

CONTRASTING HOUSING TRANSFORMATION IN CORE DHAKA AND PERI-URBAN ABUJA

Moukhtar M. Mai

University of Teknologi, Malaysia

Mahbubur Rahman

University of Teknologi, Malaysia

ABSTRACT

Informal settlements constitute the bulk of urban housing stock. Culture specific dwelling units in the developing countries are transforming fast to commercial style housing due to drastic urbanization, globalization and their attendant acculturation. This paper focuses on establishing commonalities and disparities of the situations in Abuja, Nigeria, and Dhaka, Bangladesh, in terms of the transformation process, the predicated denominator, and the driving force. It will make comparative analysis of the changing residential patterns in these two developing world cities in Africa and Asia over a period of several decades. This research qualitatively contrast physical, social and psychological adjustments observed in traditional family compounds typical of Abuja; and the commercial subdivision of old Dhaka houses.

In line with the post positivists' epistemology, an emergent-grounded theory triangulates with quantitative evidence and field observation. The findings suggest a fusion of isolated Gbagyi housing units into hollowed-out structure physically; and fission of the tribal group socially. Individualism replaces communal responsibility, with Islam and Christianity as moderators in Abuja, while the core Dhaka housing transformation pattern emphasizes on spatial economization through subdivision, addition-subtraction, conversion and reconstruction, motivated by convenient fraternity of respective socio-economic classes that are united in housing themselves. These findings give evidence of economic precedence over cultural sustainability in the process of housing transformation. However, the capitalist tendency of the twenty first century for income first, jeopardizes local identity, rhythm and modernity. This could have a global implication on cultural sustainability of vernacular housing in the urban environment.

Key words: *Informal settlements, cultural sustainability, housing transformation, informal delivery.*

1. INTRODUCTION

Transformation of housing, a physical manifestation of society's culture that is dynamic, is an inevitable response to changing needs brought by socio-economics of survival. As is universally observed, families require satisfactory dwelling environment throughout their respective life cycles. Housing transformation, whether by moving, improving or a combination of both seeks to obtain satisfactory habitat. Transformation also takes place due to changing needs and aspirations, some with priorities. Family requirements, need for comfort, duration of living, and tenure type and security also vary over time. These are important causes, particularly in the developing countries, that see changes in its infrastructure, services, density, economy and the society as a whole.

Shifts in population distribution and mobility and economic and political forces have changed societies and the urban environments in Abuja and Dhaka— cities of developing countries. Today, in large cities with high demographic and social mobility, neighbours have become strangers, individual identity is lost, and the feeling of community and pride in ones own place are gone (Rahman & Islam, 2004). Socially accepted unwritten controls on the environment and people no longer exist. The internal dynamics and the external stimuli bringing about changes are too intense and too fast for the transformed society to absorb and assimilate, without altering and damaging the context beyond recognition. The dynamics of change has divested the community of the socially accepted framework; there is no mechanism to manage it without losing the essential character.

The paper mainly contains four sections. Following this introduction are outlines of core Dhaka and Peri-urban Abuja settlements. The second section deals in a comparison of the two transformation profiles. The third section is on apparent spatial transformation profile. The fourth section concludes the paper with recommendations.

1.1 Core Dhaka Settlements

Dhaka, a city older than the time when it was first recognized as the capital of Mughal province of Bengal in 1608, has gone through Mughal, Colonial and Pakistani rule before becoming the capital of independent Bangladesh in 1971. With around 14 million people increasing at 4%+ rate, it is destined to be the 4th largest in the world by 2020. Like typical developing world's mega cities, Dhaka is plagued with poverty, migration, unplanned growth, poor services, pollution and ill governance. The old core in the south on the river is one of the densest areas in the world, with narrow alleys, crumbling infrastructure, and thousands of neglected traditional buildings that provide refuge to low-income families. The society, predominantly Muslim with about 15% Hindu, is culturally homogenous, though there is a wide disparity in income and education.

Dhaka's warm-humid climate has four distinct seasons with long monsoon and temperature variation of 10-40°C making climate an important factor for the house form. Considerations like south wind, cross ventilation, adequate rain protection and shade etc. are essential in architecture. Introverted rooms around courtyards, a replica of rural form, creates a pleasant microclimate, and ensures necessary light and ventilation

in traditional urban houses by acting as a cool sink (Mallick & Huda, 1996). Most parts of these houses are thus single room depth with a veranda (Rahman & Haque, 2001).

1.2 Abuja Peri-urban Settlements

Abuja, planned in the late 1970s and developed throughout the 1980s, became the Federal Capital Territory (FCT) of Nigeria on December 12, 1991. Endowed with fertile land for agriculture and a uniformly moderate climate, it has two distinct seasons: the rainy (March-October) and the dry (October-March). The high temperatures and the relative humidity in the Niger-Benue trough warm it up, but the increasing elevation to the north-east reduces the heat in Abuja. Rainfall intensifies during July-September.

Brand (1994) categorized transformation physically into two types: add-In and add-On. Add-In type means the changes done within the existing building increasing horizontally, whereas add-On type represents the additional construction and the vertical expansion of an old building to obtain more floor areas. Al-Naim (1998), Shukri (2002) and Winterhalter (1981) preferred categorization like slight adjustment, addition and division, total conversion, and reconstruction based on degree of changes. (Tab. 1 & 2)

Table-1: Four different categories of transformation as a tool for evaluation in Dhaka and Abuja

| A. By Slight Adjustment | B. By Addition & Division | C. By Total Conversion | D. Total Transformation by Reconstruction |
|---|--|--|---|
| Functional change rather than physical change, especially in the interiors. Most old houses adjusted to become like new houses, using electricity and modern facilities. In Dhaka, drawing rooms or stores are transformed into bedrooms. In Abuja, kitchens are turned into bed rooms, shops, etc. | Enables to increase the number of rooms to meet the needs of the sublet & owner. Additional spaces & services are to suit modern lifestyle. Bath rooms and kitchens added within the premises as new units are created only in Dhaka. Rooftop rooms commonly added in Dhaka, but not in Abuja. Division of space to maximize privacy while the space is shared by more than one family in Dhaka and Abuja fringes. | Physically converts wholly into another use, introduce new services, or subdivide for more rental units, difficult and costly. Changing life style made animal or servant areas redundant, hence, converted to new uses, often commercial. The courtyard is easier to convert if there is more than one. | Demolition and reconstruction of old houses shows how the new housing type, materials, and technology influence decisions. Commercial conversion increased the land value, encouraged by new streets and urban clearance in the old areas. Location influences a property's ability and propensity to undergo reconstruction; the more close to the main street, more is likely to be transformed, and used commercially. |

Table-2: Differences between Dhaka and Abuja Housing Transformation Pattern

| Attribute | Abuja | Dhaka |
|---------------|---|---|
| Physical | Filling-in-the-gap externally; Lateral expansion; Easy to expand; Minimum slight adjustment; Moderate addition & Subdivision; High conversion & reconstruction; Attention to services provision; Lost of kitchens, toilets, & animal pens to habitable spaces; Single storey structures; No building recycling Incremental housing system | Filling-in-the-gap internally Minimum lateral expansion, Difficult to expand; Maximum slight adjustment High addition & subdivision No conversion & reconstruction Attention to services provision Replacement of lost kitchens, toilets Multi-storey structure – mostly; Adaptive reuse of old buildings; Complete house construction from start |
| Social | 21st century occupancy type – owner occupier, owner tenant & rental only; Original - Gbagyi peasants, 21st century occupiers are middle or lower-middle class tenants; | 21st century occupancy type – owner tenant & rental only; Original owners – Hindu merchants; 21st century occupiers - middle or lower-middle class Muslim tenants; |
| Psychological | Informal (indigenous) housing; Urbanization due to national political economics; Shrine - outside the compound, but within neighbourhood; Original settlement assumed rural norms 21st century tends towards urban norms Value of building conservation; Cosmic beliefs by Gyagyi pagans; | Formal housing; Urbanization due to international political economics; <i>Puja Ghar</i> (prayer room) adjacent to the courtyard and a sacred tree, within the house; Value of building conservation No cosmic beliefs by Hindu; |



Figure-1: Types of transformation in Old Dhaka (L-R) - Courtyard, a space for further addition and subdivision; verandas converted to storage or additional bed room; conversion to shop-houses.

2. CONTRASTING THE PAIR OF TRANSFORMATION PROFILES

In old Dhaka, transformation of the houses took place in two levels, in two different phases, through the change of ownership and occupation from the Hindu to the Muslim families. Initially, the Hindu landlords (who originally built the houses) undertook those adjustments. Subsequently, the Muslim families who procured those houses subdivided and/or rented them out. The ownership changed following two major exoduses after 1947 and 1971. After 1947 many Hindu families migrated to India; they sold their properties, often to incoming Muslim refugees from India. Similarly, in 1971 during the Liberation War, some Hindu families made the second exodus. The Muslims taking over these houses changed them to fit new needs. There were sporadic cases of similar ownership changes in the interim. Through economic, social and cultural changes, some old areas retained their characters and old buildings, despite pressures to change and an overall deterioration of the urban environment and infrastructure.

Three phases of transformation manifested within urban fringes of Abuja. Its planning and development as a model capital city was Abuja's incipient period (1976-1986). The first leg movement of federal government activities from Lagos (the port city) to Abuja, the hinterland, located at the geographic centre of country took place in 1987; thus marking the intermediate period (1987-1991). Since 1992 after the final transfer all federal functions to FCT-Abuja, this new capital city witnessed the mass influx of corporate activities during its consolidation period (1992-2006).

2.1 Transformation in the Core Dhaka through reuse of old buildings

Adaptive reuse of old dwellings and historic preservation fall within the purview of 'conservation'. According to Cantacuzino (1990), this is a planning issue that deals with policies and needs to be evaluated in the context of a given cultural tradition in a society; no policy succeeds without effective implementation strategies by the local authority. For Dhaka, the most important and difficult task would be to convince the owners to keep the old buildings, not destroy or reconstruct them for apartments or markets. Different incentives and monetary compensations, grants, subsidies and tax relief etc. can discourage demolition (Rahman, 2009). In Dhaka, generally policies are formulated but not implemented due to lack of accountability and transparency that enables unethical practices often involving government employees. There are strict rules and penalties for violating building rules, which are hardly imposed. In order to save valuable old buildings, it is necessary to make people aware of the value and develop consciousness for preserving old buildings (Rahman, 2009).

In Dhaka unlike Peri-urban Abuja, many cultural properties are succumbing to high-rise high-density developments under the pressure of urbanization and speculative market—a process that became vigorous in last 50 years. While some of this heritage at risk may be saved at moderate cost, land compensation cost alone will gradually make any such effort prohibitive (Imam & Mamoon, 1994). This has been further aggravated by the action of the real-estate developers and scarcity of build-able land in right location (Rahman, 1994).

Table-3: Similarities between Dhaka and Abuja Housing Transformation Patterns

| Attribute | Similarities |
|---------------|--|
| Physical | Courtyard housing style Considerable reconstruction of core Dhaka in the 1950s, following the Muslim occupation is reminiscent to Abuja's consolidated era (1996-2006); |
| Social | Housing transformers in both cases are of middle and lower income group; |
| Psychological | Concerns for family privacy (seclusion of women) as an Islamic tenet; Provision of prayer room in both the typical original Hindu and Gbagyi houses; Retention of core housing characters and loss of peripheral values to urbanization; |

A striking similarity between the Abuja and Dhaka cases is the non-enforcement of development control rules. The Abuja case study could be argued to be an apparently formal settlement, but labelled informal due to inconsistent urban development policies on Gbagyi Settlements (Jibrin, 2006).

2.2 Dhaka Transformation Actors

A good part of the traditional houses in old Dhaka, like the ones selected as case studies, were mainly built by Hindu families (Rahman & Haque, 2001), who started to amass wealth and climbed up the social ranks being in government service, business, and law practice before the Muslims. To express their status accompanying wealth, they used to build these gorgeous and intricately decorated mansions during the late-19th and early 20th centuries by mixing European and local styles (Rahman, 2001, 2009). Most of the 2-3 storied houses had three portions distinguished by separate courtyards facilitating various activities, other than guiding the spatial composition (Rahman & Haque, 2001). The front portion or the outhouse belonged to the male incomers, which would be adjusted to accommodate offices or other business enterprises of the owners, and often to allow the clients or guests to stay overnight.

Major changes occurred after the marriage of the sons of the family in a joint or extended family, which needed a more private area and separate convenience within the same premises. The resulting conversion/adjustment would mainly occur in the middle part of the house with most of the habitable rooms (Rahman & Haque, 2001). Some of the animal areas, servant quarters, kitchens, etc. in course of time were changed to bed rooms to augment scarcity of space as original need was not there.

2.3 Dhaka Transformation Model

Old buildings in Dhaka despite carrying mixed architectural features on the façade, usually followed indigenous spatial composition— habitable rooms around a multi-purpose courtyard (Rahman & Haque, 2001). The ways Hindu urban families live, and their social behavior pattern, have no marked difference from that of the Muslim families, except some religion-specific spaces due to differing rituals and role of women. Thus organization of domestic spaces of both Muslim and Hindu families in Dhaka is defined by the common inherent notion of privacy in local culture based on domain separation (Imamuddin, 1982; Rahman & Haque, 2001).

As mentioned above most houses were divided into three

portions to facilitate various activities, and define and compose the spaces: the front for the business talks, strangers and male guests, the middle with bed rooms facing the courtyard, and the back used for the kitchen, toilets, storage and animals. The female dominated middle and end parts were farther from the front entry. Female onlookers use the front balconies and upper veranda around the courtyard—an essential space for various domestic, social and productive activities. Extra bathrooms and kitchens built in the courtyards while subdividing the house into rental units drastically reduced the courts in size, no more able to play the conventional roles (Fig. 2).

The orientation and location of the kitchen, and the *Puja Ghar* (prayer room) adjacent to the courtyard and a sacred tree, were unique features of the Hindu houses. The incoming Muslim families converted the no-more-needed *Puja Ghar* for other functions. Though taking bath in the courtyard near the well is common for the Hindus, the Muslim families introduced separate closets, mainly for the females. The Hindus would take food usually on the kitchen floor or on a platform in the veranda or the semi-open space adjacent to the kitchen; the Muslims introduced a separate dining room and table for the purpose. However, these were more culturally influenced habits than religious, developed over time.

In Dhaka all four types of transformations (Tab. 4a) occurred in old buildings with no particular pattern (Tab. 4b). Amount of changes during occupation by Muslims was considerably higher as compared to that earlier, as the original Hindu owners were making smaller horizontal extensions to accommodate more of the extended family members, Muslim owners were converting the houses into smaller units for renting out, often extending vertically. This reflects the socio-economic situation of the related periods, and the fact that vertical extensions were done after horizontal changes.



Figure-2: L-R Transformation of the Old houses in the 3 neighbourhoods in Dhaka, Dalpatti, Sutrapur & Bangla Bazaar. Source: Authors fieldwork.

Table-4a: First Phase of Transformation (Hindu Owners) in Dhaka

| Case | Adjust | (%) | Add / Subtract | (%) | Conversion | (%) | Reconstruct | (%) | Total |
|-----------------------------------|---|-----------|--|-----------|--|----------|-------------|-----|-----------|
| Case-1: Gupta Bari (Dalpotti) | - bed & study room to law office | 4 | - bathroom and toilet in courtyard | 2 | -animal area into toilet | 1 | | | |
| | - 1st floor bed room to family sitting | 4 | - tube well, water point in 1st floor bathroom | 1 | -kitchen into study room for children | 2 | | | |
| | - bedroom into Puja ghar | 2 | - 2nd floor flat | 1 | | | | | |
| | - animal area at the open backyard | 3 | -store, kitchen and servant's room at the back | 5 | | | | | |
| | | | -remove animal house at back | 5 | | | | | |
| | | 13 | | 23 | | 3 | | | 39 |
| Case-2: Sen Bari (Sutrapur) | - Dining room into bedroom | 4 | - Kitchen and servant room at the back | 6 | - Part of bed rooms to WC | 4 | | | |
| | - Garden in the roof top space in the 1st floor | 5 | - Extended kit. to dining | 3 | - Kitchen to servants qrt. | 3 | | | |
| | | | + Pujaghar in the courtyard & | 2 | - 2nd floor bed room to kit & bath | 1 | | | |
| | | | + 1st fl'r Br WC | 4 | | | | | |
| | | 9 | | 15 | | 8 | | | 32 |
| Case-3: Lahiri Bari (Banglabazar) | - Bedroom into puja ghar | 2 | - Servants quarter and WC in the courtyard | 3 | - Add bath to bedrm. | 2 | | | |
| | - Bedroom into family sitting in the 1st floor | 3 | | | - Veranda into storage | 4 | | | |
| | | | | | - Converting part of drwg room to office/lib | 2 | | | |
| | | 5 | | 3 | | 8 | | | 16 |

Table-4b: Second Phase of Transformation (Muslim Owners) in Dhaka

| Case | Adjust | (%) | Add / Subtract | (%) | Conversion | (%) | Reconstruct | (%) | Total |
|-----------------------------------|--|-----------|---|-----------|---|-----------|--|-----------|-----------|
| Case-1: Gupta Bari (Dalpotti) | 5 rental units | | - Tube well in the courtyard | 1 | - Drawing room, bedroom to printing press | 9 | - Demolishing the back part and reconstructing the 2-storied dwelling unit | 16 | |
| | - Study into printing press office | 3 | - 2 nd floor bed room and bath | 3 | - Puja ghar to kitchen | 3 | | | |
| | - Veranda for book binding | 4 | - Guestroom in the 1 st floor | 3 | - WC with drawing room | 5 | | | |
| | - Guest room in the 2 nd floor | 3 | | | | | | | |
| | | 10 | | 7 | | 17 | | 16 | 50 |
| Case-2: Sen Bari (Sutrapur) | 2 rental units kit, servant room, dining into guest rm | 4 | - Drawing and bed room in the 1st floor | 5 | - Guest room into clinic & chamber | 5 | | | |
| | veranda to patient waiting | 2 | | | - Bed room to kitchen, store puja ghar into kit | 3 3 | | | |
| | | 6 | | 5 | | 11 | | | 22 |
| Case-3: Lahiri Bari (Banglabazar) | Adjustment of 3 rental units | | - One storied bachelor house at the back unused space | 12 | - Bed rooms into grocery shops | 7 | - 1 storied separate sublet unit at the back | 12 | |
| | - Rental parking at the enhance | 10 | | | - Puja ghar into bath room, veranda into store & living | 3 | | | |
| | - New side entry | 1 | | | | 5 | | | |
| | | 11 | | 12 | | 15 | | 12 | 50 |

2.4 Abuja Transformation Model

Evaluation of spatial order of Abuja peri-urban squatter settlements enhances the appreciation of the structures and processes embedded in its urbanization (Gilliland & Pierre, 2006). Abuja is now a heterogeneous society where economy submerged in social relations. Therefore, the evaluation of spatial order is relevant to housing design and development socially, economically and physically. Reuse of building materials is an economical approach to housing reconstruction and adjustment in peri-urban Abuja.

2.4.1 Incipient stage (1976-1986)

At the settlement level, the typical Gbagyi perceived houses on neighborhood domestic center, myth and ancestor worship, religion, and development control. At the compound level were courtyards, building shapes, access to toilets, home granaries, fencing of compound premises, multiple open spaces, kitchens, and boknu (guest reception hall). Others are self-help housing delivery and core housing provision. These could be grouped into three general categories: physical (nature of original compound, layout, location, plot demarcation), social (occupancy, typology) and psychological

(self-help delivery, core provision). This era was characterized by the retention of rural norms.

Physically, nature of original compound was expressed in the concepts of courtyard housing; building shape and plot demarcation or residential boundaries. Based on dwelling history of the sampled compounds, building shapes, toilet, granaries, kitchen, reception and other features pointed to the rural housing norms. Survey shows that more compounds combined rectilinear and curvilinear structures, few were only rectangular. That mixed form was prevalent in the incipient era supported Balogun's (2001:100) assertion (rectangular 'West Coast' type and the round 'Sudanese' type).

Unlike in core Dhaka, Bangladesh, the provision of a kitchen and toilet was not a priority. Consequently, toilet provision in many compounds was scanty; like in rural environments; backyards, community or refuse fields were used for convenience. Similarly, outdoor kitchen attached to the granary was mostly used; seldom indoor kitchen would be located next to the woman's bedroom. Figure 3 shows conceptual and actual residential layouts.

2.4.2 Intermediate stage (1987-91)

To establish a transformation pattern in the second decade of Abuja, the study focused on retained, lost and emergent housing features in comparison to the previous period. This is further examined for dominant pattern, animated model, and talking typology (Richards, 2005:132-145) to establish a pattern by constructing: the big picture (pattern), pathway (stages), x-ray view (explanation), and process. The big picture indicates modification of physical housing features, socialization of migrant tenants with their hosts, and gradual decline in communal responsibility among indigenes at both extended family and community levels. Survey shows massive extensions and new construction, along with internal alterations and fencing. Figure 4 is an illustration of the housing environment in Peri-urban Abuja.

2.4.3 Consolidation stage (1992-2006)

Housing transformation patterns of the preceding periods

could be viewed in terms of rural and urban norms respectively. Population shift into Abuja diluted the rural economy and affected the cultural values. Consequently, cash economy gains eroded the sense of ethnic communality and collective family survival. Socially, the emerging housing concept was occupancy-specific. The early typology of predominantly owner-occupier extended family compound was gradually converted to owner/tenants and rental housing types. Figure 5 shows layouts typical of the consolidated era. The spatial ties between compound and settlement layouts are illustrated in figure 6 below.

2.5 Transformation of Abuja House Form

In Gbagyi traditional housing unit, the compound follows the courtyard as in other societies. It has undergone changes in construction method, materials, and spatial organization in three decades, with a decline in traditional patterns. Consequently, the mix round and rectangular housing layouts of the incipient stage was gradually regularized to a rectilinear

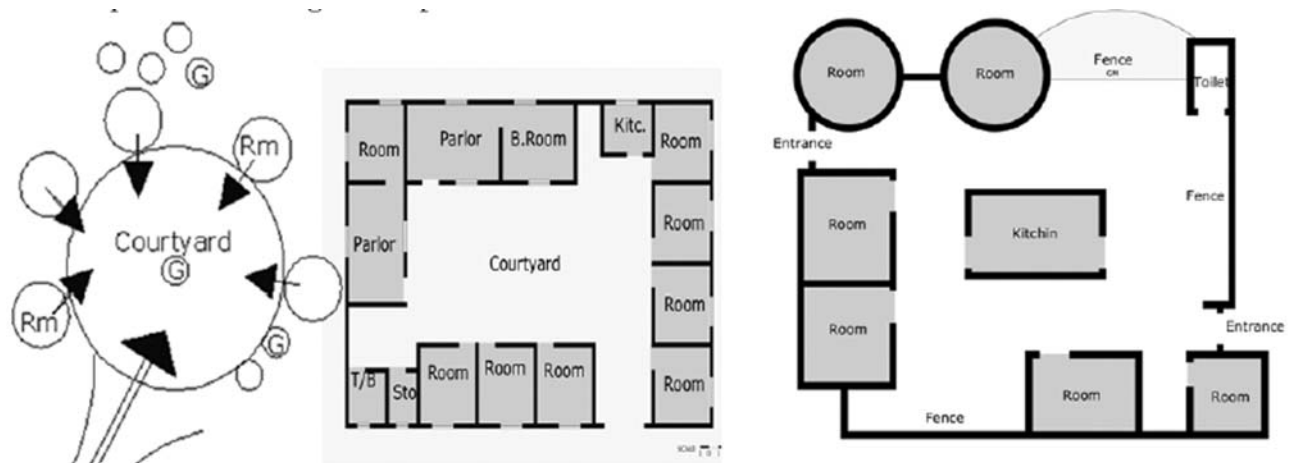


Figure-3: Left to Right - Courtyard housing Concept; A modern manifestation of Gbagyi courtyard housing in Karu Peshe; Courtyard Compound in Karu Zhimi, Abuja. Source: Authors Field Survey 2006.



Figure-4: Samples of Karu-Abuja situation. Approach facade showing the entrance sandwiched between the shops and the main lounge in Karu-Abuja; a shop curved out of the family block; multiple functions of courtyard regardless of size.

form - a process described as “loss of multiplicity of building shapes and forms” (Mai, 2008). These compounds are true to the Christian doctrine of a bungalow to every nuclear family, as shown in Figure 7 of retained individualized bungalows. However, inhabitants share toilets and kitchens.

Gbagyi housing transformation was predicated on socio-culture, acculturation, development control, rental income, nature of existing building and retained core values. Figure 8 illustrates physical transformation pattern manifested in the three periods.

3. APPARENT SPATIAL TRANSFORMATION PROFILE

In both Peri-urban Abuja and Old Dhaka, courtyards remain essential spaces for regular domestic uses, social uses and

varieties of production and income generating activities, in addition to being the climate modifier in a house. The findings show a number of additional bathrooms and kitchens in the courtyard, constructed when the main houses were subdivided into rental units. Thus reduced courtyards were unable to perform socio-economic and physical-climatic roles, as illustrated in Fig. 8.

3.1 Motivation for transformation

Identified Core Dhaka and Peri-urban Abuja housing characters, transformation and motivation could be linked to each other on the basis of a priori themes or components of behavioural, cultural, socio-economic and spatial (Turgut, 2001:17-25). Behavioural components relate to privacy, territoriality and personal space. Cultural components involve norms, lifestyle,

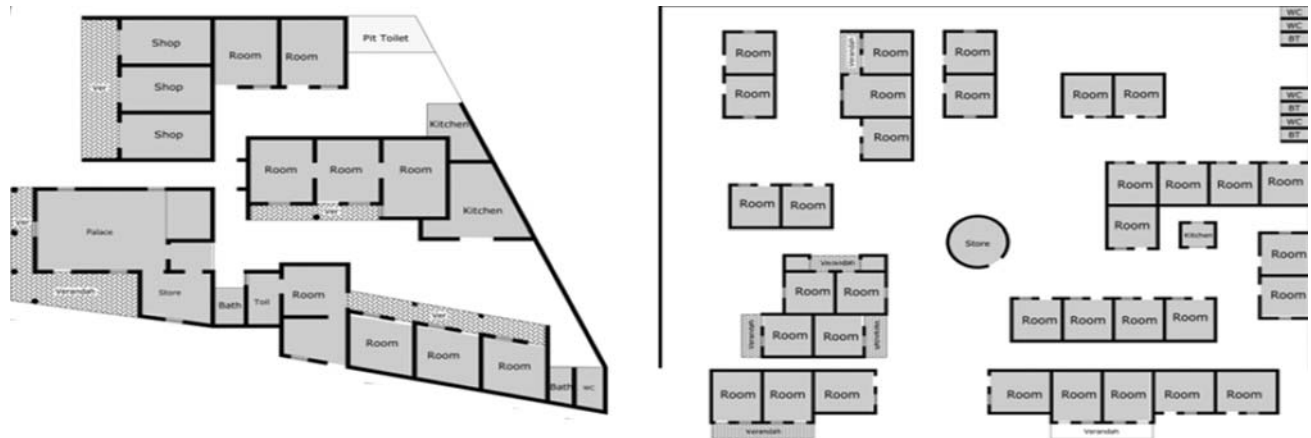


Figure-5: L-R - Owner/Tenant Compound with Hierarchy of Spaces; Typical Face-to-Face Rental both in Karu Hausa, Abuja. Source: Fieldwork, Mai (2008).

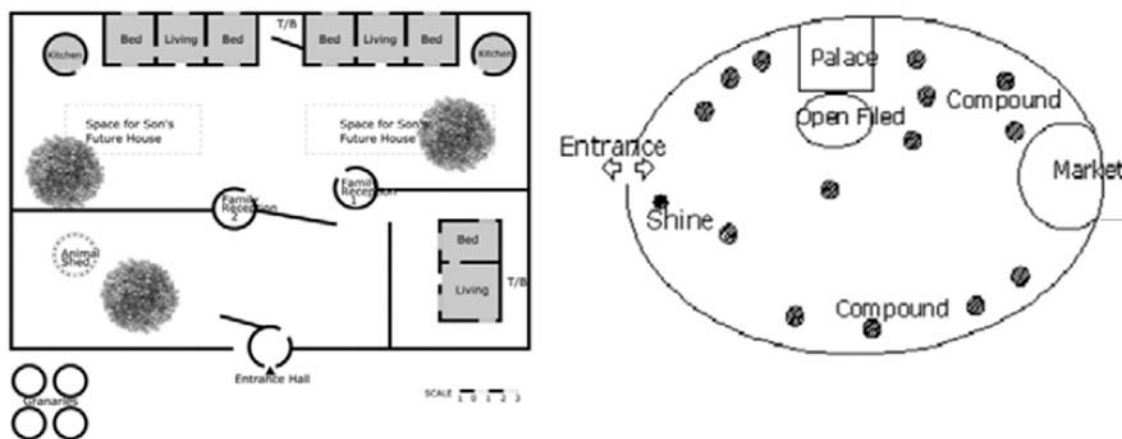


Figure-6: L-R - Typical Gbagyi Muslim Ubrna Compound; Typical Gbagyi Settlement Layout. Source: Fieldwork, Mai (2008).

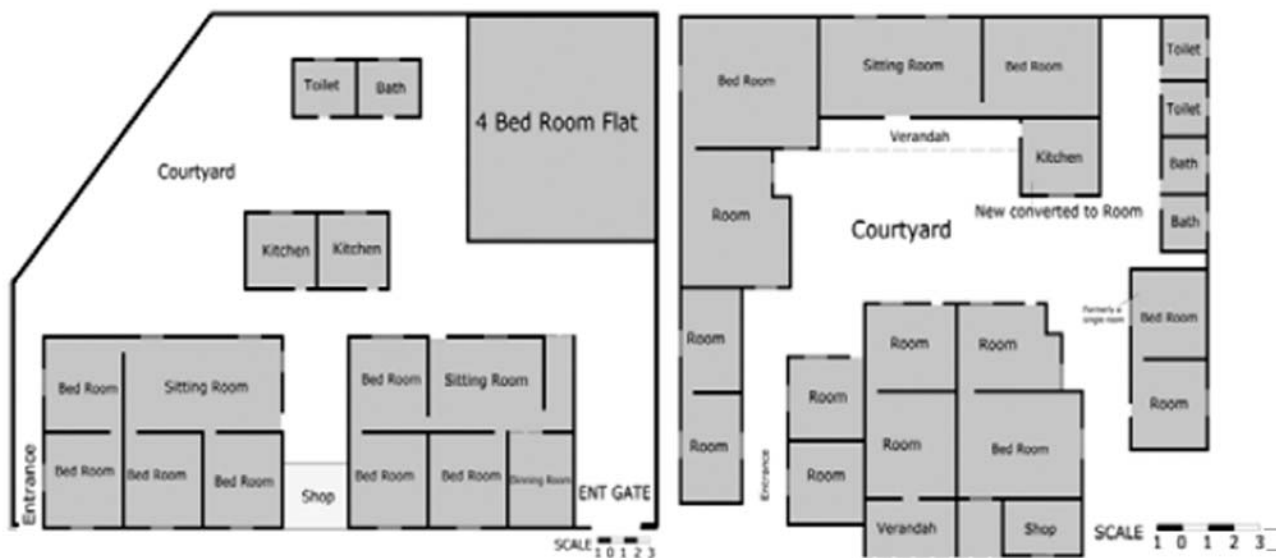


Figure-7: L-R - Owner/Tenant Compound with Hierarchy of Spaces; Typical Face-to-Face Rental both in Karu Hausa, Abuja. Source: Fieldwork, Mai (2008).

and family and kinship structure. Socio-economic components are made up of income, occupation and education. Spatial components are concerned with the physical features of a dwelling such as its dimension, location and form (Turgut, 2001:17-15).

Unlike the Hindus who construct their dwellings around the hearth in a kitchen, Peri-urban Abuja traditional compounds focus on the family granary, which integrates with the kitchen. As such, circulation within such compound is influenced by the centrally placed family granary, with other facilities radiating from it, which has parallels in other societies (Al-Naim & Mahmud, 2004). Moreover, Peri-urban Abuja Muslims avoid straight axis for residential entrances to achieve visual privacy. Peri-urban Abuja pagans belief in deity, ancestral gods, and symbolic gods from nature, as well as in witchcraft, has influenced the nature and size of small windows (Jarumi in Je'adayibe, 2005: 48-59).

4. CONCLUSION

Conservation of the old buildings by saving them from the developers would not be possible without intervention by the public authorities enforcing strong rules. Building public consciousness regarding the preservation of architectural and cultural heritage would be crucial here. This paper showed an alternative way to continue the traditional use of old buildings and enhance their income in the process to the owners with emotional attachments. Thus subdividing of

the existing building and renting those out to middle income people could defer the aggression of the developers in Old Dhaka and Peri-urban Abuja. However, many alternations and changes done in the interiors in the process may not have followed proper method so that intricate details could be preserved (Rahman, 2009). Conserving old buildings is an urban design issue that deals with not a single building, but a particular neighbourhood or an area. However, it is not possible for the public authority to handle this alone, private sectors also should come forward and take initiatives especially for cities like Dhaka and Abuja.

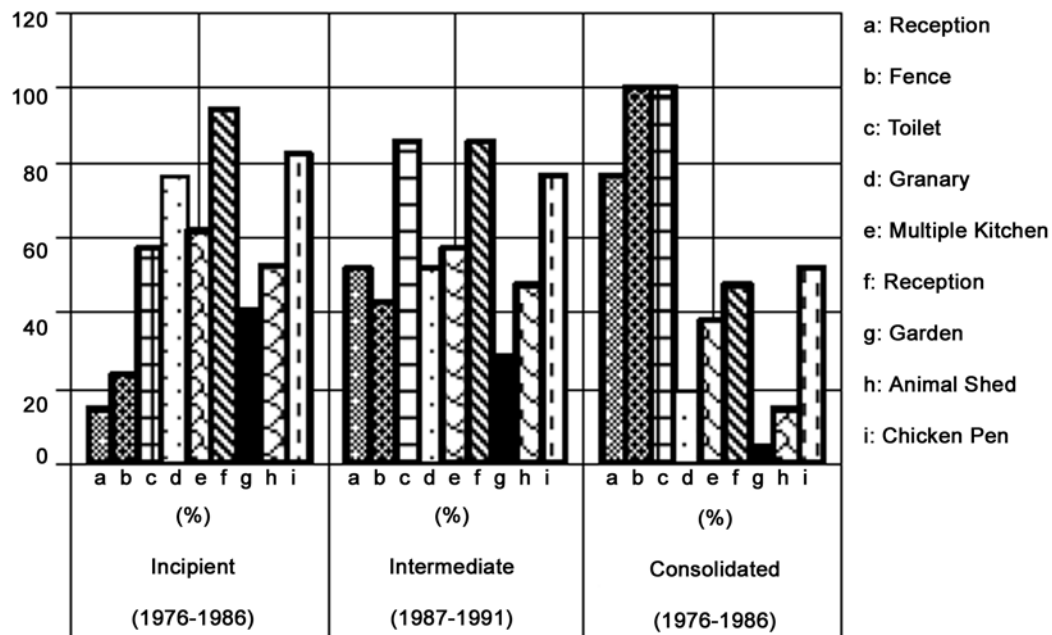


Figure-8: Transformation Pattern of Housing Features.
Source: Mai (2008).

REFERENCES

- Al-Naim, M. & Mahmud, S. (2004) Is Transformation in the Traditional Dwellings one way of making Slums or a Solution to Accommodate More People and New Functions: A case in Dhaka and Hofuf? **GBER 5 (1): 30 – 44.**
- Al-Naim, M.A. (1998) **Potentiality of the Old House: A case of Hofuf, Al-Hasa**, GCC Folklore Centre, Doha.
- Balogun, O. (2001). **The Federal Capital Territory of Nigeria: Geography of its Development**, University Press, Nigeria, Ibadan, 100-103.
- Balogun's (2001:100)
- Brand, S. (1994) **How Buildings Learn-What Happens After they are Built?** Phoenix Illustrated, London.
- Cantacuzino, Sherban. (1990) **Re/Architecture, Old Buildings / New Uses**; Thames and Hudson, London.
- Gilliland, J. & Pierre, G., (2006). The study of urban form in Canada, **Urban Morphology (2006) 10(1), 51-66.**
- Imam, Shaheda R & Mamoon, Muntasir (1994) Architectural Conservation in Practice, in **Architectural Conservation Bangladesh**, ed. by A.H. Imamuddin, 41-67, Asiatic Society Bangladesh, Dhaka.
- Imamuddin, Abu H. (1982) A Study of Urban Housing in the Context of Dhaka; **MA Dissertation**, KUL, Leuven.
- Je'adayibe, G.D. (2005): Gbagyi Identity Crisis. **Gbagyi Journal, Vol. 2. 2005**, Gbagyi Vision Publications (GVP), Jos, Nigeria, pp 2-25, 77-82.

Jibril, I.U (2006). Resettlement Issues, Squatter Settlements and the Problems of Land Administration in Abuja, Nigeria's Federal Capital. **5th FIG Regional Conference Accra, Ghana, March 8-11, 2006**. Retrieved on 2007-08-10 from www.fig.net/publications.

Mai, M.M. (2008) Transformation of Gbagyi Housing Pattern in Peri-urban Abuja, 1976-2006. University Technology Malaysia. Unpublished **Thesis: PhD**.

Mallick, Fuad H. and Huda, M. Zakiul, (1996) Learning from the Past: Aspects of Environmental Design in Old Buildings. In: **International Seminar on Architectural Conservation- Future of the Past: Architectural Heritage of Dhaka, January 12-14. Dhaka: BUET**.

Rahman, Mahbubur & Haque, Ferdouse A., (2001) Multiple Courtyard Mansions of Dhaka-Form & Context; **Traditional Dwelling Settlement Review, Vol. XII (I), Spring 57-71**.

Rahman, Mahbubur (1994) Low-Income Housing in Dhaka-An Exploration for Suitable Land; **Urban Studies, vol. 2(2), June, 31-46**.

Rahman, Mahbubur (2009) Development and Economics of Architectural Conservation with Reference to Developing Countries; in *Old but New: New but Old*, Mahbubur Rahman, 10-47, UNESCO, Dhaka, ed.

Rahman, R. & Islam, Z. (2004): The Community Spaces in High-rise Apartments-Contextual Response or Planning Liability? in **International Real Estate Research Symposium, April 13-15**, National Institute of Valuation, Kuala Lumpur.

Richards, L. (2005) **Handling Qualitative Data-A Practical Guide**. Sage, London, 132-175.
Shukri, M. (2002) Adaptivity of Mass-Housing Compounds: Case Study King Faisal University Housing Compound-Dammam, KFU, Dammam, **Thesis: Masters**.

Turgut, H. (2001). Culture, Continuity and Change: Structural Analysis of the Housing Pattern in Squatter Settlement, **Global Environmental Research (GBER) 1 (1): 17-25**.

Winterhalter, C.P. (1981) Indenious Housing Patterns and Design Principles in the Eastern Province of Saudi Arabia; Swiss Federal Institute of Technology, Zurich, **Thesis: PhD**.