Whither the courtyards? Understanding disappearance and transformation of courtyards in residential buildings in Akure, Nigeria

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Abstract. Courtyards are historically a notable part of residential buildings in South-west Nigeria and other parts of tropical Africa. They perform a range of functions – from the climatic to the socio-cultural. Presently, new residential buildings are excluding courtyards while existing courtyards within residential buildings are being altered. This paper presents a study that investigates the reasons for these in the context of Akure, a medium-sized city in South-west, Nigeria. We conducted twelve semi-structured interviews with three groups of purposively selected participants. These are: those who own and live in houses with courtyards (whether transformed or not), those living in houses without courtyards and built environment professionals (architects and planners). Factors influencing the disappearance/transformation of courtyards include increasing demand for compact and cheaper buildings, changing household lifestyle, climatic/ecological problems, insecurity. This paper proposes means through which the value of courtyards in residential buildings might not be completely lost.

1. Introduction
Courtyards have been part of different kinds of buildings over the centuries and across various climes. Its origin can be traced to the time human beings started erecting houses for shelter – to offer protection from the elements [1]. Courtyard refers to the ‘unroofed area that is totally or partly enclosed by fortifications or buildings, classically one forming part of a large house’ [2]. Based on a review of different descriptions given to courtyards in different places, Markus [3] defines courtyard as an open space bounded by walls of a structure or building.

The inclusion of courtyards comes with different benefits. It is widely acknowledged, historically and in contemporary times, that courtyards within residences and other kinds of buildings offer micro-climatic control. Courtyards, as a passive cooling strategy (architecturally), is well-known in the Mediterranean, Middle Eastern and Tropical regions. By allowing sunlight, wind and sunshine into the interior of the house, a courtyard promotes thermal comfort. It helps to control solar radiation, channels breezes, landscape elements (e.g. trees) lower air temperature and alters humidity levels [4,5,1]. In hot-arid climates, a courtyard serves as a form of cool air reservoir within the building [6]. A recent
experimental study within two student housing in Northern Nigeria shows that a fully enclosed courtyard performs more favourably, in terms of the micro-climate, compared with a semi-enclosed courtyard [7].

Courtyards reflect cultural lifestyle. In many parts of the world, Nigeria and sub-Sahara Africa inclusive, indigenous housing patterns usually reflect traditions of the people, cultural practices as well as consideration for the natural environment [8]. In Nigeria, the traditional Yoruba family house is generally in form of compounds - a cuboidal form. Spaces are arranged around the courtyard which ‘acts as the focal point and a place of interaction among family members’. Usually, preceding the courtyard is the space called ‘akodi’ which serves as a form of entrance porch. A guest that is admitted into the courtyard turns out to become a legitimate recipient of the family kindness [9,10]. It was also reported that some of the cultural rituals done by Yorubas take place within courtyards. In the same vein, the houses of chiefs in Benin city, ‘have their rooms arranged around a series of courtyards leading one out of the other’ [23]. A rectangular and sunken impluvium is usually located within the compound. This usually includes an outlet which takes rainwater from the roof (runoff) falling within the courtyard outside the building.

Across different cultures, climes and centuries, social activities usually take place within courtyards in residential buildings. Courtyards are used for cooking, serving as an extension of the kitchen and as living area where guests are entertained. It is a space for family interaction and serves as sleeping area at night, when the weather is conducive for such. Recreational activities, gardening or in some cases keeping animals take place within courtyards [11,1,12]. Courtyards provide privacy, when it is visually secluded through screening or walled entrances. In some Islamic regions, courtyards inside the house provide the only outdoor (unroofed) space for women to relax unseen [2]. Acoustic buffering takes place when enclosures work as a noise barrier between the courtyard and outdoor area. The suitability of courtyards for these diverse functions depends on several things including size and its location within the buildings’ layout [3].

In contemporary times, urbanisation with the associated lifestyle, globalisation (especially the influence of western culture), technological advancement among others affects house types in many African countries. Consequently, most of the houses being developed lack proper links to social and cultural roots of the occupants. Notably, the courtyard style in residential buildings has been disappearing. Even though courtyard has different significances, it appears that new houses being designed and built avoid courtyards. Preference for courtyard style housing has drastically reduced in most countries in Sub-Sahara Africa. The western-style villa courtyard-less housing typology now dominates many areas within cities in West Africa. The shift away from courtyard-style housing to villa housing is partly influenced by the notions of what is regarded as ‘modern’ [13]. Decline of courtyard in buildings in the course of redevelopments within the traditional residential districts have also been reported in Beijing, China [14]. According to Andersen and colleagues [15], the traditional multi-habited courtyard house is regarded by some as an anachronism – something ‘outdated and unsuited to modern African urban life’. Oladiti and colleagues [16] argues that colonization in Nigeria kickstarted the disappearance of traditional architecture especially indigenous housing of the courtyard type.

Replacing courtyards with other spaces or avoiding it totally represents a case where values of people are left out in the design of buildings. This might reduce performance of such buildings. Literature has shown that one of the problems confronting urban housing development in Nigeria and many developing countries, is the neglect of people’s values and cultures [17]. It has been established that when housing design contradicts the users’ lifestyle and preferences, it would invariably lack originality and relevance [18].

Given that housing reflects people’s history and practices, the need to preserve its patterns and components as modernity continuously unfolds is critical to achieving suitable and sustainable human settlements. Hence, the current trend of not including courtyards in new residential buildings and transformations of courtyards in existing residential buildings deserve to be explored. This paper
therefore presents a study that investigates the disappearance and transformations of courtyards, identifying the reasons, using the context of Akure, Nigeria. The aim of the study is to understand how the values of courtyards within residential buildings can be preserved.

2. Study Area and Research Methods
Akure, the capital city of Ondo State, Nigeria, is located on latitude 7°25’N and longitude 5°20’E, and lies about 250m above sea level. According to the 2006 National Population Census, the city contains around 484,798 people, a figure projected to have grown beyond 588,000 at present [19]. The mean annual relative humidity is about 77.1%, based on data from the Nigerian Meteorological Agency. Average rainfall is about 1500mm per annum [20]. Akure is a medium-sized Yoruba city that is rich in cultural heritage and traditions, which have been reflected in housing design and the built environment at large. A quintessential case of architectural heritage within the city is the King’s palace which has about 18 different courtyards, with each one having its unique significance in terms of the city’s customs and tradition. According to history, the palace was built around 1150 AD by the first traditional ruler of Akure kingdom. It was declared as an historical national monument in 1990 and has continued to attract numerous local and international tourists [21]. Residential buildings developed in the city many decades back adopted the courtyard style [22].

![Figure 1. Part of the Palace’s Ground Floor Plan. Source: Dmochowski (1990, p.216).](image-url)
This research adopts a qualitative approach. It involves semi-structured interviews that elicit information from research participants. The qualitative approach was adopted because of the nuanced kind of the information needed. The data collection method (semi-structured interviews) brings the researcher in a face-to-face conversation with the research participants (interviewees). The participants come from three mutually exclusive groups of: (i) Home owners who have courtyard - whether transformed or not (ii) Home owners who do not have courtyards (iii) Built environment professionals – architects and planners. These are knowledgeable about the use and non-use of courtyards in the city. A total of twelve people, across the three groups, were interviewed (See Table 1). Different interview schedules were developed and used for each of the three groups. The interview questions captured the participants’ personal information/background, perception on merits, demerits and functions of courtyards, and where applicable, reasons for transformations in the courtyard. Where allowed, the interviews were audio-recorded and later transcribed. Context analysis of the interview transcripts and notes was undertaken thereafter.

### Table 1. Distribution of Interviewees across the three groups

| Category of Participant                                    | No |
|------------------------------------------------------------|----|
| Home owners with courtyard                                 | 5  |
| Home owners without courtyard                              | 4  |
| Professionals (Architects, Urban Designers/Planners)       | 3  |
| **Total**                                                  | **12** |

In addition to the interviews, the authors visited some residential buildings with courtyards, whether such has been transformed or not. Where possible and allowed, photographic materials were used to record observations made during the field visits. The images illustrate some of the points emanating from the interviews.

### 3. Study Findings

The interviewees highlighted what they understood as advantages and disadvantages of courtyards in residential buildings. Reasons for transformations and disappearance of courtyards in residential buildings were also identified. These merits, demerits and reasons in the context of Akure are presented in this section.
3.1 Uses and advantages of courtyards in Residential Buildings

The interviewees had different perspectives on the usefulness of courtyards. Some opine that courtyards are more of an advantage than a disadvantage in residential buildings. The following advantages were mentioned:

i. Symbolic value: Courtyards, in the Akure and Yoruba culture generally, are symbolic because of its links to cultural practices.

ii. Lighting and ventilation: The courtyard as an internal open space is a central element which provides natural daylight and ventilation.

iii. Privacy: It is within a courtyard that you get a completely private space (unnoticed from strangers) beneath an open sky.

iv. Status symbol: Houses with courtyard(s) are costlier than the ones without it. Only rich clients can afford to build with courtyard. So, having a courtyard can be a statement of the financial status of clients.

v. Circulation: When at the centre of the building, it serves as an area that links adjoining spaces together.

3.2 Disadvantages of Courtyards in Residential Buildings

The interviewees pointed out known or perceived disadvantages of courtyards in residential buildings. A respondent who only sees little demerits with courtyards explain that courtyards can only be a disadvantage if not properly managed by the owners (personal communication, No 9, 2018). Disadvantages associated with courtyards can include increases in construction and operational cost of a residential building; medium for burglary; waste of space. These disadvantages inform reasons presented (see the next sections) for courtyard transformations.

3.3 Transformations in courtyards within Residential buildings

Most of the interviewees agree that courtyard is a thing of the past. On the importance of courtyard in residential buildings, only three of the interviewees strongly support it. The remaining interviewees believe that other spaces/components can conveniently replace courtyard in residential buildings. The reality is that there is a shift away from the traditional era where courtyards are prioritized in the design of residential buildings. A professional opined that one ‘may not be able to say directly that there is a disappearance, it is more of a paradigm shift from what it used to be to what we have now’ (personal communication, No. 8, 2018).

A notable transformation reported by the interviewees and observed by the authors is that of covering the opening to completely or partially prevent access for human being, animals, water, lighting and air. Net is used to prevent access for mosquitoes and reptiles, ironmongery is installed to prevent access for burglars while translucent roofing sheet over the opening admits light but keeps everything else (including rain water) out (See figure 3). Describing this, an interviewee said that ‘people are covering their courtyards and making it look like an atrium’ (personal communication, No. 1, 2018). Another transformation was that of a house where ‘instead of leaving it [courtyard] for people to access, he [the owner] put artificial carpet all over, then artificial plant. You cannot walk into it. He now has glass all around the four sides’ (personal communication, No. 4, 2018). The sizes of courtyards within residential buildings for single family (one dwelling unit) are relatively small. None generally exceeded 20m². So, making alterations to this space was not a big deal for the home owners.
3.4 Reasons for Transformations in Courtyards

The challenges, risks and problems associated with courtyards in residential buildings in context of Akure are reported in this section. These also account for the reasons transformations take place.

i. Morphology of the modern house and changes in domestic lifestyle has reduced the need for a courtyard. For instance, introduction of verandas/terraces now accommodates some of the activities that traditionally took place in courtyards. Balconies, pergolas and so on have replaced courtyards as relaxation spaces. The dining or family living room is now the hub of activities, making these an alternative to the courtyard. An interviewee explained that “those days they were using courtyard because of their polygamous settings, where the family gather there to do all sorts of things…In modern days people hardly use courtyards. From your kitchen, living room you are moving [straight] to maybe dining or you are already entering your bedroom… You don’t need to come out’ (personal communication, No. 4, 2018). Another interviewee observed that many ‘don’t have time. When they come back, they just go to their bedrooms, even on weekends they go for functions, no time to gather around [in the courtyard]” (personal communication, No. 7, 2018).

ii. High tech buildings have replaced the traditional houses which adopted the use of courtyard. Ventilation and lighting problems are now addressed artificially in residential buildings. The owner of a home without courtyard shows that ‘people don’t need courtyard for ventilation, because now
there are artificial sources of lighting and ventilation’ (personal communication, No. 6., 2018). This, he thinks, is notwithstanding the fact that natural ventilation is better than artificial.

iii. With courtyards, there is poor protection of the building and its occupants from the elements. An interviewee with a courtyard ‘discovered that mosquitoes and other creeping things usually come in because it is open. Water (rain) is even entering the house and reptiles come in through the courtyard (personal communication, No. 3, 2018). It was also reported that the ‘action of rain and sun over a long time causes the surrounding walls of the courtyard to get a greenish look’ (personal communication, No.8, 2018). An example of this is shown in figure 3 (below right).

iv. The problem of insecurity has informed transformations in courtyards. Some of those interviewed acknowledged that insecurity is a problem in buildings with courtyard. ‘Security is no longer as it used to be, …there are cases where people climb through courtyard into the house. [So] the people that even have courtyards tend to put burglary proofs’ (personal communication, No. 5, 2018), a professional explained.

v. Lack of interest from clients is a major reason why courtyards are rarely included in design of residential buildings. This could be a result of ignorance on the advantages or notion that it is ‘outdated’, as one interviewee puts it (personal communication, No. 12, 2019).

vi. Due to increasing cost of land and construction, spaces are now organized in a compact manner. People want to build a house that is just enough for them and their (nuclear) family. Interviewees believe that courtyards tend to make buildings unnecessarily bigger and costlier. Capturing the thoughts of some other interviewees, a homeowner explained that ‘you must have enlarged the scope of the building when you embed the courtyard. Because people want to economize, you see some building with just two bedrooms - for me and my wife, that’s all. They don’t want all these things’ (personal communication, No. 2, 2018).

vii. It is widely seen that courtyard ends up becoming a waste of space. A home owner describes her courtyard as ‘empty’ and therefore a waste (personal communication, No. 12, 2019). To another interviewee, ‘some of the courtyards are not functional courtyards, they are like potholes’ (personal communication, No. 8, 2018).

viii. Poor courtyard design by professionals and improper maintenance constitutes a bad precedence which discourages attractiveness and interest in the use of courtyards.

The usefulness and advantages of courtyards coming to the fore through this study are like those reported in literature (See 1, 8, 12). The disadvantages and reasons for disappearance reported, although might not be unprecedented, were not generally reported in literature. The study’s findings therefore challenge the ‘all-good’ notion that might have been associated with courtyards, especially those within residential buildings. Although the study was conducted in Akure, Ondo State, Nigeria, the findings has broader implications in places of similar geography, culture and socio-economic conditions.

4. Conclusion
The study reported in this paper examined the use, benefits and problems associated with courtyards in residential buildings using the context in Akure, Ondo State, Nigeria. Reasons for transformations of courtyards were also presented. The fact that courtyards are becoming a thing of the past in residential buildings was further established through this study. Factors responsible for this, as captured through this study, include increasing demand for compact buildings and cheaper housing, changing household pattern and lifestyles, security challenges and climatic/eco-logical issues.
Although the study has limitations in terms of study area, relatively small number of participants and using only qualitative method for data gathering, the findings have significance for socially and environmentally sustainable housing design. It is clearly not good that courtyards and its values are completely lost and forgotten within residential and other kinds of buildings. To retain the values associated with courtyards in residential buildings, we recommend the following:

- Architects should innovate with the use courtyards, so that the demerits are reduced to the barest minimum.
- Courtyards should be designed to serve multiple purposes such that they can be of multiple benefits.
- Given its historical value and current spate of disappearance in residential buildings, concerns about its preservation should be included in architectural heritage considerations.

References

[1] Abass F, Ismail L H and Solla M 2016 A Review of Courtyard House: History Evolution Forms, and Functions **ARPN J. of Eng. and Appl. Sciences** 11 2557-2563.
[2] Mai M M and Shamsuddin S 2008 Ethnic spatial identity in the context of Urbanization: the transformation of Gbagyi compounds in North Central Nigeria **J. of Urbanism** 1 265-280.
[3] Markus B 2016a A Review of Courtyard House in Nigeria: Definitions, History, Evolution, Typology, and Functions **Intl. J. of Science and Tech.** 5 103-117.
[4] Hyde R A 2005 Sustainable by Passive Architecture using courtyards in non-domestic buildings in Southeast Queensland Tokyo: World Sustainable Building Conference.
[5] Jayasudha P D M 2014 A study on sustainable design principles: A case study of a vernacular hanjavur region of Tamil Nadu, India **Indian J. of Traditional Knowledge** 13 762–70.
[6] Shapak S and Bandyopadhyay A 2014 Courtyard houses: An overview **Recent Research in Sci. and Tech.** 6 70-73.
[7] Markus B, Malsiah B H and Lim Y W 2017 Microclimatic Performance of Courtyards in Residential Buildings in Kafanchan-Nigeria. **Intl. J. of Built Environment and Sustainability** 4 220-226.
[8] Osasona C, Ogunshakin L and Jiboye A 2007 The African Woman’s right to security through sanitation. From the dwelling unit to the neighbourhood **Intl. Forum on Right to Live in Africa. Trieste**, 9-10.
[9] Amole B 1998 *Social classification of domestic space. A comparative analysis of Hausa and Yoruba urban dwellings*. ed B Amole **Habitat Studies in Nigeria. Some qualitative dimensions** (Ibadan: Shaneson Publishers Ltd).
[10] Osasona C O 1998 Traditional house-form and the symbol of value of space and material ed B Amole **Habitat Studies in Nigeria. Some qualitative dimensions** (Ibadan: Shaneson Publishers Ltd) p 66-77.
[11] Nissan E 2016 Courtyards, Balconies and Roofs: Domestic space and Jewish identity in the memory culture of Iraqi Jews **Journal of Modern Jewish Studies** 15 282-300.
[12] Markus B 2016b Evaluation of Courtyard Usage and its Design requirements in Residential Buildings in Nigerian Hot-Dry Climate **Intl. J. of African Society Cultures and Traditions** 4 1-12.
[13] Asomani-Boateng R 2011 Borrowing from the past to sustain the present and the future: indigenous African urban forms, architecture, and sustainable urban development in contemporary Africa **Journal of Urbanism** 4 239-262
[14] Wang Y 2016 The Decline of the Courtyard House and the Large-Scale Redevelopment of the Old City. in *A Century of Change* (Cham: Springer) p 71-94.
[15] Andersen J E, Andreasen J and Tipple G 2006 The demise of compound houses: consequences for the low-income population in Kumasi, Ghana **RICS Research Papers** 6
[16] Oladiti A A, Adeoye D O and Idowu A S 2016 Maxwell Fry and Jane Drew Partners: The Contributions of British Architects to Built Environment in Colonial Nigeria, 1946-1959 **Revista da Faculdade de Letras-História** 6 269-288.
[17] Maina J J 2013 Uncomfortable prototypes: Rethinking socio-cultural factors for the design of public housing in Billiri, north east Nigeria *Frontiers of Architectural Research* **2** 310-321.

[18] Ikejirofor U 1998 If past traditions were building blocks: A perspective on low income housing development in Nigerian cities *Building and Environment* **34** 221-230.

[19] National Population Commission 2006 Federal Republic of Nigeria Official Gazette Abuja.

[20] Balogun I A, Adeyewa D Z, Balogun A A and Morakinyo T E 2011 Analysis of urban expansion and land use changes in Akure, Nigeria, using remote sensing and geographic information system (GIS) techniques. *Journal of Geography and Regional Planning* **4** 533.

[21] Gbadamosi K 2018 Deji Of Akure’s 869-Year-Old Palace: A Cultural, Historical Masterpiece Like No Other Nigerian Tribune 5 February.

[22] Pruncnal-Ogunsote B 2005 *Reflection of Culture and Climate in the Vernacular and Modern Architecture of Akure*. Procs. Intl. Conference on Sci and Tech., Federal University of Technology, Akure 14-19 August.

[23] Foyle A M Architecture in West Africa *Afr. South*, **3** 97-105.