affinity to the natural environment spiritual interactions. Furthermore, the Nupe calendar is also naturalistic as they live and really on environmental conditions of dry season, rain, cold and hot season to tell time. All the foregoing gives an insight into the multifaceted nature and rich cultural landscape of Nupe community as a whole. The next section discusses Doko, the study community.

3.3 Nupe community of Doko

Doko is located in central Nigeria and historically belongs to one of the 12 historic towns that constituted the nucleus of Nupe community in Nigeria. The town are Bida, Eda, Egbe, Esa, Ewu, Doko, Gaba, Nupeko, Pandzuru, Tafyan, Towage, and Yesa (Idrees, 1998). The study community of Doko belongs to the Beni group of Nupes and they are located in the highland which is surrounded by an outcrop of hill running from the southwest region to the northwest region of the community, (Figure 1).

The community was established through the conglomeration of two major clans of Dazhi and Edoko who sought refuge on the hill against the invasions of early 1800. Doko like most rural communities in Nigeria are predominantly farmers. The major crops cultivated are millet, corn, cassava and sweet potatoes on the highlands. While on the flood plains which is situated far away from the immediate vicinity of the settlement is used for the cultivation of rice. The community has an all year round agriculture and agriculture related activities.



Figure 1. Showing the hill surrounding the community.

4 DATA COLLECTION

Cultural landscape studies are prone to miss interpretations and thus cannot be easily discerned from a distance or captured within a short time (Stephenson, 2008). Ethnography was employed as a method for the collection of data as it provides a good avenue for a proper phenomenological studies (Blommaert & Jie, 2010). However some preliminary actions were taken which involves the mapping of the entire community to produce the layout with the aide of Google map. Compounds were then randomly selected for detail production of individual courtyard structure. A saturation point was reached after 12 compounds were sketched (Glaser, Strauss, & Strutzel, 1968). This is as a result of the emergence of a consistent concept in the pattern of courtyard formation. Furthermore, Phenomenological use of space such as courtyard requires understanding of social structure of people who use the space (Stolley, 2005). Interviews were therefore conducted with 12 compound heads towards the understanding of the family structure constituted within the community.

The 12 compounds sketched were spatially analyzed to determine the ratio of built up spaces to courtyard spaces.

In the conduct of observations, the activities of each family were periodically observed based on 3 sessions. Session one began from 6am to 3pm, session two began from 3pm to 9pm and finally the third session began from 9pm to 6am. A day was then set aside for each of the 12 compounds randomly selected ensuring that session one and two were logged in through direct observation while the third session which constituted the private time for night rest were mostly captured the following day through interview. The interviews were conducted on the *emitso* (family heads) and *inna-emitso* the women's head with questions which focused on their activities at night and where such activities took place. The interviews allowed for the 24 hours circle of activities to be captured. After the capture of a complete 24 hours behavioural activity log for each of the 12 compounds, a follow up random visits were

made to the compounds to intersect the bias associated with human subjects especially when they are aware that they are being observed (Patton, 1987). Furthermore it was also ensured that each session was covered at least thrice in each of the 12 compounds and interviews conducted on the female heads on their activities on the days the compounds were not visited. This is to validate the participant's observations (Blommaert & Jie, 2010). The interviews conducted on the family heads also gave an insight into the family structure system of the community.

Even though the activity log on the behavioural use of the courtyard was captured in three sessions, the content analysis produced an emergent pattern of 5 periods of activity circle. This thus aligns with exploratory studies where data gathered from the field determines the theme and categories of analysis (Glaser and Strauss, 2009; Glaser *et al.*, 1968). The emerged categories of sessions are explained later in the analysis section.

However, there existed periods when the behavioural activities and the use of space were broken, such periods included long hours of rainfall during the day and night which forced activities that usually take place outside to be suspended and refuge sought in covered spaces such as rooms, entrance huts and kitchens. The data collected also did not include activities by the families outside the compound such as the occasional fetching of fuel wood by the women folk from the farms and also periods when a whole family goes to the farms on harvest days. Finally, the phenomenological use of the courtyards was observed over a period of 8 months, thereby fulfilling the requirement for a full cultural view of the community being studied (Patton, 1987).

5 RESULTS AND DISCUSSION

5.1 The family structure

Each compound is established based on an ancestral lineage mostly from a simple family of a husband and a wife. As the family grows and children become of age and get married, they establish their own court yards with a link to the existing courtyards. The development of new courtyards are however solely based on the structure of male children, the female children do not develop or inherit landed properties within their ancestral home. Culturally the female abode is said to be at their spouse's family compound. The compounds are headed by the oldest male family member. The community has a family system called *efako* in which adopted male children are allowed to enjoy equal rights with biological male children. Examples of such rights are the inheritance of the landed properties, farm lands and plots within the compound for the establishment of new courtyards. The *efako* family system also allows adopted children the leadership of the compound as long as they fulfil the cultural criteria of being the eldest living male member of the extended family.

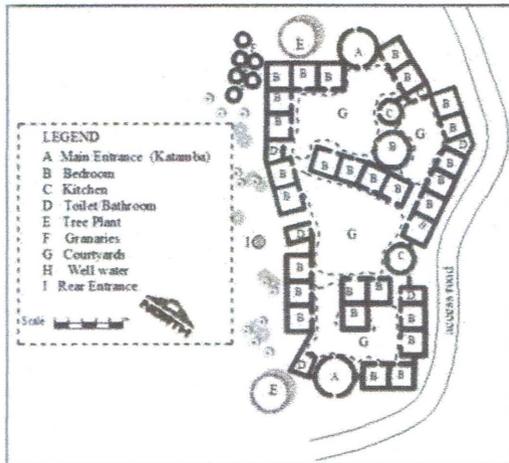


Figure 2. A compound layout showing the courtyard spaces.

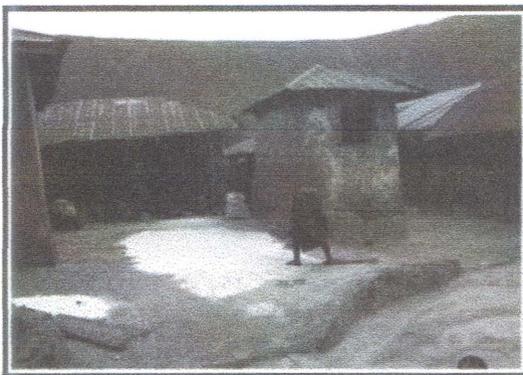


Figure 3. Showing a typical courtyard devoid of trees.

5.2 Structure of courtyards

The concept of the courtyard is enclosed and open with multiple courtyards designating each nucleus family. The rooms are laid to form the circumference of the courtyards with doors facing the courtyards. The courtyards could be seen to have a multileveled floors which depends on the terrain. These floor formations are made to allow for storm water drainage. What strikes a first time observer is also the absence of trees within the courtyards (Figure 2 and 3). This is unlike the Hausa compounds of the far northern Nigeria which have trees within the courtyards (Moughtin, 1964).

The spatial configuration of the courtyards in terms of space allocation compared to build up area is illustrated in Table 1

The spatial analysis of the 12 compounds studied shows that the mean total space covered by the courtyard constitutes 55% of the total area of the compounds. Thus, suggesting a high cultural value of courtyards in terms space allocation.

Table 1. The ratio of built up spaces and courtyards.

	Compound total mean area, Ctm (n = 12) m ²	Compound built up area, Cba (n = 12) m ²	*Courtyard space mean total area (Ctm-Cba) m ²
Area	152,691	68,700	83,990
% coverage	100%	45%	55%

*courtyard space calculation included open passages.

5.2.1 Behavioural use of courtyard

A typical day for most families begins before the break of dawn. The first point of call outside the rooms is the courtyard. The courtyard serves as the space where breakfast for the whole family is taken for both male and female members. The end of breakfast marks the point where the men leave for their farms and the women and children are left at home.

Daily observations showed that the courtyard can be regarded as the women's territory. This is because the men are mostly at the farms during the day and when they come back in the evenings; the front of the house near the *katamba* (entrance hall) serves as the resting place for the men.

The departure of men to the farms leaves the women with domestic chores which are carried out within the courtyard. Domestic chores of a typical woman includes, fetching of water from the well and storage into the earthen pots found within the courtyards. This is followed by washing of cooking wares and cloths which are dried within the courtyards. Other activities include the parboiling of rice and drying, plating of hair, tending to children, processing of farm products such as melon, cassava, and shea butter nuts. Women are found to perform at least one or more of the activities listed above within the courtyards.

The absence of trees within the courtyards exposes it to the direct rays of sun. However there is a systematic use of the courtyard where the shade provided by the buildings are used as a cover for carrying out domestic chores while the non-shaded part of the courtyard is used for drying of wares (Figure 4).

The time of the day determines where each task is carried out. For example the combine work of peeling of cassava and its drying in the courtyard changes places. Table 2 illustrates the typical activity circle of families within the cultural landscape of the community.

The emerged activity circle of families as shown in Table 2 is constituted into 5 periods of time. During the morning hours, the women sit on the eastern side of the compounds under the shade cast by the buildings while the items being dried are placed on the western side of the compound to have the full exposure of the sun. While in the evening there is an exchange of space function due to the change in the location of shade. Therefore, the women folk move to the western side of the courtyard while the items being dried are placed on the eastern side. At mid-day when the sun becomes

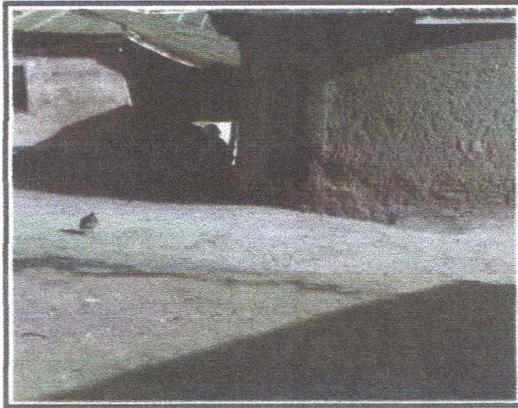


Figure 4. Showing women resting under the shade and the farm products under the sun.

Table 2. Courtyard usage within a 24 hour circle.

Space	Activity	*Time of use
Courtyard east	Breakfast, Domestic chore	6am–12pm
Courtyard west	Drying of wares	6am–12pm
Bedroom	Resting and lunch	1pm–3pm
Courtyard east	Drying of wares	4pm–7pm
Courtyard west	Domestic chore	4pm–7pm
Whole courtyard	Diner and sleep	8pm–3am
Bedroom	Sleep	4am–6am

*The times indicated vary between families with ± 1 hour across all activities

very high with no much shade, the women folk recess back into their room for some break and lunch, this period marks the time when family members meet to have their lunch and also rest.

The tacit knowledge of the sun movement and how shades are formed within the courtyards determines the activity, where each activity takes place and when it takes place. The indigenous people can be referred to have developed some intelligent response to the natural phenomena (Khalili & Amindeldar, 2014). This also posits that the indigenous people do not engage in bioclimatic conditioning of the courtyards, rather their activities are shaped towards adaptation in the use of the courtyard shaped by the natural phenomena of sun movement.

6 CONCLUSIONS

The research set out to understand the behavioural use of courtyards by a Nupe community in central Nigeria. The study shows that, the indigenous people have developed intelligent behavioural use of courtyards based on the movement of the sun and the shade provided by buildings. Thus highlighting courtyard as a space in which people shape their behaviours to attain the needed desires of its function as a place and not as a space solely for bioclimatic functions. This implies

that within the context of the cultural landscape of the Nupe community studied, the courtyard shapes the activity of the people and it is more of a place than space. A further study on the behavioural use of courtyards is advocated in other Nupe community cultural landscapes.

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