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Single Family Housing Estates Development Dynamics in Port Harcourt Metropolitan Fringe Areas: Implication for Sustainable Urban Planning

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Abstract
Although metropolitan fringe has important role on urban growth process, multidimensional transformation occurring in metropolitan cities has become a subject to different studies. This paper examines the developmental dynamics of single family housing estates in Port Harcourt metropolitan fringe area. The Institutional/Town planning data obtained for the study includes Building Plan approvals/ Building permits in the current Port Harcourt metropolitan fringe areas from 1990- 2010 while the primary data were obtained using hand-held GPS. The paper revealed that after 1990, building plan applications for Obio/Akpor Local Government Area (LGA) began to increase. Within the years 1990-2010, a total of 20,544 plan approvals were made for Obio/Akpor LGA while a total of 6,639 approvals were made for Eleme LGA. When annual distributions are studied, the paper shows that building plan approval began to increase in Obio/Akpor LGA between 1990 and 1993 and reached to the highest point in between 2008-2010. When the building approvals from the two LGAs are studied together, it is seen that Obio/Akpor LGA has the highest development dynamics. The paper further revealed that Housing estates vary in number of houses they involve. Estates that were built 30 to 60 units are 19 (63.3%), 61 to 100 units is 20% (6 estates) and lastly 101 housing units and more is 16.7% (5 estates). The study faulted the Process of establishing single family housing estates without situating and integrating them within the overall urban master plan. It was further recommended that government should among others ensure that majority of the single family housing estates at the fringe areas be built by major building firms and adjust its zoning ordinance and map to provide areas where it will be possible to build relatively lower-cost housing estates such as garden apartments or small houses on small plots for equity sake.
Keywords: Single family housing estates, Development dynamics, Fringe area, Sustainable Urban planning

Background to the Study

The metropolitan cities in Nigeria have been undergoing substantial changes as housing and land markets develop and socioeconomic stratification rises. Many residents have moved to the periphery from the central city even though density there remains much lower than the city core. Peripheral zones for instance, are experiencing a revitalization of employment and economic activities, (Adesina, 2004).

The nature and structure of the city are both changing. Different parts of the city are changing in different ways, and much depends upon the state of the local, national and global forces (Owei, Ede, Obinna and Akarolo, 2008). The metropolitan fringe has important role on urban growth process. For that reason, metropolitan fringe is thought of not just as a geographic area within a metropolitan region, but also as a step constituting hierarchy between rural areas and central city (Adesina, 2003). The recent influx of a large number of residents to the peripheral areas of the city added a new element of complexity to the ongoing spatial restructuring in Nigeria urbanization processes. Land use trends and growth pressure in the metropolitan cities is driven by series of interrelated processes of change: economic, social, political and demographic.

Multidimensional transformation occurring in metropolitan cities has become a subject to different studies. Metropolitan studies are affected by its partly urban and partly rural socio-spatial characteristics. Planners, geographers and social science researchers who have tried to explain size, form, rate of expansion, and socioeconomic-environmental effects of metropolitan areas were debating for years. Nigeria has been experiencing a great transition from rural to urban oriented economy, which has been accompanied by the increasing mobility of production factors such as: capital, labour, technology and information to the metropolitan periphery near these mega cities such as Ibadan, Lagos, Port Harcourt, Kano, Benin city, Aba, and Kaduna. Sequel to the wide spread beliefs that the metropolis are fashionable area in urban literature especially in developed countries; empirical studies have revealed a contrary view regarding the fate of cities in developing countries (Dupont 2005).

Research on metropolitan cities in Nigeria started in the 1980s when sprawling began to be seen in Nigerian cities. Then, metropolitan areas were studied with their urban and rural aspects but there were some neglected issues as well (Adesina, 2007). Metropolitan areas in urban studies today are considered as areas where different development trends (economic, social and land uses) occur and therefore, these areas are subjects to many

researches.

Housing development is one of the important functions currently seen in metropolitan cities. Certainly, housing development that began to appear at metropolitan areas is not a recent phenomenon. In developed countries, such as USA and England, the roots of this formation go back to 18th century when industrial cities were born. It diversified throughout time and reached today with its changed social and spatial characteristics. Starting with 1980s, some similar developments began to occur in Nigeria also, that broke the high density urban structure in a decentralized urban form (Abimbola, 2008). As a result, the housing development at metropolitan cities created some changes at these areas different from the ones in developed countries. One of these new residential form is "single family housing estate" that indicates to the new forms of urban growth and diffusion processes in metropolitan cities such as Lagos and Port Harcourt (Mabogunje, 2002). The focal point of this paper is to explore single family housing estates development dynamics in Port Harcourt metropolitan fringe areas and discuss its implication for sustainable urban planning.

To achieve this broad aim, the following specific objectives were rigorously pursued:

1. To investigate the development process of single family housing estates in Port Harcourt fringe areas.
2. To examine the role of urban planning institutions in the evolution and development of single family housing estates in Port Harcourt fringe areas.
3. To map the locations of single family housing estates in Port Harcourt metropolitan fringe areas.

The Study Area

The study area, Obio/Akpor and Eleme LGAs of Rivers State are the current metropolitan fringe areas of Port Harcourt. They are the hub of industrial and commercial activities in the state. The area lies between longitude 4° 48" and 5° 00" N and latitude 6° 55" and 7° 10" E., (Alagoa and Derefaka, 2001).

Climatically, the area falls within what can be termed as the subequatorial region due to its proximity to the equator. The climate of the area is tropical hot (humid). The mean annual temperature of the area is 28°C. It is predominantly under the influence of the monsoon wind and also records heavy rainfall of 2370.5mm (Osuiwu and Ologunorisa, 1999).

The growth of Port Harcourt and its fringe areas has been phenomenal since its inception in 1913. Growth has been experienced in terms of population and space. Two years after it's founding, the population was 5,000.

Census figures for the city through its history are 7,185 in 1921; 15,201 in 1932 and 71,634 in 1953 (Okoye, 1975). The 1963 census gave the city's population as 179,563 and in 1973 it was 213,443 (Ogionwo, 1979). The 1991 census fixed the population of Port Harcourt and Obio/Akpor local government areas alone at 645,883. The projection for 1996 by the National Population Commission is 832,471 for the two local government areas and the interim figures for the 2006 national census is over one million. Spatially too, Port Harcourt city has grown to cover much of the Upper Bonny River Basin. Originally the city covered a 25 km^2 area between the UTC junction and the

New Layout Market. In the land use and vegetation map of Nigeria (1975/76), the built-up area of Port Harcourt covered 17.4km^2.

Twenty years later, a similar map showed the extent of the city as 89.4km^2. This is more than a five-fold increase (**See Figure 1)**

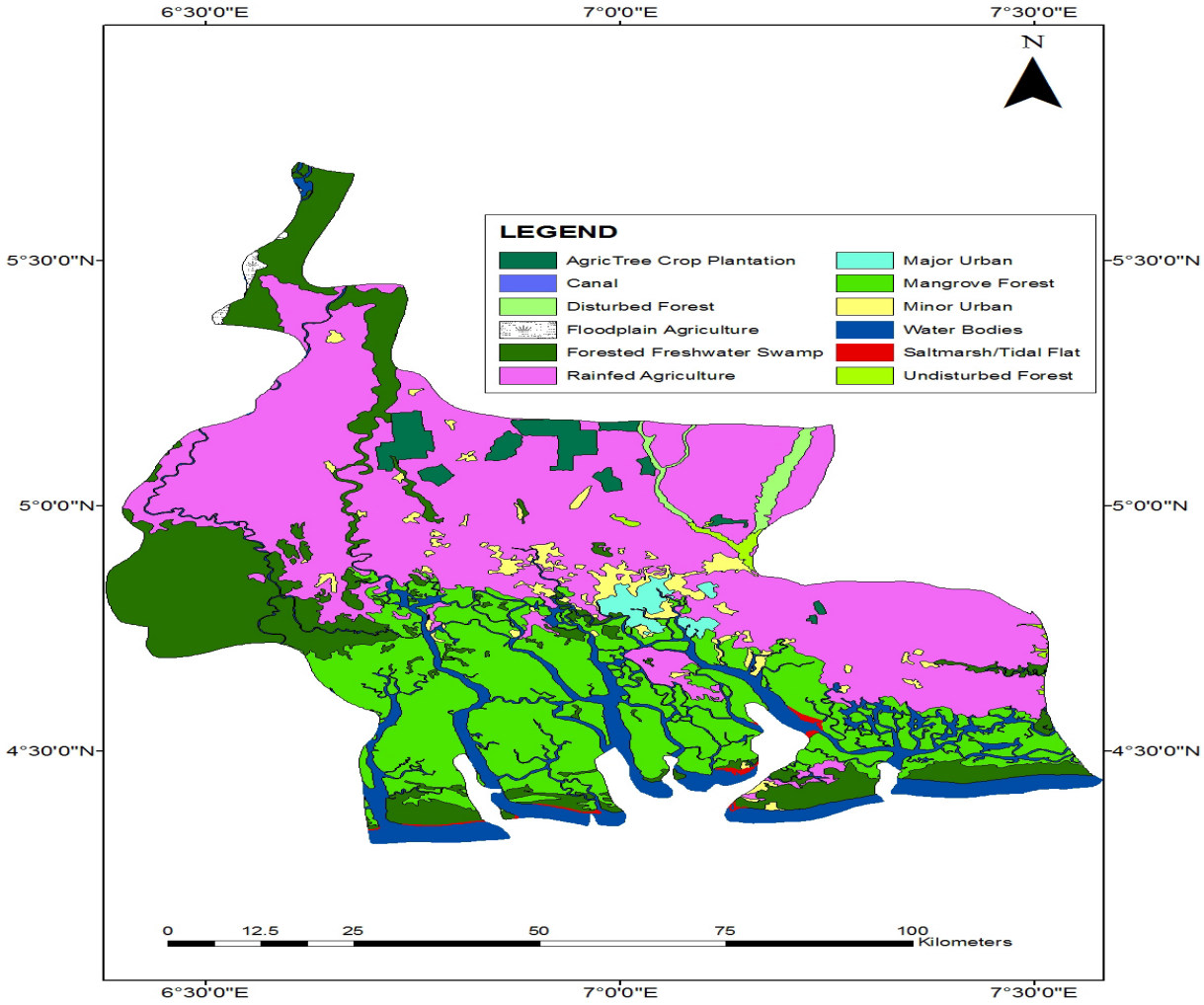

Figure 1. Map of Rivers State Showing Land Use

Urban Dispersion Process in Port Harcourt

Like many cities in Nigeria, Port Harcourt has recorded rapid growth in population and aerial spread. Urban development is denser on the corridors determined by geographic thresholds and major transportation connections. Port Harcourt as a result of population increase and economic growth spreads to the periphery as in the other metropolitan cities.

Physically the spread has occurred in both a south – easterly direction and a northerly direction. To the south, growth was through marshland colonization in squatter settlements locally called "waterfronts". In the last two years settlements of these waterfronts have been demolished by the Rivers State Government. Growth has also occurred in north – westerly and north – easterly direction through the entrapment of indigenous enclaves of semi – rural and rural communities within the built – up area of the city. The Port Harcourt urban fringe today stretches to Iriebe, Eleme, Elelewon Rukpoku, Woji, Choba, Rumokwurusi and Onne.

Much of this growth is unplanned and unregulated. As part of its efforts to manage the city's growth, the Rivers State Government in 2009 established the Greater Port Harcourt City Development Authority with jurisdiction covering Port Harcourt city and Obio Akpor Local Government Areas (LGA) and parts of eight other local government areas. It covers an area of approximately 1,900 square kilometers (40,000 hectares of land) with a projected population of about two (2) million people.

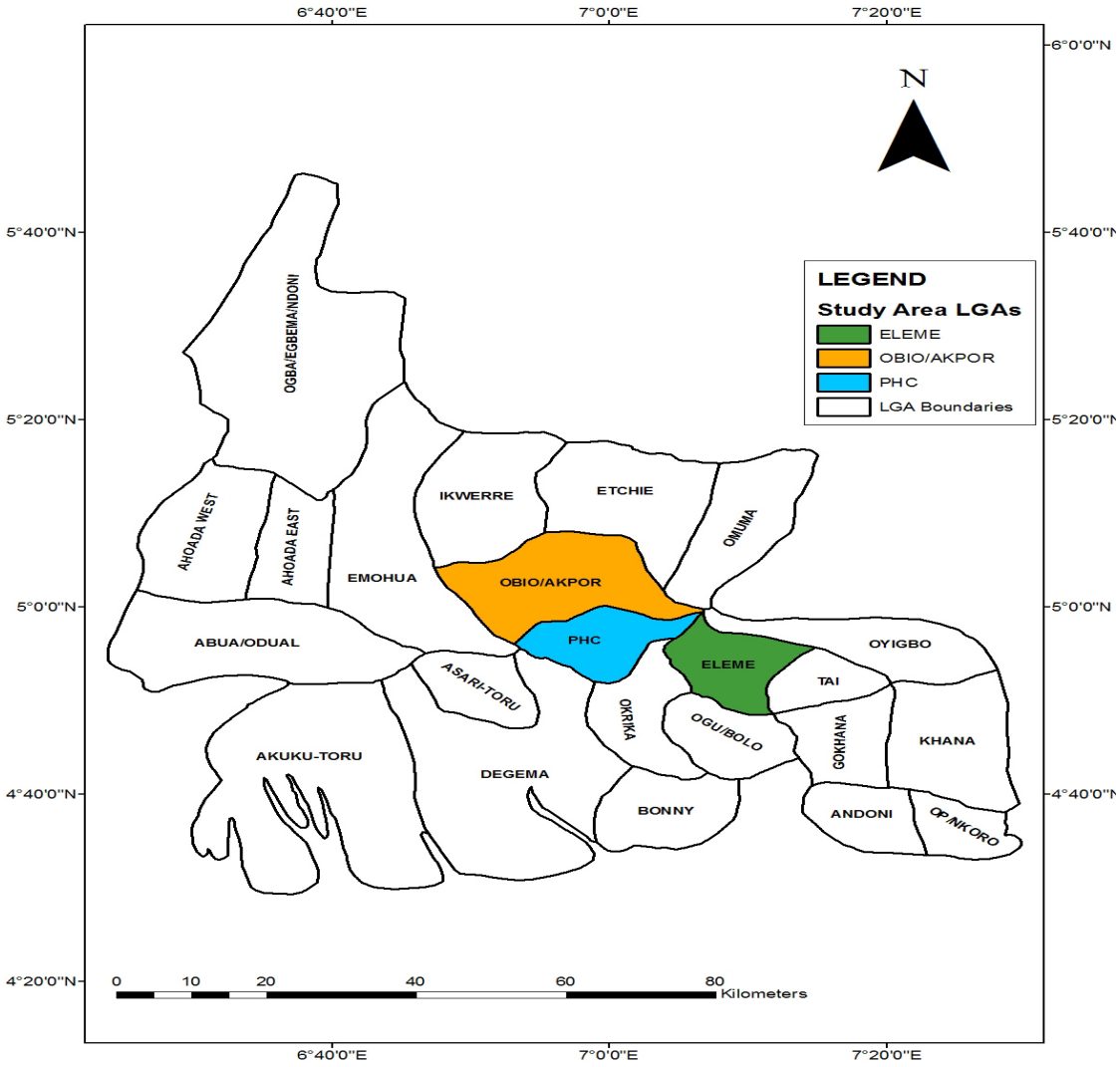

Figure 2. Map of Rivers State showing the Metropolis

Methodology

The data obtained for this paper includes the following Institutional/Town planning data. This includes Building Plan approvals/ Building permits in the current Port Harcourt metropolitan fringe areas from 1990- 2010. In order to be able to understand the Building Plan approval process in the current Port Harcourt metropolitan fringe areas, the two LGA's Planning Archives were explored. This further showed the location and trends in the evolution of single family housing estates at the fringe areas.

To ensure that due process is followed in the Building Plan approvals and issuance of Building permit, the opinion of some public institutions related to the Building Plan Approval process were taken. These include the opinion of

the Rivers State Ministry of Urban Development, Public Health Departments of the LGA's and the Works Department of the LGA's.

Other data includes the master plan of the metropolis, List of single family housing estates in the current Port Harcourt Metropolitan fringe areas (both Government and private estates) and the aggregate population of the two Local Government Areas (LGA's) making up the current Port Harcourt metropolitan fringes from 1990-2010. Hence, the 1991 and 2006 census as well as other population estimates for the metropolis was obtained from the National Population Commission (NPC) for the purpose of determining population increase and its relationship to the rapid urbanization of the Port Harcourt metropolis. All these constituted the secondary data obtained for the study.

The location and elevation of all the sampled estates which served as the primary data were done using hand-held GPS.

Population and Sampling

The study areas are Obio/Akpor and Eleme Local Government Areas (LGAs) of Rivers State. The two LGAs

were chosen because they constitute the current Port Harcourt metropolitan fringe area. Secondly single family housing estates can be found in these LGAs.

The entire population of this study comprises all settlements within the current Port Harcourt Metropolitan fringe area. All zones/neighbourhood in Obio/Akpor and Eleme LGAs formed the target population. Because of the difficulties involved in studying the target population, that is time and financial constraints, the study area was divided into five zones using stratified random sampling techniques. The basis for stratification is to enable us get the subset of the population.

The five zones from our preliminary investigation were found to consist of thirty (30) single family Housing estates in all. They are as follows:

ZONE A - WOJI ZONE

1. Woji Housing Estate (60 Units) 2. Ognigba Palm Estate (30 Units) 3. Golden Valley Estate (90 Units)
4. Rumuogba Housing Estate (110 Units) 5. Rumuibekwe Housing Estate (60 Units)

ZONE B - IRIEBE ZONE

1. Laurel Heights Estate (120 Units; Not completed) 2.Tonimas Estate (60 Units) 3. Palm View City Estate (35 Units) 4. Iriebe Garden City Estate (40 Units) 5. Iriebe Housing Estate (40 Units) 6. Terra Wood Estate (42 Units) 7. Trinity Garden Estate (40 Units)

ZONE C - ARTILLERY/RUMUIBEKWE ZONE

1. Adamac Estate (35Units) 2. Ekulema Gardens Estate (30 Units) 3. New Heaven Estate (110 Units) 3. Schlumberger Estate (30 Units) 5. Mini Ezekwu/ Cocaine Village (120 Units) 6. Agip Staff Estate (85 Units) 7. Total Village (60 Units) 8. Elekohia Housing Estate (120 Units)

ZONE D - RUMUOKWURUSI/ELELENWO ZONE

1 Shell Residential Estate (160 Units) 2. Eli-mini Igwe Heights (35 Units) 3. Elelenwo Housing Estate/Bristow (60 Units) 4. Deutag Camp Estate (30 Units) 5. Intels Aba Road Camp Estate (50 Units)
6. Lonestar Estate (30 Units)

ZONE E - AKPAJO ELEME ZONE

1. Akpajo Height Estate (60 Units) 2. Green Village (80 Units) 3. Intels Camp Estate (75 Units)
4. NNPC Estate (70 Units)

Results and Findings

One of the objectives of this research is to examine the role of urban planning institutions in the evolution and development of single family housing estates in Port Harcourt fringe areas. This process part of the research consists of two steps.

1 Firstly, the planning process of single family housing estates is examined based on institutional data. For this purpose, the planning archives and Local Government Planning Authority decisions of Obio/Akpor and Eleme LGAs is studied between May to August, 2013. Also, in order to be able to consider the development process in detail, newspaper archives of the LGAs is searched thoroughly.

2 Secondly, single family housing estates that were built after the building plan approval are determined.

Development of single family housing estates is largely based on building plans and schemes. Therefore, examining building plan process for the two LGAs gave important clues on the evolution of these estates. Building plan is the plan which is prepared for development projects within or outside existing development plan which provides for social and technical infrastructure requirements of the structure(s) (Bugu, 1999). When building plan implementation is approved by the relevant local planning authority, building permit is given subsequently.

The research revealed that the process starts with an application by a prospective Developer. The application usually includes the Building Plan which is drawn by a Registered Architect with his/her qualification (s), registration number and address clearly shown.

On the receipt of the Application, the City Engineer who must be a Registered Civil Engineer cross-checks to ascertain if all requirements were complied with in the application. The following are the basic requirements:

1 **Site Analysis [Site Plan]**

The City Engineer ensures that the site plan conforms to the recommended standard. The site plan is an analysis that directs the Town Planning Monitoring Team or other professionals to the proposed site. It must be comprehensive and not ambiguous. If the City Engineer is satisfied with the site analysis, he/she ticks it good and proceeds to the next stage.

2 **Architectural Design**

The City Engineer ensures that a Registered Architect looks at the Architectural Design to ensure that it is within the recommended best practices in the profession. If the Registered Architect is satisfied, he/she certifies and

signs with official seal.

3 **Structural Analysis**

At this stage, it is required that a Registered independent Structural or Civil Engineer looks at the structural aspect of the design. It is the duty of the Registered independent Civil or Structural Engineer to look at the structural design and certify if it conforms to the recommended steel materials as to the load of the building.

Every structure has its own recommended steel materials, concrete mixtures, etc. If it conforms to what is recommended for such building, for example four (4) storey high rise; he/she certify it by signing with official seal.

A critical look at the Local Government Areas Planning Archive reveals that 90% of the approved building plans conform to the recommended parameters.

4 **Soil Test**

This is a mandatory requirement for high-rise buildings from two (2) storey up. The soil analysis must be certified by a registered soil scientist.

5 **Mechanical/Electrical Design**

At this stage, the City Engineer ensures that the mechanical/electrical designs are certified by a Registered Mechanical/Electrical Engineer.

In order to be able to understand the building plan process in Port Harcourt urban fringes, decision of municipal council and planning archives were explored. It was detected that the planning archives have some problems in organizing and collecting data and therefore some documents were lost. Especially most of the institutional opinions about the building plan demands could not be found. Searching through the LGA's decisions in between the years

1990-2010 was effective in showing the building planning process and municipality's attitude toward this process. Building plans done during this period were mostly about secondary housing demands. It was found out that before 1990 there were only fourteen single family housing estates developed by building plans (**Table 1**). These estates played an important role in the evolution of the upcoming residential developments.

Table 1. Single Family Estates Developed By Building Plans Before 1990

NAME	LOCATION
WOJI HOUSING ESTATE	WOJI
RUMUIBEKWE HOUSING ESTATE	RUMUIBEKWE
RUMUOGBA HOUSING ESTATE	RUMUOGBA
NEW HEAVEN ESTATE	ARTILERY
AGIP STAFF ESTATE	MGBUESILARU
MINI EZEKWU/COCAIN VILLAGE	ARTILERY
TOTAL VILLAGE HOUSING ESTATE	ARTILERY
SCHLUMBERGER ESTATE	ARTILERY
ELEKOHIA HOUSING ESTATE	ELEKOHIA
SHELL RESIDENTIAL ESTATE	ABA ROAD
ELELENWO HOUSING ESTATE –BRISTOW	ELELENWO
INTELS ABA ROAD CAMP ESTATE	ABA ROAD
NNPC ESTATE	ELEME
EKULEMA GARDENS ESTATE	EAST/WEST ROAD

Author's Field work, 2013

After 1990, building plan applications for Obio/Akpor began to increase. Within the years 1990-2010, a total of 20,544 plan approvals were made for Obio/Akpor LGA while a total of 6,639 approvals were made for Eleme LGA. When annual distributions are studied it can be seen that building plan approval began to increase in Obio/Akpor LGA between 1990 and 1993 and reached to the highest point in between 2008-2010 (**Table 2 below).**

TABLE 2. Obio/Akpor Building Plan Approvals (1990-2010)

YEAR	TOTAL BP REGISTRATION/APPROVAL
1990	191
1991	328
1992	592
1993	662
1994	476
1995	423
1996	661
1997	656
1998	-
1999	-
2000	-
2001	-
2002	1,601
2003	1,275
2004	1,294
2005	1,896
2006	1,926
2007	1,687
2008	2,029
2009	2,107
2010	2,740
TOTAL	20,544

SOURCE: Obalga Planning Authority

For Eleme LGA however, annual distribution study showed that building plan approval began to increase from 2000 to 2004 and reached to the highest point between 2007 and 2010 **(Table 3 below).** There were no records for the years 1990 to 1991 and 1999.

TABLE 3 Eleme Building Plan Approvals (1990-2010)

YEAR	TOTAL BP REGISTRATION/APPROVAL
1990	-
1991	-
1992	136
1993	150
1994	120
1995	119
1996	200
1997	180
1998	190
1999	-
2000	250
2001	320
2002	500
2003	510
2004	520
2005	380
2006	350
2007	600
2008	644
2009	720
2010	750
TOTAL	6639

SOURCE: Elga Local Planning Authority

When the building approvals from the two LGAs are studied together, it is seen that Obio/Akpor LGA have the

highest development dynamics. This is likely due to the LGAs proximity to the metropolitan city, ease of accessibility, characteristics of land and land ownership pattern which are effective in location choice of housing estates.

Studying the building plan applications and approvals between the years 1990-2010 was helpful in understanding the urban development dynamics within the jurisdiction of Obio/Akpor and Eleme LGAs. With this study it was possible to understand how local authority has managed building plan demands.

For the LGAs, it was a period when urban development dynamics gained speed. In terms of housing areas, distinctions in quality and quantity started at this period. Studying the building plan process is important in explaining the development dynamics of single family housing estates which is the subject of this study. Obio/Akpor and Eleme LGAs in the last 20 years tried to cope with the urban development pressures, numerous building plans and development plan revisions.

General Structure of Housing Estates

This part of the survey is aimed at reaching to housing estates that were built after the building plan approval. A field survey was done in order to understand the spatial and structural characteristics and the dimensions of development. During the field survey, the spatial development of housing estates that took permission was studied. The occupancy rates, the ones that are still under construction and the ones that are finished and changes in usage purposes were examined. The field survey was also done between May-August 2010 and data involving 30 housing estates were collected. Interviews with the 30 project and estate managers were conducted. With these interviews, information about the general problems of the estates, extent of infrastructural facilities and the structure of the management organization were collected as well as the information about the characteristics of houses **(Figure 3).**

Housing estates vary in number of houses they involve. Estates that were built 30 to 60 units are 19 (63.3%), 61 to 100 units is 20% (6 estates) and lastly 101 housing units and more is 16.7% (5 estates).

There are three main residential areas where single family housing estates are denser. The first is Artillery area which is the nearest to the metropolitan city. The second is Iriebe which is close to the main Port Harcourt – Aba expressway and Igbo-Etche. The third is Akpajo/Eleme area which is far from the metropolitan city but has some of the known single family housing estates like Akpajo Heights, Green Village, Intels Camp estate and Bristow estates.

Evaluation of Development of Single Family Housing Estates

The disintegrated structure of building plans is reflected on the housing estates developed by these plans. In other words, this kind of planning process brings forth a scattered and piecemeal residential development also. When housing estates developed between the years 1990-2010 with these building plans are examined, the following outcomes can be noted:

(a) Distinctions in organization and design: Field survey indicates that some of the estates have developed as secondary houses. The mass-produced and identical looking houses constitute a typology that aim to involve as much house as it can and are differentiated from the others (house sizes, designs, security, and activity centers etc.) easily. Another typology of housing estates noticeable can be defined as “packaged development” which is constructed for permanent usage and with lower density. The reason they are called “packaged” is that they have a professional management system on the provision of services and facilities (paved streets, sewers, garbage collection, recreational facilities and so on.) Therefore, emphasize here is to the lifestyle they provide as well as the qualities of the houses. To examine the characteristics of single family housing in detail, 30 interviews were conducted and data gathered about the design, organizational structure, and infrastructural facilities. In sum, three different organization and design dimensions can be highlighted:

- One single family housing estate was constructed as cooperative houses (Elelenwo Housing Estate/Bristow). It was built for Shell Petroleum Development Company (SPDC) Trustee. During land-purchasing and building plan process this estate acted as cooperative and differentiated in terms of development scale. The estate was constructed by J. Cappar Construction Company. In this estate housing units are mass produced and identical. Therefore a homogeneous housing environment is formed.
- In the second group, whole production process is completed by one developer. The developer buys the land, construct the houses and sell them. Even though they are mass-produced, they have different designs. Green Village, Trinity Garden, Terra wood estate, Tonimas, Laurel Heights and Palm View City Estates fall within this group. However, Laurel Heights and Palm View City estates differ from the others since the building process goes on according to the tastes and preferences of the consumers. Consumers select the land, architectural project and construction is done according to his/or her demands.
- In the third group, the construction firm and land-owner enter production process together. Construction

firm constructs the housing units in mass production and land owner gets houses in return to his land. Other estates are developed by local developers and capital.

(b) Distinctions in usage types: The occupancy rate is 40.6%, permanent usage ratio is 80.9%, and weekend-seasonal usage ratio is 19.1%. These ratios of new and more spacious houses produced at the fringe area of the metropolitan city show us the dimensions of speculative building and unnecessary land consumption. On the other hand, the weekend and/or seasonal usage of single family housing estates that were built for permanent usage show a dualistic structure:

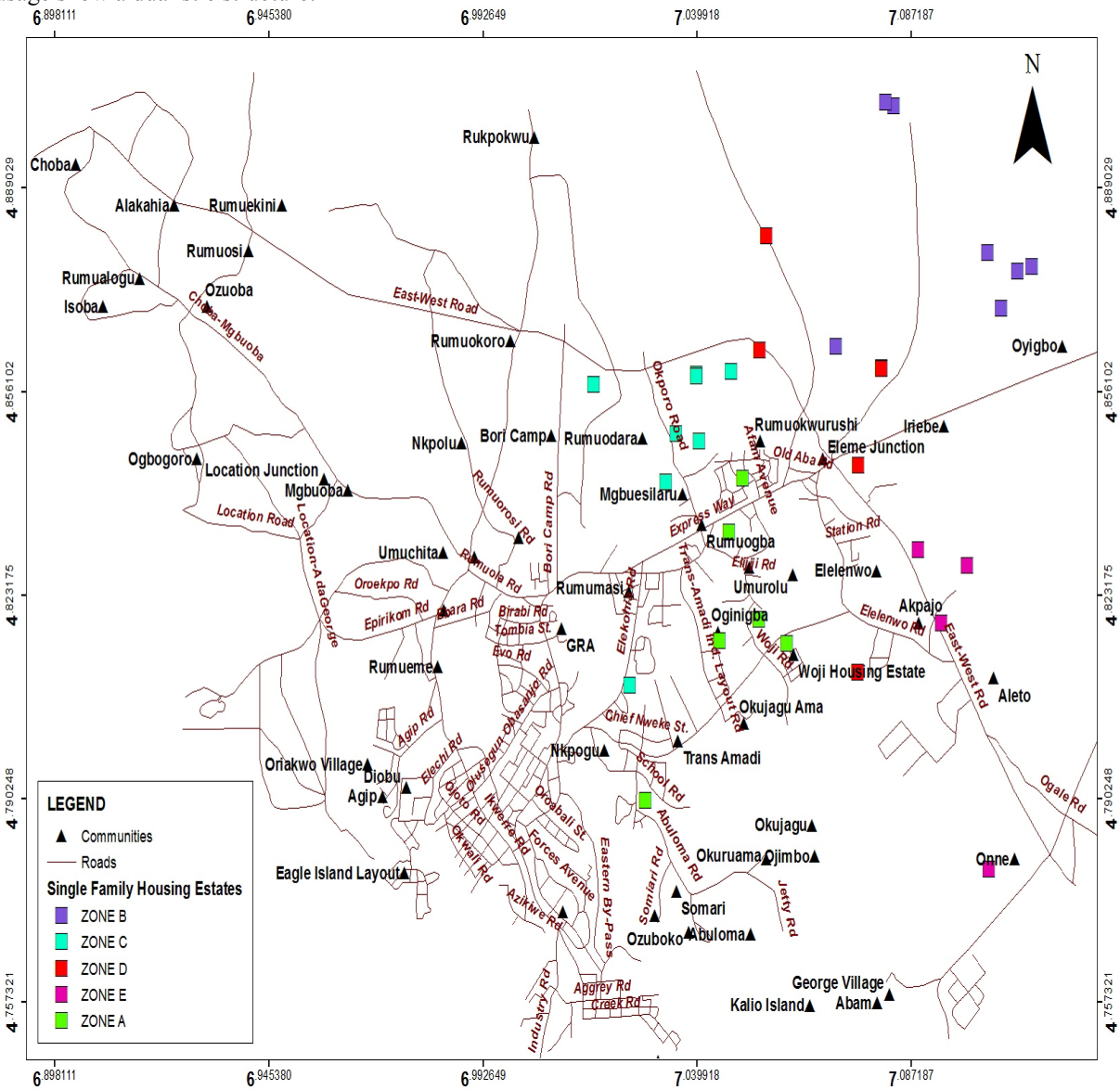

Figure 3. Development Pattern of Single Family Housing Estates in Port Harcourt Metropolitan Fringe Areas

These areas developed identically produced houses scattered on rural land. Indeed, secondary houses in one hand and single family housing estate as new trend on the other hand and also old town houses owned by original residents indicate to diversity at the metropolitan fringe. General characteristics of single family housing estates as revealed by the study can be listed as follows:

- Houses are mostly designed as introverted and detached and show differences in size and appearances. Shell Residential Estate, Bristow, Green Village, Total Village, Intels Aba Road Camp estate, Terra wood and Trinity Gardens differentiate from the others with their characteristics. The single family housing estates with suffixes like “Villa”, “Paradise”, “Green area” is occupied by the high income groups. Houses are produced as “luxurious houses” and marketed as “villas”. Generally no information is given about prices and it is told that their size, view, location within the estate and construction material effect the price.

- Almost all the estates are physically separated from the outer environment with walls, greenery and other design elements. They are protected by security systems or elements. They are administered by professional managers and they have staff for general services like maintenance, landscaping, garbage picking, etc.

- Each single family housing estate has to provide the required technical services by itself. This necessity was put forward during the building plan process, because local governments cannot provide these scattered and piecemeal residential areas taking place far from each other and from the city center, with urban infrastructural systems. The cost of this process is rather high. Therefore, every estate has to reserve an area for transformer and sewage system. Septic tanks instead of sewage system and private wells instead of urban water supply system are used. Garbage is collected by the management of the estate. The maintenance of the roads surrounding the estate is done by the estate management (like lighting and paved streets), also. There are sports or recreational areas in the estates. There are also activity centers like swimming pool, meeting hall, tennis courts, hobby centers, etc in some of the estates.

Implication for Sustainable Urban Planning

Sustainable urban planning is a global phenomenon in contemporary times. Planning for sustainable development became popular after the Brundtland Commission report defined sustainable development as "*the development that meets the need of the present without compromising the ability of future generations to meet their own needs".* Sustainable urban planning therefore is planning that addresses three overall goals in a coordinated manner. These goals are environmental quality, social equity, and economic development.

A critical look at the single family housing estates in Port Harcourt metropolitan fringes clearly reveals greater level of inequality as only the high income groups dominate these estates. Thus for sustainability, opportunity should be created for the poorer and less-advantaged people in the metropolis. This therefore calls for a general acceptance of equity as a key element in planning for sustainability by the urban planning institutions in the metropolis.

There is also strong evidence that the housing estates are not integrated within the master plan for the city which has led to unregulated development pattern. This impinges on the logical path for the city's future in areas such as land use, transportation, parks and recreation, environmental quality, and public works construction. From the point of view of land economics, the city is an enormous playing field on which thousands of competitors struggle to capture value by constructing or trading land and buildings. The goal of sustainable urban planning is to intervene in this game in order to protect widely shared public values such as health, safety, environmental quality, social equality, and aesthetics.

According to Levy (2009) "a sustainable city successfully fulfils the biological needs of its inhabitants, and provides a safe environment for their activities. A sustainable city is organized so that its residents can perceive and understand the city's form and function, provides the buildings, spaces, and networks required for its residents to pursue their projects successfully; allows people of all ages and background to gain the activities, resources, ervices, and information that they need, and is arranged so that its citizens have a say in the management of the spaces in which they work and reside". Arising from the above, the following has been recommended.

Recommendations

1 The government should *facilitate "legal development"* through review and simplification of the legal and regulatory framework for access to land and housing. This should include the building regulations, land tenure (easier access to Certificate of Occupancy and phasing out of Temporary Occupation Licenses); and the application and approval process for development/building permits.

2 Process of establishing single family housing estates without situating and integrating them within the overall urban master plan, should be faulted. In cases where there are no master plans, relevant governments should ensure that master plans are prepared so as to foster orderly development.

3 The government should equally ensure that majority of the single family housing estates at the fringe areas be built by major building firms in order to archive the best desired result in terms of size, design, quality of construction and maintenance and adherence to urban planning regulations.

4 As a matter of urgency, government should embark on a comprehensive cadastral survey of all lands in the city, to determine their quantity, use desirability for various purposes, using the Geographical Information System (GIS) approach.

5 There is the need to strengthen land use planning and management capacity in the city. Capacity building with respect to land issues should be distinguished from manpower development. Sustainable land policies should combine incentive systems to enhance enforcement. The incentive system could be

negative (i.e. sanctions), or positive (i.e. rewards).

6 With regard to equity, the government should adjust its zoning ordinance and map to provide areas where it will be possible to build relatively lower-cost housing estates such as garden apartments or small houses on small plots. It should include provisions that require builders of high brow large single family housing estates to set aside some units for low and moderate income purchasers or renters.

Conclusion

The paper revealed that after 1990, building plan applications for Obio/Akpor began to increase. Within the years 1990-2010, a total of 20,544 plan approvals were made for Obio/Akpor LGA while a total of 6,639 approvals were made for Eleme LGA. When annual distributions are studied, the paper shows that building plan approval began to increase in Obio/Akpor LGA between 1990 and 1993 and reached to the highest point in between 2008-2010.

When the building approvals from the two LGAs are studied together, it is seen that Obio/Akpor LGA have the highest development dynamics. The paper further revealed that Housing estates vary in number of houses they involve. Estates that were built 30 to 60 units are 19 (63.3%), 61 to 100 units is 20% (6 estates) and lastly 101 housing units and more is 16.7% (5 estates).

General characteristics of single family housing estates as revealed by the study shows that houses are mostly designed as introverted and detached and show differences in size and appearances. Shell Residential Estate, Bristow, Green Village, Total Village, Intels Aba Road Camp estate, Terra wood and Trinity Gardens differentiate from the others with their characteristics. The single family housing estates with suffixes like "Villa", "Paradise", "Green area" is occupied by the high income groups. Houses are produced as "luxurious houses" and marketed as "villas". Generally no information is given about prices and it is told that their size, view, location within the estate and construction material determines the price.

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