

SPATIAL TRANSACTIONS AND VERNACULAR ARCHITECTURE OF A NUPE COMMUNITY IN CENTRAL NIGERIA

Isa Bala Muhammad*, Ismail Said

Department of Landscape Architecture, Faculty of Built Environment, Universiti Teknologi Malaysia, 81310 UTM Johor Bahru, Johor, Malaysia

Article history

Received

15 April 2015

Received in revised form

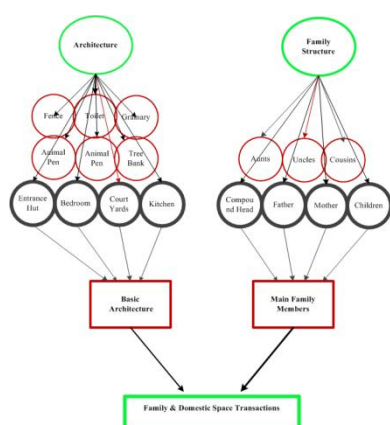
29 September 2015

Accepted

12 November 2015

*Corresponding author
mibdoko@gmail.com

Graphical abstract



Abstract

Vernacular architecture has been a subject of interest by scholars in different fields, views and perspectives. Some of such studies are on material, climate, morphology cultural behaviour and spatial needs of the people. The inclination of this research is on cultural behaviour and the use of space. This is because people's cultural behaviour forms the foundation of vernacular architecture. However, most scholarly interests are focused on major ethnic groups with little interest on the minority ethnic group such as the Nupe ethnic group in Nigeria. Culture differs and so do the behaviour and the spatial needs of people. For a sustainable development to be attained, architecture needs to be tailored towards the cultural needs of the people. This study, therefore, embarked upon an ethnographic study to determine the basic domestic architectural spatial needs of the Nupe people, which entailed and eight months stay with the local people. The process of data elicitation included behavioural mapping and the conduct of interviews. A conclusion is drawn showing three spaces to be the most valued in the daily transactions of the Nupe community. They are *zhempa*, (courtyard) *katamba* (entrance hall) and *kata* (bedroom). The finding also showed that the values of spaces are not solely tied to tangible spatial utilization but also to intangible non spatial cultural values.

Keywords: Vernacular architecture, transaction, space, culture, nupe

© 2015 Penerbit UTM Press. All rights reserved

1.0 INTRODUCTION

Architecture is associated with the provision of shelter and also to support behaviour [1]. Domestic architecture and the use of space has witnessed multidisciplinary and cross cultural studies [2]. The interest of various disciplines in domestic architecture is because of its influence on human wellbeing such as comfort [3], behaviour [4] and also portrays the culture of the people [5]. People's behaviour and the way they carry out their daily activities are culture specific [6, 7]. Equally important, in domestic architecture is that people derive meaning and also have a preference for certain spaces over the others [8, 9]. In addition, architecture in every locality is a product of accumulated transactions of people, which involves the harmonization of material, local environment and culture of the people as a form of identity [10]. These variations in the architecture of the people, especially the domestic architecture has thus

resulted in the study of various traditional buildings. As an illustration, there are studies on the assessments of climatic performance of vernacular architecture, spatial configurations and planning [11, 12]. Other forms of vernacular architecture studies also include space and place concepts [5, 12, 13]. This suggests that domestic vernacular architecture is multifaceted in dimension. However, for this research the inclination is towards architecture and what constitutes as a functional space in the lives of the local people, the Nupe ethnic group in central Nigeria.

It is worthy to note that the house serves as the primary base for the basic social relationships of the family [14]. Furthermore, the cultural world view of people and lifestyles are expressed in their homes. Similarly, people build houses to suit their socio-cultural lifestyles [15]. This suggests that people sharing a cultural tradition also have common social-spatial traits. Thus, in a domestic space it is expected that certain traits of spatial behaviour within a given culture would be the same. Also of

importance in shaping of people's spatial transactions is the socio-economic activity of a particular culture [16]. It is not uncommon to find a particular culture or community sharing the same type of occupation [17]. It is such that the transactions of people within a given community are likely to have a common cultural value in the use of space towards achieving their daily needs.

The common cultural values and transactions of people in the use of architectural space forms the objective of this research. Drawing it closer to the African context on what vernacular architecture entails, it is seen demonstrated in the scholarly work on major ethnic groups of Hausa of northern Nigeria [18–21]. Similarly, there exist studies on the architecture of the Igbos in the southern Nigeria [22, 23], and also the Yoruba ethnic group [24, 25]. However, these major ethnic groups of Hausa, Yoruba and Igbo have dominated cultural studies in Nigeria [26]. It is thus safe to state that little works exist on the vernacular architecture of minority ethnic groups such as the Nupes in central Nigeria. This, therefore, necessitates the study of a rural Nupe community's use of domestic space and what constitutes the basic architecture that fulfils their cultural daily needs.

2.0 THE STUDY COMMUNITY

Nupe people are located within the middle belt of Nigeria with two distinctive landscapes of upland and riverine communities. These two landscape types have distinctively been used by the Nupes to identify themselves. Those living within the river banks have their occupation as fishing and are regarded as the Kede. While the non-riverine communities refer to themselves as *kintsozhi*, (Upland people) [27]. There exist over seventy eight well established Nupe communities which are made up of both riverine and upland settlements [28]. However, amongst these, twelve towns have been identified to be the nucleus in the formation of Nupeland [29]. They are Bida, Eda, Ewu, Egbe, Esa, Yesa, Towagi, Pandzuru, Gaba, Tafyan, Nupeko, and Doko. For this reason, Doko town is selected as a representation of these twelve towns. Doko town is located 12 kilometres south of Bida, the Nupe capital. It is a rural community which has maintained its old tradition of subsistence farming and cultural values [30]. Furthermore, Doko community is situated away from the transit route of major towns and thus less likely to be quickly acculturised by the other ethnic groups especially the Hausa and the Yorubas.

3.0 RESEARCH METHODS

3.1 Data Collection

Ethnography as a method was used in the elicitation of human place relationship. It involved immersion of the researchers in the activities of the Nupe people through observation. The use of ethnography for elicitation of data is because it lies

within the epistemological tenet of naturalism [31]. It thus allowed for information to be gathered through the perceptions and cultural values of the Nupe person's spatial transactions. Furthermore, it also allowed emphasis to be placed more on understanding the transaction of the people within the settings where they live [32]. Consequent upon this in the elicitation of domestic space transaction of Doko community, the data collection also involved mapping, taking of field notes and interviews. These ethnographic data collection was for a period of eight month stay with the community.

3.2 Spatial Mapping

Architecture is about space as such spatial mapping aides understanding of peoples transactions with space [33]. Also, communities are guided by geographic boundary and thus the spatial identification of such boundaries increases the understanding of the spatial character [34]. Therefore, for this research Google map image was used to provide the primary spatial layout of the community. Similarly, Google image has been found useful in the conduct of this type of research [35]. The images from the Google map were traced to give an outline of the entire community. This was then followed by the physical identification and verification of the data generated from the Google map. This was then followed by behavioural mapping of spatial transactions of Nupe families.

3.3 Behavioural Mapping

The people-place relationship is complex to measure due to the dynamics associated with people and space transactions [36]. Some of the technique employable is the use of time budget concept [37]. The concept entails giving people diaries to record their activities and where such activities took place within a fixed period of time. However, for this study, the use of participants' diary was not possible due to the low level of literacy. As such observations were made by the researchers and recorded in an activity map for each of the families based on sessions. Session 1 began from 6am to 3pm, session 2 began from 3pm to 9 pm and finally the 3rd session began from 9pm to 6am. These sessions were based on preliminary observations made on the pattern of the community's transactions [4]. A day was then set aside each for the 15 families observed, while the third session (night) activities were elicited through interviews with the family heads the following days.

3.4 The Conduct of Interview

Behavioural mapping of activities alone may not give a full picture of People's perceptions and the meaning they derived from the functions of their architectural space. Furthermore, it is also Herculean to have a complete picture of spatial transactions, especially during the private times of rest at night. It thus became more conceivable for the researchers to conduct the interviews to complete the 24 hour

activity cycle of each family. This approach also served as a source of triangulation for the data elicited through direct observations [38]. The complexity with human phenomenological studies requires triangulation in order to increase the validity of data [39, 40]. The interview question on the family heads focused on domestic activities and where such activities took place during the third activity session (9am to 6pm).

4.0 ANALYSIS

The first aspect of the data analysis for all qualitative information gathered was open coding, then followed by sorting [38, 41]. The generation of indigenous typology involved putting together all the sources of information gathered from the field which includes, audio files, transcripts, pictures and field notes together for content analysis [38]. The merger of all the sources of data increased the validity of the output [31, 41, 42]. While for speed and accuracy in analysis QSR Nvivo version 10 was employed [43]. Furthermore, in determining the

most valued spaces in the daily transactions of the Nupe people, the thematic analysis was employed to determine the interrelationship of spaces with each other and how integrated each space is in the functioning of family members daily transactions. The outcome of this analysis is graphically generated as connection map in Figure 1 and presented in the next section.

5.0 RESULTS AND DISCUSSION

The basic structure of the Nupe compounds is made up several small individual courtyard units which are linked up together by alleys. A typical compound is made up entrance hut (*katamba*), sleeping rooms (*kata*), the courtyard, (*zhempa*), the animal pen (*ega*), the granaries (*edo*), the kitchen (*katagi*), the hearth (*yekun*) and the toilets and baths (*shikpata*). However, each culture has what it lays emphasis on as the basic requirement for fulfilling their daily spatial transaction. As such the thematic analysis of spatial transactions is highlighted in Figure 1.

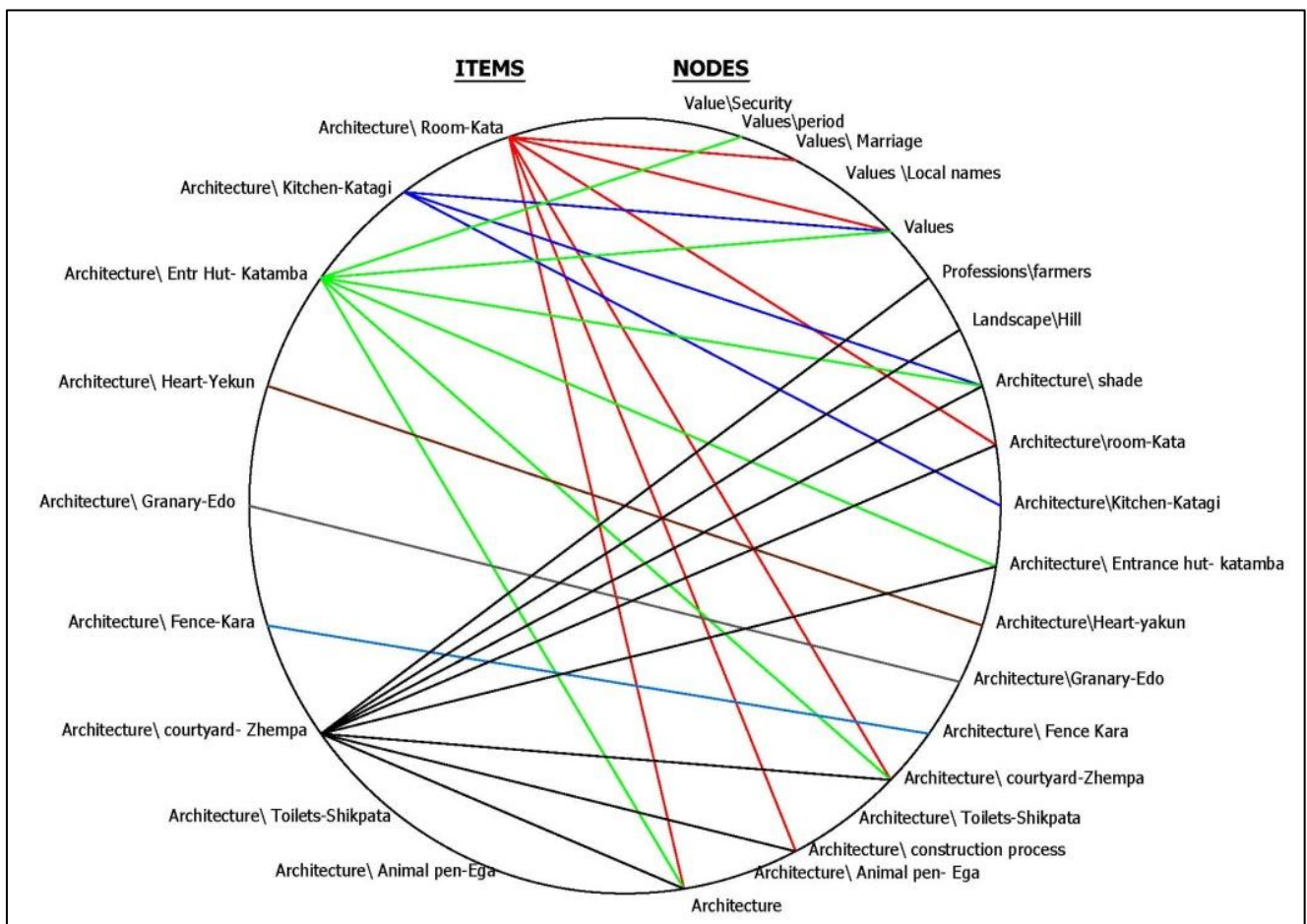


Figure 1 The spatial transactions connectivity map within the Nupe domestic spaces

The Figure 1 illustrates the level of how spaces are integrated into the daily activities of the Nupe community. The output of the analysis shows the strength of *zhempa* (courtyard) with nine activity relationships. This is followed by *katamba*

(entrance hut) and *kata* (room) each having six activity connections. The strength of connections portrays the relevance of each of these architectural spaces in the functioning of the system [44]. The system in this case is the domestic

transactions of the family members as illustrated in Figure 2. The family members chosen for the domestic transaction are the compound head,

the family head (father), the mother and the children.

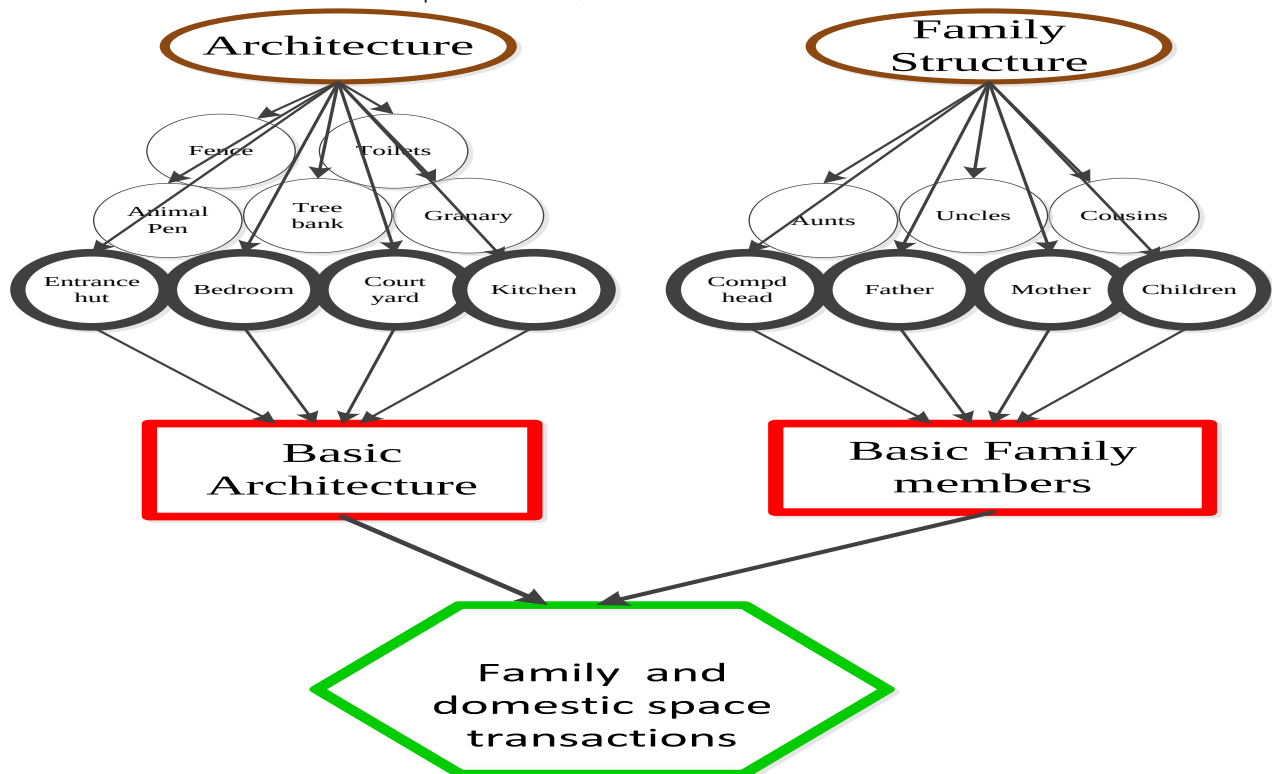


Figure 2 The family and domestic space transactions

The Nupe family system is such that the extended families live together within a given compound. As such, as illustrated in Figure 2, the members of the family extend beyond the immediate nucleus family. However, the thematic analysis and observations showed that the compound head (*Ndamitso*), the family head, the mother and the children was adequate to define the quotidian use of space by a Nupe family. These aforementioned members of the Nupe family therefore formed the basis for the spatial transactions in *Zhempa* (courtyard), *Katamba* (Entrance hall), *kata* (bedroom) and the *katagi* (kitchen)

5.1 Zhempa (Courtyard)

Zhempa (courtyard) is an exterior out of the door space and it is mostly irregularly shaped. A typical *zhempa* is surrounded by at least a kitchen, animal pen, and rooms. It is a space that provides for the drying of clothes, storage of water and drying of farm products as illustrated in Figure 3. It is also a space utilised for routine domestic chores by women and could be regarded as a territory of the women folk.

Furthermore *zhempa* also serves as resting place at night for the entire family, especially during the hot season. This is buttressed by a family head (Respondent R1) in the anecdote below:

"We slept at the zhempa because the weather was hot"

Summarily, it can be deduced that the courtyard for the Nupe people constitutes a high cultural value and also highly integrated in the daily domestic transaction of the Nupe people.



Figure 3 The courtyard as the women space for cooking and drying of farm product

5.2 Katamba (Entrance hut)

The *katamba*, (entrance hut) serves as the main entry into the Nupe compound. *Katamba* stems from two words, *kata* which means room and *mba*, the lord, which literally means the lord's room. It is called the lord's room because it is an embodiment of the compound leadership. It is a structure used by the compound head to receive guest of the compound in activities such as naming ceremonies, weddings and the mourning of the dead. It is an important structure in the transaction of the Nupe

community because no compound is without the *katamba*. This is contrary to assertions made by a scholar, which suggested that the Nupe entrance hall is of no significant value [20]. Nonetheless, the reason for this assertion could have been due to the simplicity of the *katamba* as illustrated in Figure 4. More to this is that the *katamba* is mainly used during ceremonies and thus on an ordinary look, it will be misconstrued to be of no relevance. The *katamba* in the Nupe cultural landscape is unlike the Hausa communities in Northern Nigeria who use the entrance hall daily as the resting place for the adult male [18, 19].



Figure 4 *Katamba*, the entrance hall

Furthermore, the *Katamba* constitutes an intangible value to the Nupe community. This is because; the *Katamba* bears the name of each compound. This is affirmed by the anecdotes of a respondent (R2):

"We are from the same *Katamba*"

This quotation means that they are from the same compound. Thus the *Katamba* forms a synonym for the name of the compound. As such, in the Nupe cultural landscape, the existence of *Katamba* in each compound shows its importance to the Nupe people. Similarly, its presence in each compound makes it possible to be used to represent the name of each compound.

There exists two spatial configuration of the *katamba* which are either in a circular or squared form. The *katamba* is built without windows but with two door openings centrally dissecting two opposite walls and mostly found to be detached. Additionally the *katamba* serves as a reference point for the Nupe people. This is because; it gives an orientation to the rest of the compound. It is such that the location of the *katamba* in the layout of the compound indicates the front of the house. Compound layouts do not necessarily follow any geographic orientation, but rather the location of the *katamba* gives the notational orientation. Thus the *katamba* forms an important architectural space in the daily transaction of the people through both its tangible and intangible forms.

5.3 *Kata* (Bedroom)

Kata (bedroom) are spaces for rest and relaxation across all cultures. It therefore constitutes an

important feature within the domestic space. However, how these spaces are used and the form in which they are shaped is influenced by culture [45]. Historically, *kata* has been shaped and constructed in circular form. However, over time people began to adopt the squared shapes. An 85 year old family head (Respondent R3) attributed this to people's desire towards the need to have inner rooms and private spaces. There is no distinctive size difference between the *kata* of the husband and that of the wife's. The distinction comes mainly in the interior furnishing of the rooms. The male rooms are mostly made up of the sleeping mat and a place to hang clothes while the female's rooms include pots stacked up together for decorations and storage of grains and valuables.

Furthermore, the rooms are mostly made up of a single small sized window of 0.6 meters by 0.6 meters. The small nature of the windows is complemented by the doors which are always left open for effective cross ventilation. For privacy the doors are covered with *shegi* (traditional blind) made from reed grass which allows air movement and light, this is illustrated in Figure 5.



Figure 5 The bedroom and the *shegi* blind

The value of *kata* in the cultural landscape of Nupe community is not unexpected. This is because, like all cultures, it serves as a primary space for sleep, rest and also provides a private space for procreation. However, in the cultural landscape of Doko community, the women are given more priority in the provision of a bedroom. This is deduced respectively from the anecdote of two respondents R3 and R4:

"A young man is only ready to marry when a room is built for the bride"

"The place of a woman is in her husband's house"

These anecdotes portray the importance of having a bedroom built for the bride over the groom. The grooms do not necessarily have their own bedroom before marriage. However, when the first bedroom room is built, it becomes the bride's. Confirming this is also the cultural norms which consider the place of a woman to be in her husband's house.

Deductively, the foregoing highlights the values associated with the key features that determine the basic architecture of domestic space in the cultural landscape of a Nupe community. However, there also exist some features within the domestic space that constitutes a low level of family-space transactions. They are the kitchen, the granary the local oven and the toilets. The lower level of transactions can be attributed to the cultural behaviour of the Nupe people in the use of spaces. For example the concept of the kitchen transactions is made up of two types. The first type is called *nanche*, the open kitchen which is situated within the courtyard. The second type of kitchen is the *katagi*, the covered kitchen. The *nanche* is the most used while the *katagi* is used only when the weather is not favourable such as rainfall. This therefore makes the activity of the kitchen to be subsumed into that of the courtyard. Similarly, the low strength of the *edo* (the granary) in the daily transactions of the family is as a result of the cultural behaviour of food storage. The family head fetches grains either on a weekly basis or fortnightly depending on the convenient practice of each family. This therefore limits the frequency of access to the granary. Also the *yekun*, the local oven is found in almost all the compounds. However the *yekun* is mainly used seasonally in the periods of the bulrush millet harvest, which occurs during the raining season in which it serves as a quick dryer and after the raining season it becomes less functional. While the low strength of toilet transactions can be attributed to its location far away from the rest of the buildings. Summarily the transactions of the Nupe people and their spaces are guided by their cultural values.

6.0 CONCLUSION

The research sets out to understand the basic spatial needs of the Nupe community. The results show that amongst the various domestic architectural spaces identified, the *katamba* (courtyard), the *kata* (bedroom) and the *zhempa* (courtyards) are found to constitute the main feature which defines the basic requirement for the Nupe community.

Furthermore, the cultural values of species are found not to be solely tied to their tangibility but also their intangible functions in the transactions of the people. This is portrayed in the Nupe cultural landscape where the *Katamba* which looks simple and insignificant to an outsider (a non-resident) play vital roles in symbolically representing the name of the compound and also serving as a point of notational orientation of a Nupe compound layout. This shows that the Nupe domestic spatial transactions are constituted in both tangible and intangible forms. Implying that, the provision of architectural spaces should not be limited to the dimensional quantities (tangible) but to also include the non-dimensional values (the intangibles).

Acknowledgement

The researchers appreciate the efforts of Liman Ibrahim Alhaji, Abubakar Muhammad, Mallam kudu Gona, Jibrin Manma, Umar Liman and Bababoku for their assistance during the conduct of the field work. Our appreciation also goes to the village head for allowing the conduct of this research without hindrance.

List of Respondents

The profile of the respondents quoted in this article is given in table 1.

Table 1 The profile of respondents

Respondent	Profile
R1	A 65-year-old farmer whose primary occupation is farming. He is a compound head and has also obtained the Qur'anic Islamic education. He has one wife and six children
R2	A 55-year-old family head with two wives and nine children. He had a Western education up to secondary school.
R3	A 85-year-old compound head with the basic primary education. He has two wives and fourteen children His primary occupation is farming.
R4	A 74-year-old compound head who leads one of the largest. He has one wife and nine children.

References

- [1] Donovan, K. and Gkartzios, M. 2014. Architecture and Rural Planning: 'Claiming The Vernacular'. *Land Use Policy*. 41: 334-343.
- [2] Lu, D. 2012. Cultural Analysis of Housing and Space. In *International Encyclopedia of Housing and Home*. In S.J. Smith, Edition. San Diego. Elsevier. 296-299.
- [3] Berkovic, S., Yezioro, A. and Bitan, A. 2012. Study of Thermal Comfort In Courtyards In A Hot Arid Climate. *Solar Energy*. 86(5): 1173-1186.
- [4] Muhammad, I. B. and Said, I. 2015. Behavioral Use of Courtyard in a Nupe Cultural Landscape of Nigeria. *Proceedings of the International Congress on Interdisciplinary Behaviour and Social Sciences*. CRC Press.
- [5] Alkhalidi, A. 2013. Sustainable Application of Interior Spaces in Traditional Houses of the United Arab Emirates. *Procedia-Social and Behavioral Sciences*. 102: 288-299.
- [6] Appleton, J. 1975. *The Experience of Landscape*. London: John Wiley and Sons Ltd.
- [7] Jenkins, P. 2007. *Africa Architecture Tomorrow: A research Approach*. Kwame Nkrumah University of Science and Technology.
- [8] Stephenson, J. 2005. *Values In Space And Time: A Frame Work For Understanding And Linking Cultural Values In Landscapes*. University of Otago. Dunedin, New Zealand.

- [9] Bergeron, J., S. Paquette, and P. Poullaouec-Gonidec. 2014. Uncovering Landscape Values and Micro-Geographies of Meanings with the Go-Along Method. *Landscape and Urban Planning*. 122(0): 108-121.
- [10] Oikonomou, A., F. Bougiatioti. 2011. Architectural Structure and Environmental Performance of the Traditional Buildings in Florina. NW Greece. *Building and Environment*. 46(3): 669-689.
- [11] Khalili, M. and S. Amindeldar. 2014. Traditional Solutions in Low Energy Buildings of Hot-Arid Regions of Iran. *Sustainable Cities and Society*. 13: 171-181.
- [12] Parsaee, M., M. Parva, B. Karimi. 2014. Space and place concepts analysis based on semiology approach in residential architecture: The case study of traditional city of Bushehr, Iran. *HBRC Journal*.
- [13] Berker, T. 2011. Domesticating Spaces Sociotechnical Studies and the Built Environment. *Space and Culture*. 14(3): 259-268.
- [14] Chen, G. M. 2015. Theorizing Global Community as Cultural Home in the New Century. *International Journal of Intercultural Relations*. 46: 73-81.
- [15] Ghaffarian Hoseini, A., et al. 2014. What Can We Learn From Malay Vernacular Houses? *Sustainable Cities and Society*. 13: 157-170.
- [16] De Aranzabal, I., et al. 2008. Modelling Of Landscape Changes Derived From The Dynamics Of Socio-Ecological Systems. *Ecological Indicators*. 8(5): 672-685.
- [17] Ruiz, J., G. Domon. 2012. Relationships between Rural Inhabitants and Their Landscapes in Areas of Intensive Agricultural Use: A Case Study in Quebec (Canada). *Journal of Rural Studies*. 28(4): 590-602.
- [18] Saad, H.T. 1981. *Between Myth and Reality: The Aesthetics of Traditional Architecture in Hausaland*. University of Michigan.
- [19] Muhammad-Oumar, A.A. 1997. *Gidaje: The Socio-Cultural Morphology Of Hausa Living Spaces*. University Of London.
- [20] Adamu, M.S.T. 2005. Interpretation of Meaning and Message in Hausa Traditional Architecture: The Case of the Entrance Hall-Zaure. *Journal of Association of Architectural Educators in Nigeria*. 4:10-21.
- [21] Barau, A.S. 2008. Glimpses into Triple Heritage of the Kano Built Environment. In *International Conference Organised By (INTBAU) Held At Mambayya House*. Kano, Nigeria.
- [22] Nwoye, C.M. 2011. Igbo Cultural And Religious Worldview: An Insider's Perspective. *International Journal of Sociology and Anthropology*. 3(9): 304-317.
- [23] Uduku, O. 2006. Modernist Architecture and 'the Tropical' in West Africa: The Tropical Architecture Movement in West Africa. 1948-1970. *Habitat International*. 30(3): 396-411.
- [24] Falade, J. 1990. Yoruba Palace Gardens. *Garden History*. 47-56.
- [25] Usman, A. A. 2004. On The Frontier of Empire: Understanding the Enclosed Walls In Northern Yoruba, Nigeria. *Journal of Anthropological Archaeology*. 23(1): 119-132.
- [26] Adegbiya, E. 2004. Language Policy and Planning in Nigeria. *Current Issues in Language Planning*. 5(3): 181-246.
- [27] Nadel, S. F. 1942. *A Black Byzantium: The Kingdom Of Nupe in Nigeria*. International Institute of African Languages & Cultures.
- [28] Yahaya, M. K. 2003. The Nupe People of Nigeria. *Studies of Tribes and Tribals*. 1: 95-110.
- [29] Idrees, A. 1998. Political Change and Continuity in Nupeland. Caltop Pub. (Nig.) Ltd. Ibadan Nigeria.
- [30] Muhammad, I. B., I. Said. 2014. Cultural Landscape Value and Spatial Representation of Trees in a Rural Nupe Community of Nigeria. In *International Alliance for Sustainable Urbanization and Regeneration*. Kashiwa, Japan. 24-27 October 2014.
- [31] Creswell, J.W. 2012. *Educational Research Planning, Conducting and Evaluating Quantitative and Qualitative Research*. 4th ed. Boston: Pearson Education Inc. 649.
- [32] Stephenson, J. 2007. Many Perceptions. One Landscape. *Landscape Review*. 11(2): 9-30.
- [33] Culotta, S. and G. 2011. Barbera, Mapping Traditional Cultural Landscapes in the Mediterranean Area Using a Combined Multidisciplinary Approach: Method and Application to Mount Etna (Sicily; Italy). *Landscape and Urban Planning*. 100(1): 98-108.
- [34] Higgins, S., M. Mahon, J. McDonagh. 2012. Interdisciplinary Interpretations and Applications of the Concept of Scale in Landscape Research. *Journal of Environmental Management*. 113(0): 137-145.
- [35] Yang, X., et al. 2012. Preliminary Mapping of High-Resolution Rural Population Distribution Based On Imagery from Google Earth: A Case Study in the Lake Tai Basin, Eastern China. *Applied Geography*. 32(2): 221-227.
- [36] Kuipers, M., et al. 2014. Building Space-Use Analysis System. A Multi Location/Multi Sensor Platform. *Automation in Construction*. 47: 10-23.
- [37] Marshall, H.H., et al. 2012. Linking Social Foraging Behaviour with Individual Time Budgets and Emergent Group-Level Phenomena. *Animal Behaviour*. 84(6): 1295-1305.
- [38] Miles, M.B., A.M. Huberman, J. Saldaña. 2013. *Qualitative Data Analysis: A Methods Sourcebook*. Sage Publications. Incorporated.
- [39] Yin, R. 2009. *Case Study Research-Design and Methods*. Los Angeles: Sage Publications. Incorporated.
- [40] Forsey, M.G. 2010. Ethnography as Participant Listening. *Ethnography*. 11(4): 558-572.
- [41] Glaser, B.G., A.L. Strauss, E. Strutzel. 1968. The Discovery of Grounded Theory; Strategies for Qualitative Research. *Nursing Research*. 1968. 17(4): 364.
- [42] Groat, L. and D. Wang. 2002. *Architectural Research Methods*. United States of America: John Wiley and Sons, Inc.
- [43] Bazeley, P. and K. Jackson. 2013. *Qualitative Data Analysis with Nvivo*. London: Sage Publications Limited.
- [44] Glaser, B. G. and A.L. Strauss. 2009. *The Discovery of Grounded Theory. Strategies for Qualitative Research* Transaction Publishers.
- [45] Rapoport, A. 1969. *House Form and Culture. Foundations of Cultural Geography Series*. Englewood Cliffs, New Jersey.