

PAPER 2:**TRANSFORMATION OF VERNACULAR HOUSING PATTERN IN PERI-URBAN ABUJA-NIGERIA DUE TO INFORMAL URBANISM, 1976-2006**Moukhtar M. Mai²**Abstract**

The phenomenon of informal housing is common to most cities of developing countries. Its role as single housing delivery mechanism has seriously challenged the popular notion held by policy makers, planners and architects. Informality is today a paradigm of city making in Africa, Asia and Latin America. The concurrence of informal housing with informal urbanism and housing poverty demands the concerted attention architects, planners, sociologists, urban designers and economists to articulate an appropriate paradigm that could effectively chart the way forward to housing for all year 2010. The research employs a three tier qualitative evaluation strategies to describe the characters of the case study, identify its trend of transformation, and determine the propelling motives for the virtual loss of its vernacular identity. This integrated approach is triangulated with photo recognition, purposively sampled compound plans, as well as a quantitative survey of the phenomenon. The preliminary findings of this study indicate that, for the indigenous Gbagyi community in Abuja urban fringes, their natural habitat seems to be threatened. The sustainability of its vernacular housing pattern physically, socially and psychologically may not survive the current urbanization trend. This could culminate in the loss of the spatial identity. For one, these settlements are expanding exponentially. For another, Gbagyi spatial identity of communal habitation of multiple courtyard compounds, dotted with symbolic tombs and granaries punctuating habitable spaces, sitting on ancestral plots, where the spirit of the dead inspires the living; the young and the old are psychologically glued to the living dead 'the ancestral spirits,' whose views are thought on survival issues, as and when required, is becoming extinct. The processes of housing identity were at times intentional, but they still impact the settlement's physical landscape. For instance the vernacular Gbagyi rural housing norms in the study area could not be transformed into 'its own' urban norms due to economic superiority of income over cultural sustainability. This is attributable to social mobility and its attendant economic and socio-cultural consequences. Although this case study is local, it is a pointer to global trends of housing delivery and identity.

1.0 Introduction

The traditional housing in Gbagyi has been developed as the fruit of interaction between the general Middle Belt or Central Nigerian concepts and the specific character of Gbagyi. This interaction has produced modest expression at the vernacular level where people respond directly to the existing environment within their cultural boundaries (Rapoport, 1969). Attempts were to link Nok civilization with Gbagyi, especially in the exploitation of their environmental resources. Nok culture is reputed for its prehistoric civilization essentially due to the accidental unearthing in 1928 of life size sculptural figures buried under 8 meters layer at Nok, North Central Nigeria. This according to Cromyko was a sensational discovery (Walu in Gwamna, 2005:77-82).

Traditionally land was the main source of livelihood and status for most Gbagyi. As confirmed by Denyer (1978) and Moughtin (1985:9), Gbagyi people are customarily highland dwellers, with very limited transactions with the regional or world market due to poor communication

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initially. It took colonial directives and incentives to relocate a sizeable population of Gbagyi to the plains (Denyer, 1978). Gbagyi highland habitation character is an emerging trend in this study, because it resurfaced in the respondents views though assumed to have been discontinued. Quantitative survey of 204 samples in the 7 settlements studied shows that 46% of the respondents relocated from other parts of Northern Nigeria to Abuja. 26% transferred to peri-urban Abuja from South Eastern Nigeria and 28% from South West. An in-depth study of 21 sample dwellings indicates that 20% of the respondents relocated from hill tops, thereby confirming that Gbagyi people are really attached to the hills. 10% moved from other parts of the FCT- Abuja to Karu, Nyanya and Jikwoyi villages of recent. 18% of the respondents were based in other parts of Northern Nigeria, 25% from South Eastern Nigeria, and 27% South Western Nigeria.

2.0 Theoretical Framework

Cultural studies of space according to Mustapha Pultar (1998:1) traverse many disciplines, where they serve a central function in explanations. Despite this importance, Aiello and Thompson claim, for example, that "only a small proportion of ... research [on the description and comparison of differences in the structuring and use of space has examined spatial behavior within a cultural context" (1980:107-108). Furthermore, there appears to be no well-established, coherent and systematic structure for discussing the areas, scope and nature of issues related to the cultural studies of space. Gbagyi community retained a system of agricultural subsistence, employing simple agricultural technology. Before the advent of urbanization, the village as a whole and not the individual was considered the unit of agricultural. It maintained patriarchal households, the extended family acting as the main unit of production, exchange and consumption. Labor was divided along clear gender lines (Gwamna, 2005:27).

By the turn of this century, the Gbagyi built space experienced dramatic transformations in the socio-economic conditions as well as the socio-cultural values due to its federal capital status. The simplest form of the dwelling unit, the compound has been transformed into new housing patterns: compound type, row housing, face to face rental housing and bungalow dwellings of the upper class. A chain of inter-dependent structural transformations involving privatization of the land tenure, changes in the organization of the agricultural labor process, marginalization of agricultural activities, and nuclearization of the extended family has brought about the critical changes in the existing patterns of spatial relations. All these changes have proved that architectural systems, i.e., new methods of constructions, the use of new building materials and the adaptation of new building forms, would not be appreciated by the traditional Gbagyi peasant society, unless this society was exposed to external forces that operated to undermine the conditions of its existence both at the socio-cultural and material levels. These external forces are the land reforms via land use decree 1978, land use act 1992, acculturation due to interaction with settlers in their mist, and urbanization due to functional federal capital city as from December, 1991.

This study aims at highlight the transformation of the ideal Gbagyi dwelling unit from 1976 to 2006. The reason for limiting the scope of this study to this period is its significance in the development of Nigeria's new federal capital, Abuja, which is reputed to impact the indigenous community profusely via multiplicity of socio-economic and political exigencies.

2.1 Personal and Social Identity

It has been suggested by a number of authors that people may, consciously or otherwise, modify their home environment in order to communicate aspects of self to others (e.g. Rapoport, 1989; Nasar, 1989; Dittmar, 1992a; Cooper Marcus, 1995). According to Cooper Marcus, housing may express unconscious needs and desires. She was particularly influenced by the work of Carl Jung, taking a "depth psychology" approach, and drawing on examples from dreams and literature. In 1977, Becker reviewed much architectural and social science literature, concluding that the home is commonly used to define and express the self.

2.2 Squatter Housing Pattern

The study of housing under the influence of informal urbanism relates closely to the phenomenon of squatter settlements. "Squatterization is a transition process from rural to urban life, a transitional life style and its reflection to space". It could also be viewed from the points of distribution of wealth (income), social structure and social security rather than only being a shelter (Arslan 1989, 34-37). The third approach takes into account the aspects related to ownership, legislation and construction processes and defines this phenomenon as "the casual buildings which have been built on lands or plots without having any ownership and the right to built on it in terms of building legislation and laws." Karu, Nyanya and Jikwoyi urban villages of Abuja falls under this category of building legislation and laws (Saglam, G. et al, 1994). The situation is further compounded by the fact that they are legal indigenous settlements. Turgut (2001:19) opines that squatter settlements are among those housing features which have the most visible reciprocal interactions between user groups and their respective cultures. Accordingly, the housing pattern in the urbanization process contains the spatial setting which is appropriate to the cultural, behavioral, socio-economic characteristics of the user group and their alterations in the course of time. Layout patterns and spatial organizations of squatter housing show dramatic differences from legal housing patterns. Cultural, behavioral, socio-economic and spatial characteristics formed in the process of urbanization can be grouped as structural components composing housing patterns. Cultural components consisting of norms, customs, mores, life-style, family and kinship structure form the "Cultural Setting"; behavioral processes such as "personal space", "territorial behavior" and "privacy" form the "Behavioral Setting"; components of "dimension", "location" and "form" form the "Spatial Setting"; characteristics of "income", "profession", "education" form the "Socioeconomic setting". In this structural analysis of housing pattern, each sub-system - output form an input for the other sub-system and, together, they form the "Housing Pattern" (Turgut, 1996). A space is largely or entirely social. Humans like most animals, are both organized in space and are organizers of space. This organization can be both physical and non-physical. According to Rapoport (1994) a primary aim of spatial organization is to create 'settings'

2.3 Housing Transformation

The housing literature suggests several factors that may influence the decision of households to transform their dwellings, or to undertake home improvements (either of which can result in occupying more rooms). Utility maximization models of housing transformation view housing as one of the many household consumables. Households allocate their resources among different consumption goods (housing among them) so as to maximize their total utility (Quercia & Rohe, 1993). Threshold models of housing transformation suggest that households seek a satisfactory residential environment, and if the characteristics of the house or neighborhood no longer satisfy them (because of changes in house or neighborhood conditions, or because of demographic or socioeconomic changes in the household itself), then the household experiences stress. Each household has a tolerance level, or threshold. If the stress is above that level, then the household is expected to take action that will correct stressful conditions (Quercia & Rohe, 1993). Socio-economic motives determine the temporal dimensions of housing transformation. In peri-urban Abuja, economics of rental income seem to be a priority to developers.

2. Factors Influencing the Development of Gbagyi Dwellings

2.1 The factors that bear upon the development of the traditional Gbagyi dwellings in FCT-Abuja could be categorized in two main groups as follows:

- i. Permanent (constant) factors
- ii. Variable (non-constant) factors

2.1.1 Permanent factors

Geography: Although Gbagyi land has been exposed to limited influences as a result of its geographical position in hills and mountains of central Nigeria; its housing retains a remarkably

adopted to the natural setting, and character of its own. The influence of the geography can be observed in the adoption of certain types of construction, form, orientation and the arrangement of the houses. The articulation of the plan, elevations, simplicity of masses, and the habit of single-storey constructions is largely caused by the predominant conditions in the main three geographical zones of the country: the coastal rain forest in the south; the savanna grassland in the middle belt; and the dry semi-desert in the north.

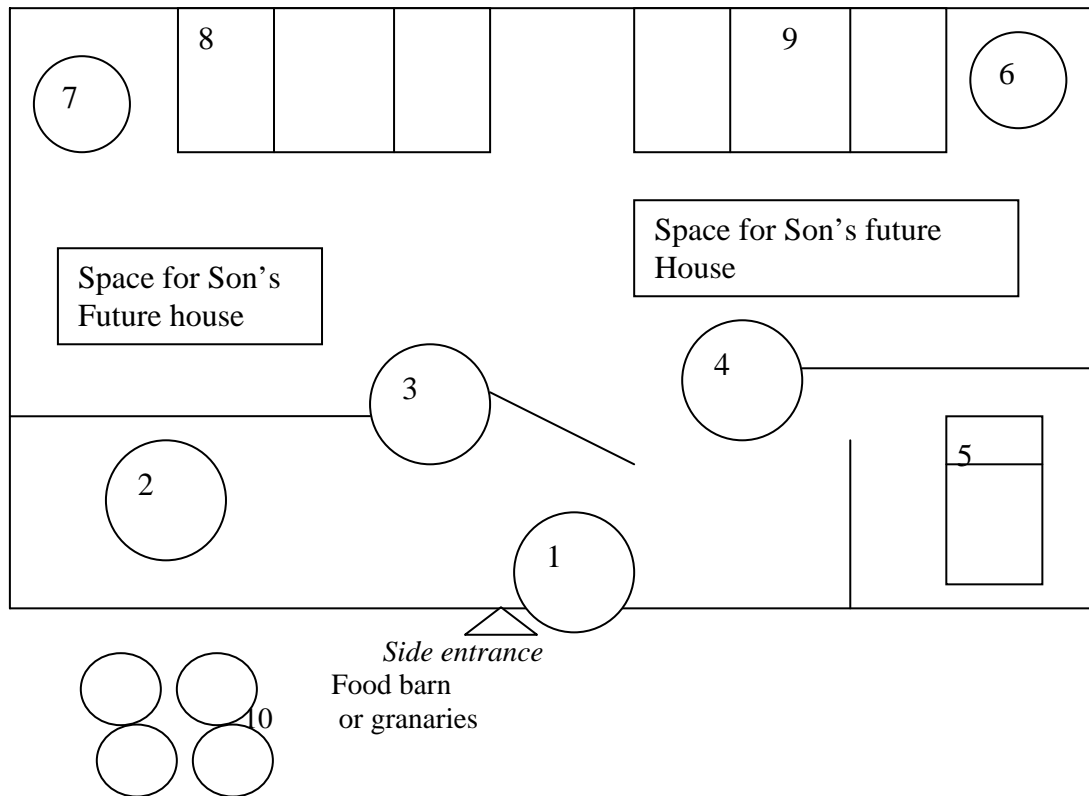
2.1.2 *Geology and Building Materials*

Mud and stones are readily available as a result of its geological conditions. Otherwise the abundance of stone in the whole settlements offers the opportunity for good masonry construction. Depending on the location either a combination of mud and stone are predominant. Mud walls are sometimes reinforced with stone to form a matrix. Dwarf fences were constructed of mortar less stones connecting rooms, and defining personal spaces and territories, especially in rural hill sides. Although plenty of stone abound in peri-urban Abuja, and its continuous use for informal housing construction have was sustained by Gbagyi families' painful exploitation of the resource. This ensures steady supply of manually crushed assorted gravels to meet the demand of informal developers at affordable rates.

2:1:3 *The Climate*: The Gbagyi housing pattern is a synthesis between the local conditions and the solid formulas of its philosophy of life, art and design prevailing in the better part of the central region of Nigeria. The massive construction in stone reinforced mud, in-situ mud walls in incremental layers or mud-brick satisfies to large extent the exigencies of the climate and their level of technology. Unlike in the past, when it was customary to minimize openings, except for doors, in order to avoid giving evil spirits access to habitable rooms; today, cross-ventilation is also facilitated by internal windows between the rooms and the central space, which is the coolest space during the hot daytime. The open ends of the central hall are either turned to the north or to the south in order to avoid deep penetration of the sun's rays. Most of the dwellings provide room window openings to access light and cool breeze from adjacent open spaces. Most of the rectilinear buildings assume North-South orientation in Karu and Nyanya villages to avoid direct sun rays. This was facilitated by the East-West high street orientation.

A key informant, Mr. Mamser, narrated that the characters of Gbagyi traditional housing pattern consists of a room allocated to every wife along with a kitchen; grown up sons are normally provided with rooms close to their respective mothers to start their family. But, in the absence of space in the family compound, then they are provided such plots elsewhere to build their own starter dwellings.

Figure 2.1: Plan of a typical contemporary urban Gbagyi compound as based on a sketch by a key informant Mr. Mamser. Source: Fieldwork, 2006.



Key

1 Entrance hall\ male reception called *Boknu*; 2 Animal Shed; 3 & 4 female reception for each wife; 5 Household Head's apartment; 6 & 7 Kitchen for each wife; 8 & 9 bedrooms for each wife; 10 Food barn or Granary

2:2 Variable (inconstant) factors

The critical point of disruption in the traditional structure of the Gbagyi society occurred systematically as follows:-

2:2:1 Declining power of the community leaders: Initially Gbagyi communities were relatively independent entities linked to larger units, and were inevitably tied with centers of powers located outside the scope of their own the immediate communities. These relations were established with townships around, and that involved settlements in national politics of three tiers of government: local, state and federal levels.

2:2:2 Changes in land tenure: The land reforms that aimed to change the communal ownership of land to public (government) ownership started during the colonial period were accentuated by the land use decree of 1978, and land use act of 1992. The collapse of the subsistence agricultural system, along with other developments like the mushrooming of Local Government Councils and state governments resulted in the migration of village residents to seek work in urban centers. The village no longer depended primarily upon agriculture as the means of existence, and this weakened the peasants' organic attachment to the land.

2:2:3 Changes in the occupational structure: This process started at the year 1911 with the arrival of colonialism and its wife, Christianity (Gwamna, 1989:83). Land that was up until then the only source of livelihood for the community was being slowly replaced by other sources of income and status. By that time a large number of the villagers had become government official employees, school teachers, policemen, church workers, European domestic servants, and clerical staff to commodity buying agents.

2:2.4 *Socio-Economics*: The religious affiliation of the Gbagyi families did affect the distribution of house types in Karu chiefdom, and it can't be easily deduced from its habitation. The conditions of living either in the mountains or in the plane area were essentially the same for all religious communities and all families adhered to a strong paternalistic structure initially.

This communal structure was destabilized by urbanization, which promotes monetary society, individualism, consequently, less family and community ties.

The occupancy rate could then be contrasted for the three significant periods of Abuja.

Table 2.1: Household Occupancy of Compounds with respect to 2006

Household size	20 years ago	15 years ago	10 years ago
< 4	100%	52%	19 %
>4<6	0%	48%	57%
>6<10	0%	0%	15%

The Islamic influence is very strong in the architectural forms and in the planning of the houses in the Muslim community. These dwellings were simple and straightforward, and that entails specialized spaces as well as privacy for women. This could be due to the subjectivity of the concept of privacy. For instance, Gbagyi Muslims in Karu Hausa are most strict in the seclusion of women unlike Christians in Karu Peshe, who care less; and Pagans in Karu Zhimi do not are least bothered.

Four Gbagyi housing transformation themes based on a priori induction adopted from Turgut (2001:20) are: behavioral, spatial, cultural and socio-economic were manifested in one way or another in peri-urban Abuja, within the three decades of the FCT. The three significant periods of incipient, intermediate and consolidated was each characterized by one or more of these five kinds of transformation types. These are:

- Conversion of reception to bedrooms for rent;
- Turning rooms adjacent to streets to shops;
- Extension of house to meet increased family needs;
- Modifying spaces to cater for socio-cultural demands of privacy;
- Face lifting of dwelling as a status symbol.

2.2.5 *Composition and Types of the Gbagyi Traditional Dwellings*

The socio-economic organization of the built environment during the incipient stage followed the rural housing norm characterized by the clustered and concentric patterns of spatial organization. Houses and other structures built in this period formed the traditional clustered fabric. The house was opened directly to the communal courtyard, it had no direct connection to the outside, it was adjacent to other houses at least from two sides and the back of the structures formed part of the periphery protecting the inner courtyard. This house was built from mud and roofed thatch. Vacant land or empty grounds between the old structures mainly were set aside for future expansion, consistent with Gbagyi concept of growing house. Further analysis of the transformation of the peasant house (initial Model) was labeled by Balogun (2001:103) as Gbagyi ideal dwelling. This typifies the residential unit as at 1976 to 1986, the incipient period. The housing typologies associated with this stage are:

- i. Gbagyi Muslim compound
- ii. Gbagyi Christian compound
- iii. Pagan compound

The Gbagyi traditional housing transformation in peri-urban Abuja had two sequences of development. The first sequence covered the development from 1987 to 1992 when two forms of Sudanese round huts and West coast rectangular models prevailed (Bature, 1990). The second sequence, the intermediate period, 1992 to 2006, was associated with new approaches essentially due to under the tight interaction of local socio-economic and cultural conditions with other Nigerian and foreign settlers, especially relocatees from Lagos where new trends had flourished. The intermediate era exhibited three house types:

- i. Gbagyi compound type
- ii. Rental compound (owner/tenant)
- iii. Face to face rental

The four themes were applied to each of the three categories of housing characters, transformation and motivation, but respective concepts tied to each theme were allocated as shown in figure 6.1.

Incipient (1976-1986): Settlement pattern based on clan lineage and compound pattern tied to kinship was sustained.

Intermediate (1987-1992): Settlement pattern based on clan lineage and compound pattern tied to kinship was destabilized with the introduction of rental accommodation for migrants, development of migrants dwellings punctuating indigenous compounds. Reduced open spaces could be observed at both settlement and compound levels.

Consolidated Stage (1992-2006): Clan settlement pattern and extended family compounds were admitting settler developers (landlords) and tenants. Rental accommodation dwellings with or without the landlord became the order of the day. Indigenous compounds transformed from rural dwellings urban structures of various forms. Open spaces for communal use at settlement became more specific and compounds' multiple open spaces became more restricted.

It could be observed that the compound type of house was retained by the Muslims through out the three periods. The pagan and the Christian types were either converted to face to face rental housing as owner tenant or fully rental. The religious stratification of compounds was very strict at the incipient stage. This was pronounced by settlement segregation of Karu Hausa, Karu Peshe, and Karu Zhimi for Muslim, Christian, and Pagan inhabitants respectively. As a matter of personalization, bungalows emerged as status symbol of its occupants. This house type is very rare within the study area. Row housing, a combination of room and parlor arranged in line give better utilization of plot at the expense of cross ventilation. The intermediate window necessary to ensure effective ventilation is usually omitted during construction, so as to reduce cost. Such a house type attracts good rent due the convenience of private and semi-private spaces.

In Gbagyi custom, the building process was a spontaneous activity depending on reciprocity between members of community. All members of the extended family carried out the construction process and the gathering of materials. By the end of 1980s, the intermediate stage, significant transformations occurred in the socio-economic organization of Abuja, thereby introducing very drastic changes in the built environment. And consequently, they caused the following developments in Gbagyi settlements:

Linear patterns of dispersion replaced the clustered and concentric patterns due to urbanization. The village main streets form the basic spines along which houses and other structures spread. Yet, new structures breaking away from the traditional fabric and new quarters found their way of forming. As a result of all these developments the communal open spaces such as play fields, gap between buildings, and farm lands close to built up areas were subdivided into residential plots.

Inner spaces of the house have been re-configured, and the most prominent physical indication was the disappearance of the three domains for men, women and food products. The house built in the intermediate period (1986-1991) was left only with the multi -purpose space. Elements such as the multiplicity of granaries have been reduced to just a few; thatch roof cover was eliminated in urban and semi-urban areas; many compound shrines were abandoned; and grinding stone was gradually being replaced by diesel driven as well as electric grinding machines.

The acquisition of new items (radios, televisions, refrigerators, gas ovens...etc.) imposed the disposal of some traditional household objects as oil lights and mud ovens. However, ceramic water jars, kitchen utensils were replaced with modern plastic containers and aluminum products respectively. The new spatial organization of the Gbagyi traditional house types is shown below:-

2.2.6 *Commoditizing of the building process*

The transformation of the occupational structure and in the kinship relations led to the disintegration of the traditional building team. And hired labor became the prevailing pattern. The mason-builder started being hired with his team of paid laborers to execute the building process. Although at sometimes, the self developer or members of his family do take part as laborers to save cost. The mason-builder became the specialist, delegated and authorized to create new forms. Building materials, which were previously extracted directly from the environment, are now brought from the market. This left the community radically unguarded and exposed to the incitement of new building materials and techniques. According to these transformations in the initial model the following categories of houses became popular in the consolidated period (1992-2006):

- i. Compound type
- ii. Face to face rental
- iii. Bungalow unit

There exists a hierarchy of spatial domains in the traditional settings. This could be categorized into three:-

- i. The multi-purpose space men's-Platform
- ii. The women's space
- iii. The agricultural products space

These spaces vary according to the faiths of the compound inhabitants/developers. The Muslim compounds of the incipient stage as sketched by a key informant and confirmed by Bature (1990), provides for two courtyards within a compound. The outer space sandwiched between the entrance reception and the inner (women's) reception in the men's domain. And the inner open space bounded by wives bedrooms and the women's reception is the women's domain. In most cases, the agricultural produce space is the immediate vicinity of the granaries.

3.0 Data Analysis

3.1 The three analytical tools are carefully integrated employed are;

- i. Inductive coding (Creswell, 2002:266 and Thomas, 2003:4);
- ii. Discovery of patterns (John and Lyn Lofland, 1995:127-145 in Babbie, 2001:359-361);
- iii. Grounded theory method of Glaser and Strauss, 1967 (ibid, p. 361-362).

The inductive coding system involves the following five steps. First is labeling of category by reading through the text data. Next is the identification of specific segments of information for categorization. This entails the description of meaning of the category including key characteristics, scope and limitations. The third is the labeling of text data associated with each category. The fourth is the reduction of overlaps and redundancy among the categories by linking them hierarchically or causally based on commonalities. The final step is the creation of a model that incorporates most important categories, say 3 to 8 of them. Discovery of patterns (John and Lyn Lofland, 1995) on its part raises questions on the dimensions of the phenomenon in six categories. These are frequency, magnitude, causes, consequences, structure and process. To effectively answer these questions, the inductive coding process sequentially outlined the concepts, themes and categories through a reduction process of segmentation and categorization.

Grounded theory method compares incidents applicable to each category, integrates categories and their properties, delimits theory, and concludes by writing the theory. For this research, the suggestion by Babbie (2001:364-370) of a three qualitative data processing involving coding, memo writing and concept mapping, was carefully manipulated. One, four out of five inductive analysis (Creswell, 2002:266) process was used to generate 3 categories- characters, transformation and motivation; discovery of patterns (John and Lyn Lofland, 1995) forms the memo write up; and a systematic deduction of a housing transformation theory that contrasts and integrates the three categories. Such a theory is limited to the socio-economic values of housing characters, since motivation is culture specific.

3.1 Patterns Discovery of Gbagyi Hosing Transformation

John and Lyn Lofland (1995:127-45) in Babie (2001:359), outlined six different ways of identifying a pattern in a research undertaking. For a study of the effects of informal housing

transformation on an indigenous vernacular housing pattern, the following six issues have been used to discover a pattern based on the field data:

- i. *Frequencies*: How often do households transform their dwellings? How could such a record of residential transformation be established? The frequency of dwelling transformation relates to question number 3 in the quantitative survey. There respondents were asked when they made changes to their respective houses.

Table 3.1: Frequency of Compound Changes of 21in-depth survey (Source: Fieldwork)

Age of Compound change	% frequency
<10 years	52
11-17 years ago	27
18-29 years ago	18
>30 years ago	3
Total	100

- ii. *Magnitude*: How to determine the level of transformation? Are dwellings extended, renovated, adjusted, altered, redeveloped or refurbished?

Table 3.2: Magnitude of housing transformation (Source: Fieldwork)

Nature of transformation	% frequency
Extension by adding new structures	42
External expansion of structures	31
Internal modification of rooms	27
Total	100

Figure 3.3: Dwelling Analysis (Source: Fieldwork)

Dwelling Typology Analysis

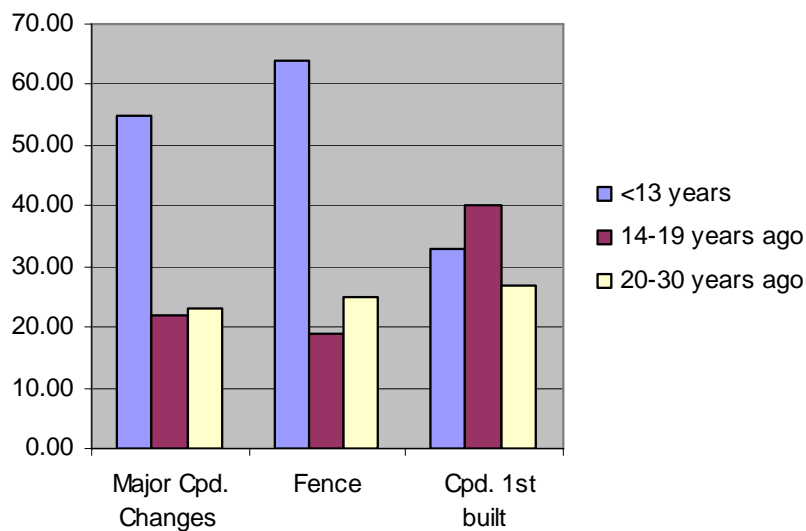
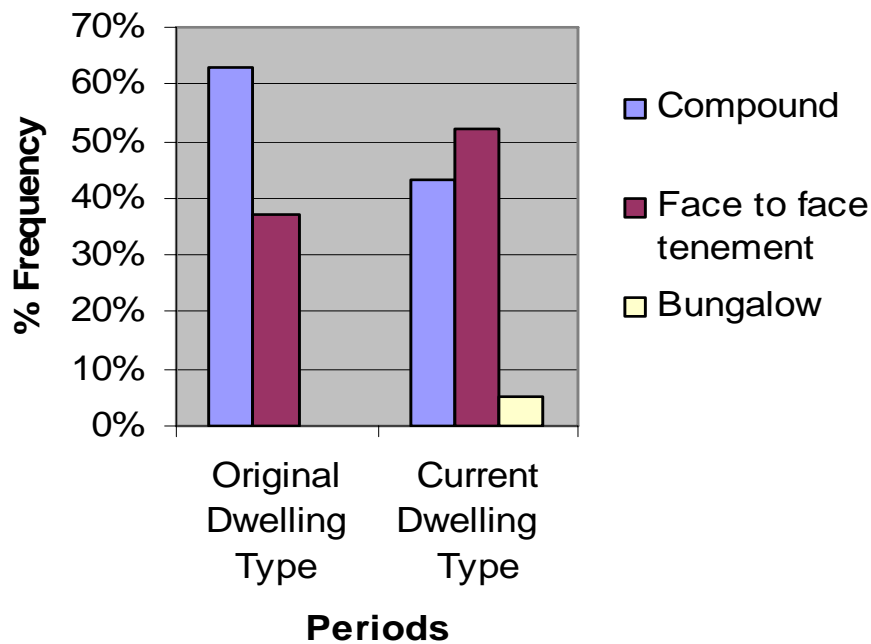


Figure 3.4: Chart of Housing Transformation Typology (Source: Fieldwork)

From the graph above, it could be understood that 2 dwelling types were common to the Gbagyi community at the inception of FCT-Abuja. These are the owner occupier compounds and tenement house type. The advent of federal capital status led to the emergence of owner tenant compounds, due to the admission of tenants into the traditional Gbagyi extended family compound; and a free standing bungalow for affluent indigenes or for rent.

iii. *Structures*: What are the different types of transformation? What is the relationship between them? The different types of transformation identified in this study are internal space modification, external space addition to existing rooms, and house extension by constructing new rooms within the compound. This spatial transformation is linked to social values such as change of function through relocation of facility. For instance, boknu or reception's conversion to shop. Consequently punching a new side entrance to the compound. The structure of transformation could be divided into three- physical, social and psychological. Physical housing transformation involves extensions to the whole compound or just a part, alterations, adjustments, modifications, refurbishment and redevelopment. Social housing transformation entails a definition of the values systems of the compound's inhabitants in terms of norms and customs. For instance, occupancy of a compound could be limited to a particular extended family. The norms and value common this compound changes with the admission of migrant tenants of different cultural background. Psychological transformation sets in as soon as the customs and value system common to the indigenous Gbagyi group needs to modify meanings associates with the original behavioral setting. A redefinition of territoriality, personal space and privacy becomes necessary. Physical, social and psychological transformation types manifested in building forms, occupancy rank and family structure, and meanings attached to different spaces respectively.

Table 3.3: Nature of the original house (Source: Fieldwork)

Nature of house	Percent
Mud thatch round huts	44
Mud thatch rectangular rooms	25
Mud/zinc/rectangular	24
Cement block/rectangular/zinc	7
Total	100.0

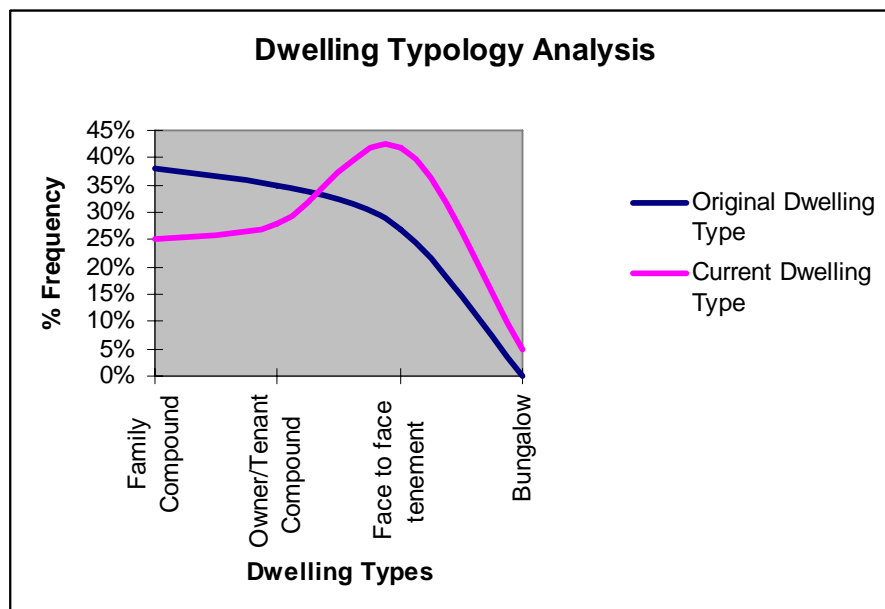


Figure 3.5: Dwelling Typology Profile (Source: Fieldwork)

transformation in time series

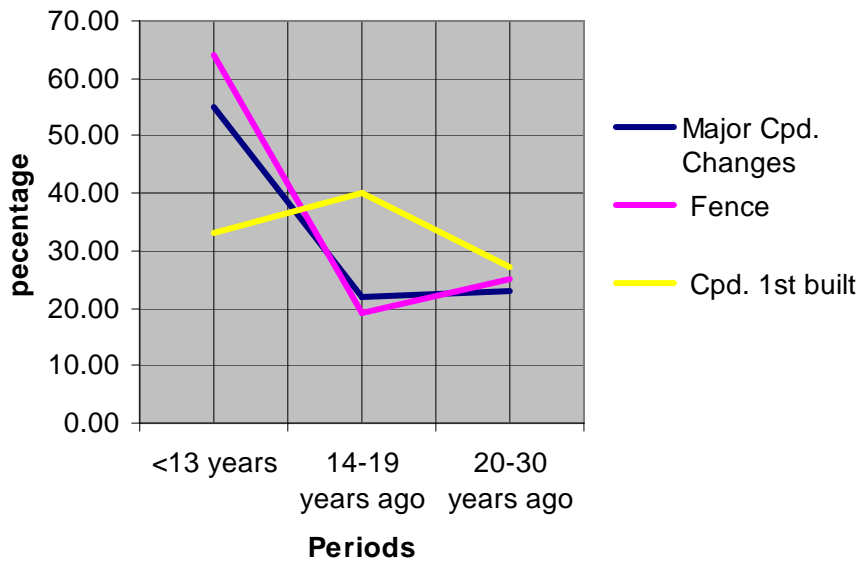


Figure 3.6: Transformation Pattern

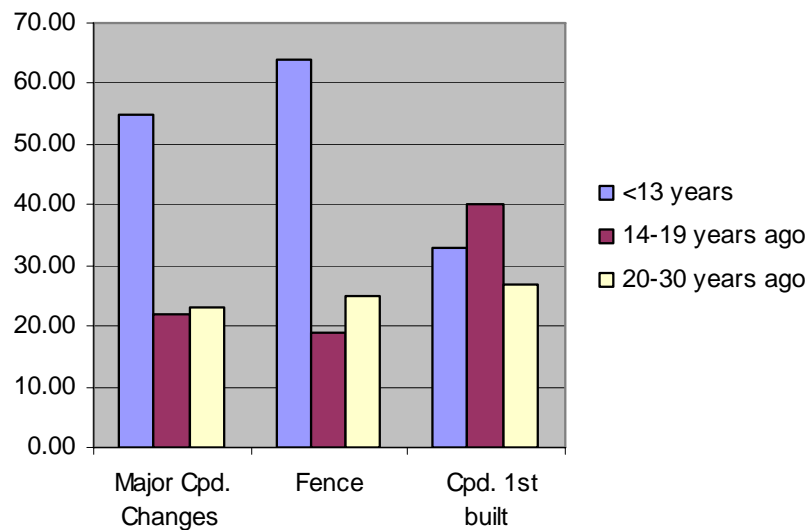


Figure 3.7: Transformation profile

From the chart above, it could be inferred that the trend of housing transformation could be assessed from three dimensions. These are the age of the compound or house, the age of its fence, and the age of major changes effected on the compound. The consolidation period of FCT Abuja is characterized by high frequency of fence construction to compounds, which accounts for nearly 60% of the samples. This is followed closely by major compound changes of 55%. The survey also indicates that about one third of the compounds in Karu, Nyanya, and Jikwoyi villages were built after all federal agencies were directed to relocate to Abuja by 1992. The intermediate era of Abuja, i.e. 1987 to 1992 or 14 to 19 years ago, witnessed a construction boom as most of the compounds (40%) in the study area were built during this period. Major compound changes were effected to less than one fifth of the compounds and construction of fence around compounds accounts for less than 20% or one fifth. As at the incipient period (1976 to 1986) just

about a quarter of the current housing stock in the study area were in place. Another one quarter of the housing stock had fence constructed around them, and one fifth or 22% of the housing stock were modified either to admit construction workers as tenants or to celebrate an improved status by its owner.

It could be suggested that that first decade of FCT Abuja was an era of low housing stock, low tempo of housing construction, and very few instances of fence construction around compounds. Each of the housing activities averages about 25%. The housing stock raised by 15% in 7 years, due to the relocation of the presidency from Lagos to Abuja. Fence construction and compound transformation

iv. *Process of Housing Transformation:* Seeks to identify the order of the elements of housing transformation. In other words, in the sequence of activities involved in housing transformation. Architects, planners and community leaders' views on the transformation process outlined the sequence of events that is normally associated with informal housing development process within the study area. It starts with the compound owner or landlord's confirmation of intention to transform his property by first contacting a brick layer or builder. He then briefs the builder of his requirements. Such a brief is normally in the form of physical dramatization on the compound (the proposed project site) the additional spaces needed, the connections between existing and proposed structures. No sooner the builder appreciates the client's requirement, and then he proceeds with the building works. Architects emphasized that most informal housing units are developed without the involvement of Architects due the clients' inability to source credible proof of ownership. Such proofs include: certificate of occupancy (C of O), right of occupancy (R of O), and T.D.P- which clearly indicates the plot beacons. So the mason is preferred for such developments, because he only constructs whatever he is asked to do without much query on development approvals. However, as for new developments, the local rules employed in the development of informal housing are:

- Informing the ward head or community leaders of plot acquisition in his domain and seeking him to witness such a transaction in writing;
- Intimating community leaders of the commencement of construction work on the site;
- Liaising with neighbors for set backs, access, connection to electric power and water mains where available; and
- Excusing neighbors anytime masons and other workmen could have visual access their dwellings especially while working on heights above eye level.

Community leaders, planners and architects interacted on this research observed that regulation of housing development in Abuja informal settlements assumes a communal dialogue pattern spear headed by the community leaders. At times, the services of professional surveyors are sought, especially on matters of subdivision of farmland into residential plots. This is aimed at maintaining minimum development standards which could invariably improve the value of the settlement to prospective settlers and housing self help developers. These voluntary self control mechanisms to some extent helps to maintain vehicular and pedestrian accesses. As for drainage, it was observed to be non existent, thereby causing poor sanitary environment. A visual observation indicates that most compounds discharge their waste water into the adjoining streets, thereby creating a haphazard meander of shallow drains on the dusty access roads.

v. *Causes of housing transformation:* The causes of transformation in this study are referred to as motivations. Key informants such as community leaders, brick layers, architects and planners enumerate these motives to include modernization, aspiration for affluence, home business by landlords and tenants, family seclusion and generation of rental income. Planners are of the view that housing transformation in the study area is due to urbanization of FCT-Abuja. Architects link to demand and supply chain. High demand for housing not matched with supply. Community leaders relate it to good return on investment. At the inception of FCT- Abuja as a construction site, the Gbagyi indigenes were the majority of transformers of their respective

dwellings to accommodate immigrant workers. At that time, according a district head, other Nigerians were acquiring residential plots from subdivided Gbagyi farmlands. With the relocation of the presidency to Abuja from Lagos at the end of 1991, residential development in all its ramifications became a multi-ethnic activity. Hausa, Igbo, Yoruba, Gbagyi, and all other Nigerian tribal groups were engaged in seeking residential accommodation consistent with their economic abilities. However, housing transformation is limited to landlords or compound owners, both indigenes and settlers, especially the middle class and absentee landlords, regardless of the ethnic group. Land agents or speculators associate housing transformation to good economic times. For instance, the first four year term of the Obasanjo administration witnessed a boom in property development generally, and housing transformation in particular. For one the democratic era was witnessed with informal housing development in the satellites towns of Karu, Nyanya, Jikwoyi, Kubwa and Lugbe. This facilitated by good cash flow in Abuja, courtesy of politicians and their surrogates. For another, titles to residential plots in peri-urban areas were business as usual with community leaders and their speculating land agents. In other words, customary titles to indigenous settlements were more readily accessible than now. By the end of 2005, more stringent measures were introduced, thereby making access to residential plots more difficult. Before then, planners and land speculators enumerated the rules for informal housing development as follows:

- Acquisition of residential plots by settlers from Gbagyi chiefs and other community leaders directly or through agents.
- There were no written rules or regulations guiding building layout or setbacks requirements.
- Development control agencies (AMAC, FHA & FCDA) issues action plans as it affects the indigenous settlements from time to time.

Table 3.4: Causes of Internal Transformation.

	Reasons for modifications of interior walls	%
	No internal rearrangement yet	9
	Additional space to rent	29
	Additional space for business	29
	Due to increase in family size	33
	Total	100

Source: Field survey, 2005/2006 of 21 in-depth Samples of the 7 Settlements

Table 3.5: Reasons for modifications of interior walls

Transformation motive	Frequency	%
No internal modifications	35	17
Additional space for business	40	20
Additional space to rent	67	33
Additional space due to > family size	62	30
Total	204	100

Source: Field survey of 204 Quantitative Cluster Samples of the 7 Settlements

Table 3.6: Causes of Housing Alterations

Motive/Causes	Percent
New wife	16%
Grown up children	15%
To rent out	59%
For livestock	3%
Home business	7%

Source: Fieldwork Survey of 204 Cluster Samples of the 7 Settlements

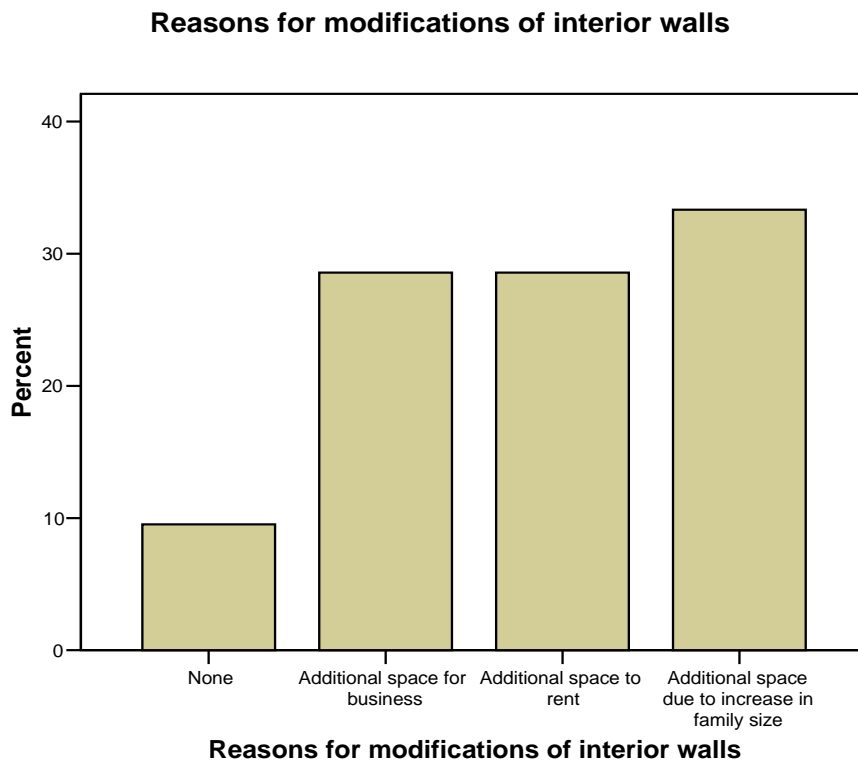


Figure 3.8: Motivations of Internal Changes to Compound Structure

- vi. *Consequences:* How does housing transformation affect residential quality of the environment in the short and the long terms? What effect has it cause to tenants? Planners in the service of Abuja development control agencies consider housing transformation as a *'threat to physical planning'*. This is the view of the Zonal management of AMAC, the agency charged with the physical development control of Abuja suburbs. According to these planners, the threat is due to the unplanned nature such settlements layout expand; and "settlement transformation poses a threat FCT physical development plan due to the non conformity of settlement development to any set of planning regulations". The cumulative effect of individual transformation of houses leads to settlement transformation. This poses a threat to the territory's physical development plan due to the non conformity of settlement growth to any set of planning regulations. This encourages lateral expansion of residential structures as developers are mindful of ultimate demolishing of such physical structure.

3.2 Alternative Analysis of Case Study

Patterns could to be examined as case oriented analysis; variable oriented analysis, and cross-case analysis (Huberman and Miles, 1994:435f in Babbie, 2001:360).

Case-oriented analysis: is another way of pattern recognition of phenomenon. In this case, a particular case, say one in Karu, Nyanya, and Jikwoyi will be scrutinized closely. Four community leaders' compounds or palaces sampled are studied in terms of their case histories, with a view to discovering latent patterns. Since a single case does not a theory, Miles and Huberman in Babbie (2001:360) opines that a researcher refers to other subjects for their full details of their transformation profiles, with particular attention on the four variables (dwelling/compound age, means of acquisition, nature of the original compound and family size).

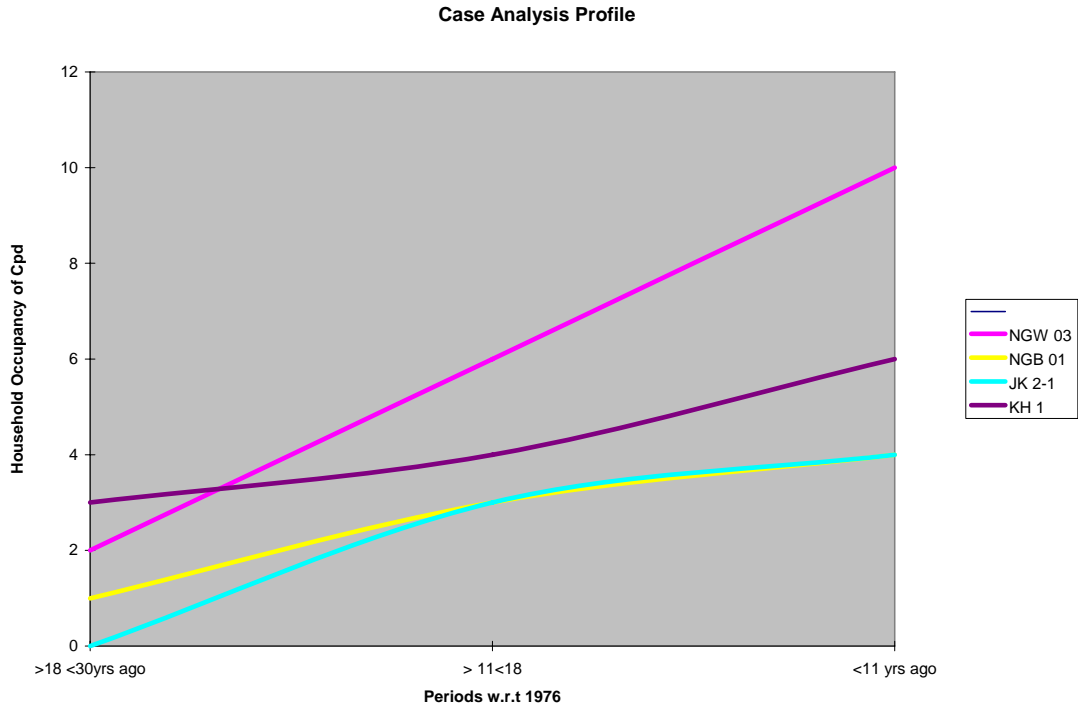


Figure 3.9: Case Analysis of Occupancy Profile Curve of 4 Compounds
Source: Fieldwork, 2005/2006

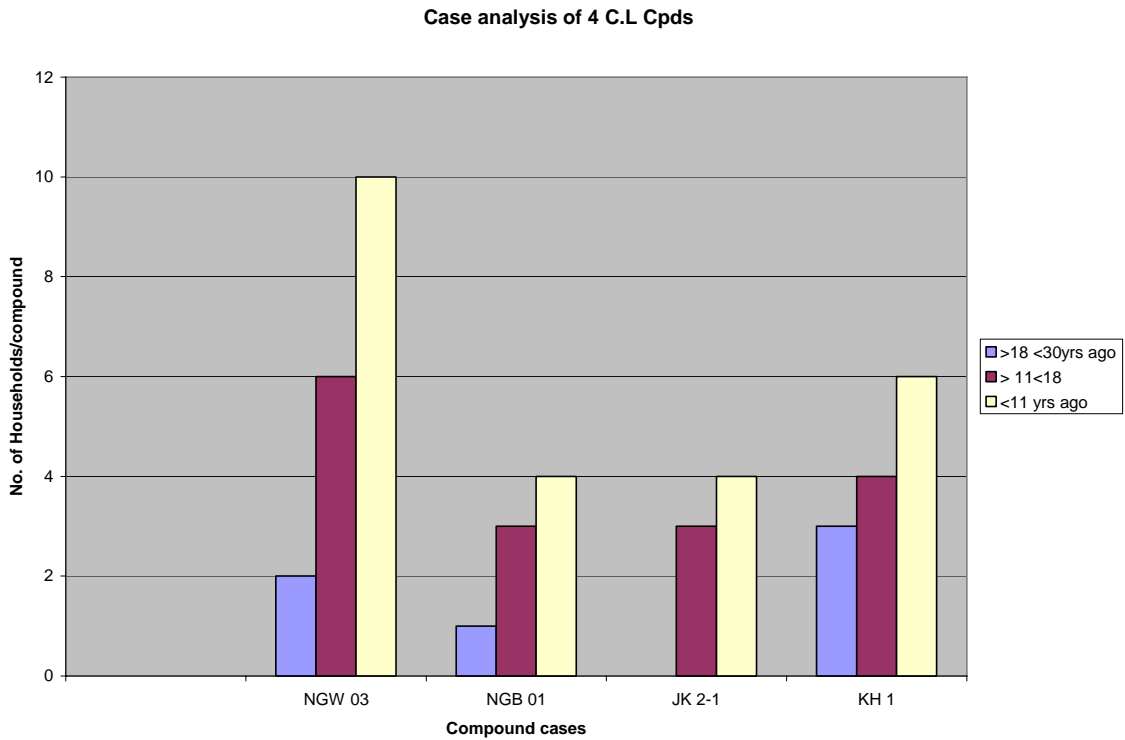


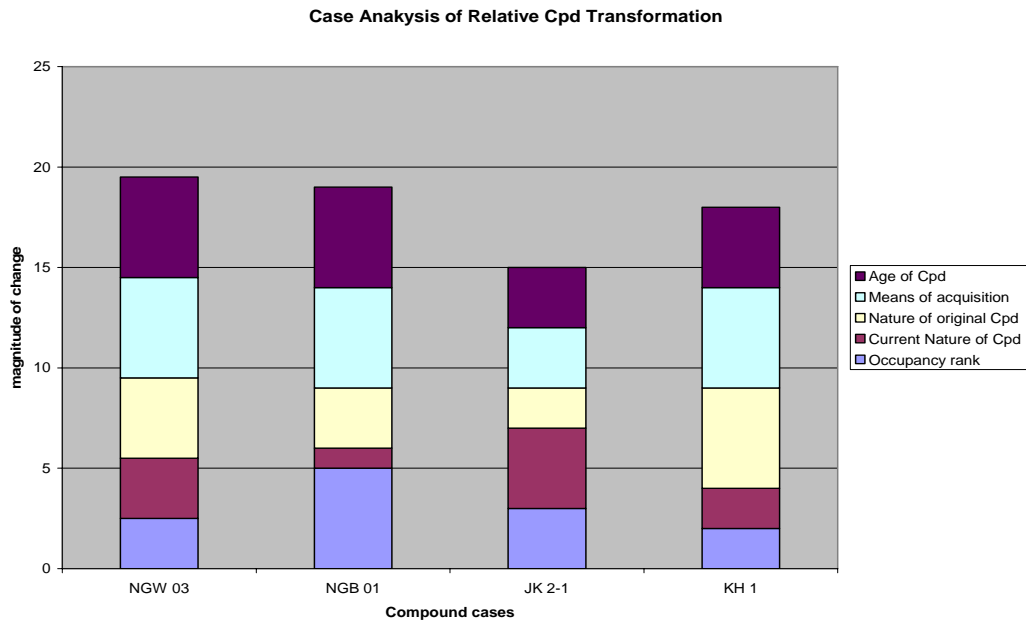
Figure 3.10: Chart of 5 Factor-Comparison of Community Leader’s Compounds

Source: Fieldwork, 2005/2006

Table 3.7: Construct of the Level of Compound Transformation

	Occupancy rank	Current Nature of Compound	Nature of original Compound	Means of acquisition	Age of Compound
NGW 03	2.5	3	4	5	5
NGB 01	5	1	3	5	5
JK 2-1	3	4	2	3	3
KH 1	2	2	5	5	4

Based on Likert's scale - from 1= lowest value to 5= highest value

**Figure 3.11:** Chart of Relative Transformation of C. Leaders' Compounds

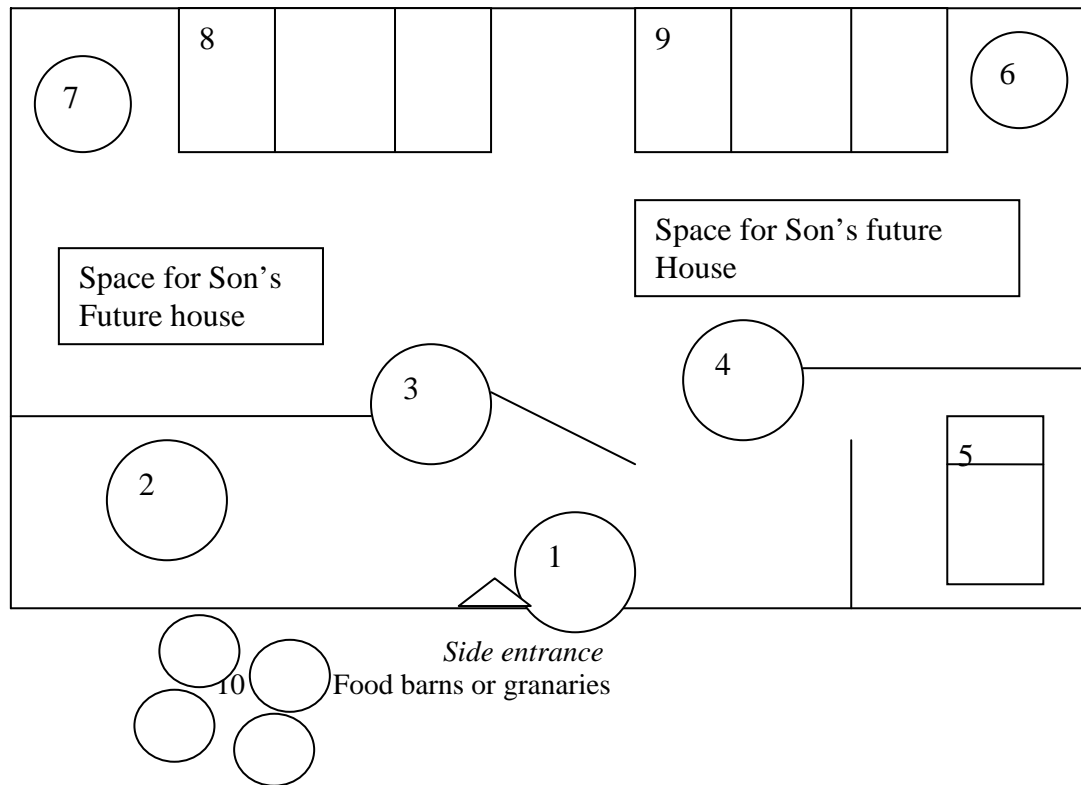
From the above graph of relative transformation, a community leaders compound in Jikwoyi phase 2 (JK2-1) is least transformed from the original Gbagyi ideal compound physically, socially and psychologically. This is followed by that of Karu Hausa (KH1), Nyanya Gbagyi (NGB1), and Nyanya Gwandara (NGW 03) respectively. The trend tallies with the compounds respective settlement's level of urbanization. For instance, Jikwoyi is furthest from Abuja business center, while Nyanya is closest.

Variable-oriented analysis: Variables here could be age of the dwelling unit or compound, means of access to the compound, nature of the original dwelling unit or compound and family size. The focus of this analysis is to establish the inter-relations among variables in relation to residential transformation. Variable-oriented analysis could employ nomothetic explanation to create a clear picture of link between a relatively few variables.

The concept of domestic space is a subset of housing layout or spatial pattern of a compound. Both housing layout and domestic space fall under the category of housing characters, but with specific reference to qualities of the setting that define territoriality, personal space and privacy. A spatial relationship exists between family seclusion concept of housing transformation category and housing layout of the housing character category (Spradley, 1980).

Based on a narration by a key informant, the characters of Gbagyi traditional housing pattern consist of a room allocated to every wife along with a kitchen; grown up sons are normally

provided with rooms close to their respective mothers to start their family. But, in the absence of space in the family compound, then they are provided such plots elsewhere to build their own starter dwellings.

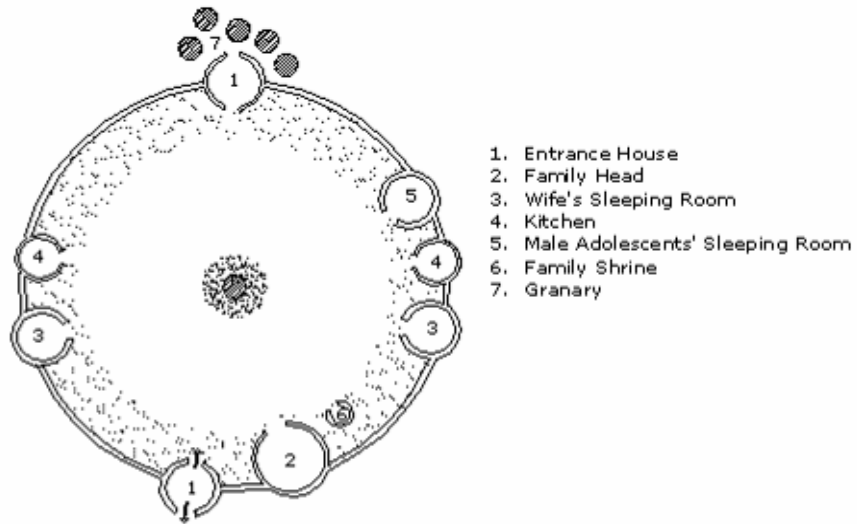


Key

- 1 Entrance hall\ male reception called *Boknu*
- 2 Animal Shed
- 3 & 4 female reception for each wife
- 5 Household Head's apartment
- 6 & 7 Kitchen for each wife
- 8 & 9 bedrooms for each wife
- 10 Food barn or Granary

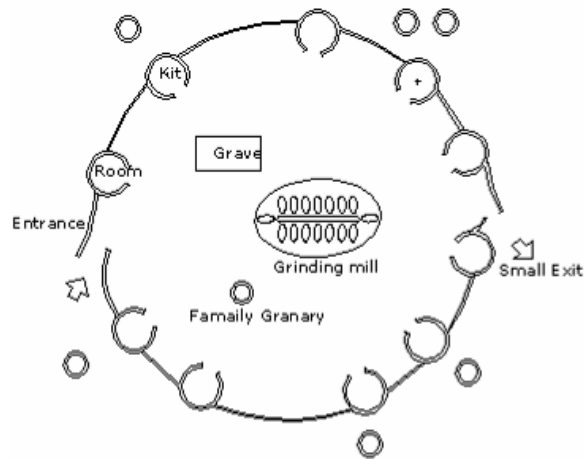
Plan of a typical urban Gbagyi compound based on sketch by a Gbagyi key informant in December 2005

Figure 3.12: A Typical Urban Gbagyi Compound

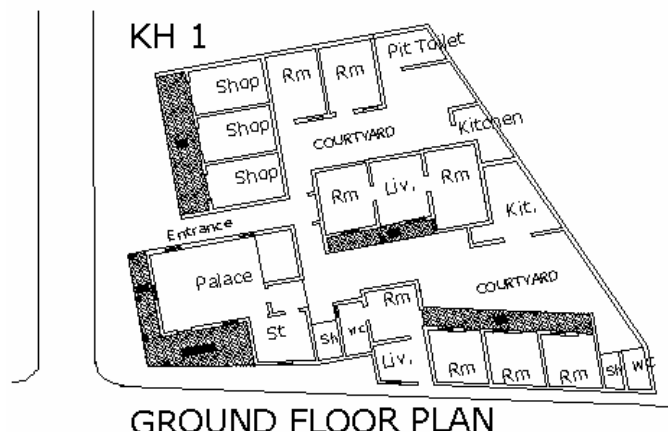


- 1. Entrance House
- 2. Family Head
- 3. Wife's Sleeping Room
- 4. Kitchen
- 5. Male Adolescents' Sleeping Room
- 6. Family Shrine
- 7. Granary

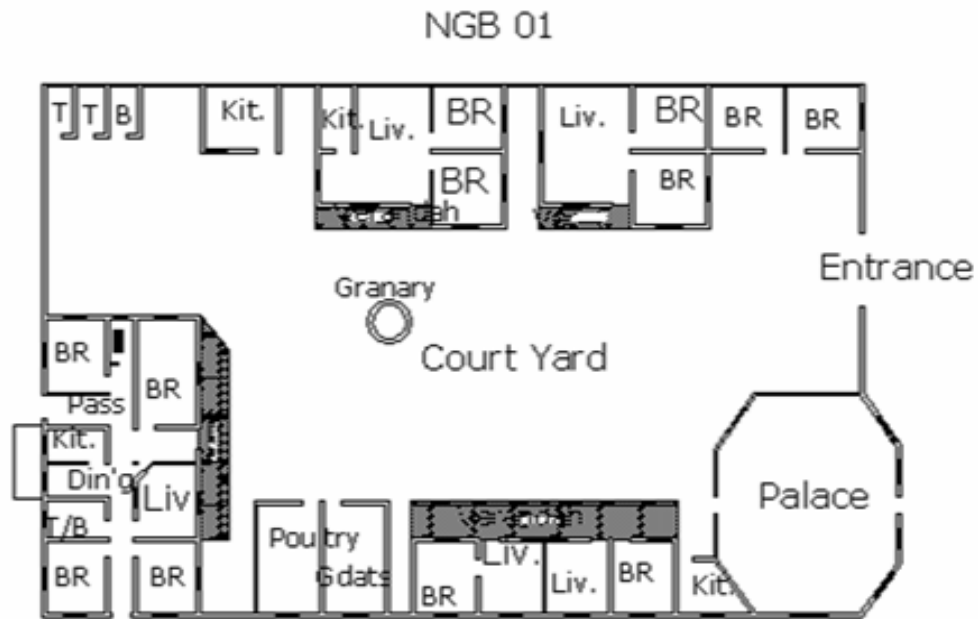
Lay-out of a Typical Gbagyi compound (Balogun, 2001:103)



Gbagyi Typical House (Fieldwork)



GROUND FLOOR PLAN



Ground Floor Plan
NGW 03



Cross case-oriented analysis: this is situation whereby other cases or subjects are contrasted in search of evidence that will explain a particular case. Some subsequent cases may parallel the first one in the apparent impact of particular variables. Other cases will bear no resemblance to the first. So the researcher may be compelled to find out why some cases seem to reflect one pattern while others reflect another.

4.0 Grounded theory

It could be suggested that tittle 'F' action of social fission of the social communalism at community and family levels to individualistic behaviors; physical fusion of the isolated

indigenous round huts into more compact rectangular courtyard compounds; and the psychological fashion contemporary life style of cash economy, characterized by capitalist mode of production and consumption of housing. Socially, Gbagyi society was characterized by the African communal life style whereby residential occupancy adopts extended family system; agrarian economy, art and craft, and symbolic attachment of the living to the dead. Such ethnocentric values were gradually eroded by acculturation (change due to interaction) with migrants, and could be viewed as the *fission* of the traditional society. This was accentuated by official restrictions of some practices. Gbagyi social structure transformed due to modern development, a kind of culture of capitalism now practiced in Abuja has introduced individualism to the indigenous population.

Physically, Gbagyi traditional housing pattern transformed from rural to urban norms, whereby the spatial order, materials and construction technology adjusted to fit in the contemporary situation. Spatial identity pattern though remains; it contracted, thereby fusing the isolated free standing mud/thatch round huts into rectilinear concrete buildings roofed with corrugated iron, around a courtyard. This is a form of '*fusion*' of disperse buildings into a rectilinear whole, with the African courtyard still retained.

Psychologically, urbanization of the Gbagyi Peri-urban Abuja settlements flooded the Gbagyi community with a multiplicity of cultures, thereby reconstructing Gbagyi world view and aspirations. Human behavior within such a setting was moderated by Islamic and Christian religious beliefs in the context of culture. So, Gbagyi community adopted contemporary housing '*fashion*', consistent with the respective religions. This concurs with Chokor (2005:69) who opines that social changes, especially the shift from traditional communal family values to more Western ways of life have variegated impacts on building forms and residential layouts. Gbagyi housing transformation is motivated by cultural, behavioral, socio-economic and spatial factors. But socio-economic considerations are a priority due to individualism acquired from the culture of capitalism.

Housing pattern defines domestic space, which in turn determines behavior (Rapoport, 1969) through territoriality, privacy and personal space. However, spatial identity or compound layout is both spatial and behavioral themes/concepts of housing character. A spatial relationship connects spatial identity (layout) to family seclusion as well as modernization (Spradley, 1980). Behavior of occupants of a house is determined by its characters (anthropometry and ergonomic) and so motivates its transformation. Anthropometry is the measurement of man; while ergonomic is concerned with the design for humans. Corwin Bennett (1977:12-23) gave a hierarchy of good design goals as safety/health, performance, comfort and aesthetic pleasantness. This hierarchy is subject to semantic differentials. And this behavior depends upon the house form (Rapoport, 1969). Housing transformation is a survival strategy due the preference of developers to socio-economics.

5.0 Conclusions

The composition and typology of the traditional Gbagyi house from 1976 to 2005, presented in this study show that this house is a product of a simple and frugal society creating its habitat within its basic means, but with utmost understanding of the functional requirements and the potential of the materials at its disposal. The transformation of the ideal traditional compound with its 3 semantic variations for Muslims, Christians, and pagans, more functional economic models of the twenty first century are honest adaptations to need and context. Artistic quality of the dwelling houses created in the transition period (intermediate stage) was not dependent upon imported models, but indigenous adjustments inspired by acculturation. The stylistic self-sufficiency of the Nigeria's housing has been expressed through the numerous variations of convincing, locally rooted traditions, as well as a great mastery of a craft. The house was built with the participation of the whole family initially, then by hired labor plus family members, later. People were unaware of new possibilities for development and they accepted what they had

without endeavoring anything else. The Gbagyi traditional house occupies its place naturally and without pretension. It is imbedded in a landscape humanized by countless trees, and built of the materials furnished by the environment. The balance of massing and the harmony of forms were exemplary, and the arrangement of the houses reflects deep understanding of the environment, and is indicative of a remarkable social balance. Finally, the anonymous dwelling is the unconscious expression of the people's culture. It reflects the needs, desires and living habits of a time, because they are the direct results of the interaction between the human being and his environment.

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