Determinants and Pattern of Single Family Housing Estates in Port Harcourt Metropolitan Fringe Areas

Dr. Collins H. Wizor

Department of Geography and Environmental Management, University of Port Harcourt, P.M.B 5323, Port Harcourt, Nigeria

Email: collins.wizor@uniport.edu.ng；wizorcollins@yahoo.com

Abstract

This article examines the determinants and pattern of single family housing estates in Port Harcourt fringe areas. The data obtained for the study includes the design, ownership structure and infrastructural facilities of the single family housing estates, property characteristics and residential mobility, reasons for preferring housing areas at the current metropolitan fringe areas of Port Harcourt and satisfaction level of housing located outside the city centre. Other data includes the List of single family housing estates in the current Port Harcourt Metropolitan fringe areas (both private and government) and the aggregate population of the two local government areas making up the metropolitan fringe area. The article showed changing residential location preference. Almost all of the households left the prestige districts and opportunity of being close to city center and preferred living at the periphery of the city. Findings of the study indicate that forefront pull factors are desire to 'live in a detached house with a private garden', 'being close to natural amenities and large green open spaces', and push factors 'deteriorated environmental quality' and 'traffic congestion in the city center'. There is therefore the urgent need to establish single family housing estates and integrate them within the overall urban master plan. In cases where there are no master plans, relevant governments should ensure that master plans are prepared so as to foster orderly development. 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 achieve the best desired result in terms of size, design, quality of construction and maintenance and adherence to urban planning regulations.

Keywords: Determinant, Pattern, Single family housing estates, Fringe area

Introduction

Decentralization of cities towards their periphery has been observed since nineteenth century. In contemporary times the rate of decentralization has been astronomical due to rapid urbanization, increased urban sprawl, changes in economic structure, public policy, increased mobility, progression in transport and technology, changing household features, changes in income distribution and life styles and other related factors.

In this urban development and growth dynamics, development and location choice of housing areas are important factors. These macro factors are very influential. Another factor related with the development of housing areas is the preferences and choices of households (Filion et al, 1999). These choices that are determined by some multi-dimensional and complicated decision processes vary according to economic and socio-cultural values. Factors which affect the choices are dwelling size, house price, quality, social homogeneity (especially among high-income groups), quality of life and accessibility to urban facilities and activities.

There are two distinct perspectives about the location preference of housing areas at urban fringe areas (Bryant et al. 1995, Daniels 1999). Urban and rural characteristics based on the duality of the fringe area are connected with "push" and "pull" factors. This was effective in the preparation of the questionnaire and on the determination of reasons of choices. "Pull" factors come out as the advantages of urban fringe areas and are related with natural beauties, open and green space, quality of living environment, size of houses and privacy. "Push" factors on the other hand indicate to the negative images of the urban environment. Factors which lies beneath the development of the single family housing estates at urban fringes, like "being with nature", "healthy life", " a clean environment", "quality of living environment", "metropol-phobia", "a homogeneous social environment", preference of single family houses" are all related with this viewpoint.

The processes of peripheral growth have for a long time been observed and interpreted in the context of 'dissolution of urban structures' (Burdack, 2002). At the end of the dissolution of urban structure, urban-rural boundaries are increasingly blurred and the relationship between city and countryside shifting. The term associated with this peripheral growth according to Wizor (2014) is 'urban sprawl'. A variety of urban forms have been covered by the term "urban sprawl" ranging from contiguous suburban growth, linear patterns of strip development, leapfrog and scattered development" (Ewing, 2004).

Urban fringe 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 mega cities like 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). Housing development is one of the important functions currently seen in urban fringes of cities. Certainly, housing development that began to appear at urban fringe areas is not a recent phenomenon. 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).

This article attempts to examine the determinants and pattern of single family housing estates in Port Harcourt metropolitan fringe areas. To achieve this aim, two specific objectives were pursued. They are:
1. Examine the spatial pattern of Single family housing estates in Port Harcourt metropolitan fringe area.
2. Determine the users' reasons for preferring Single family housing estates and their satisfaction levels.

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).

The mean annual temperature of the area is 28^oC. 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 its 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).**

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.
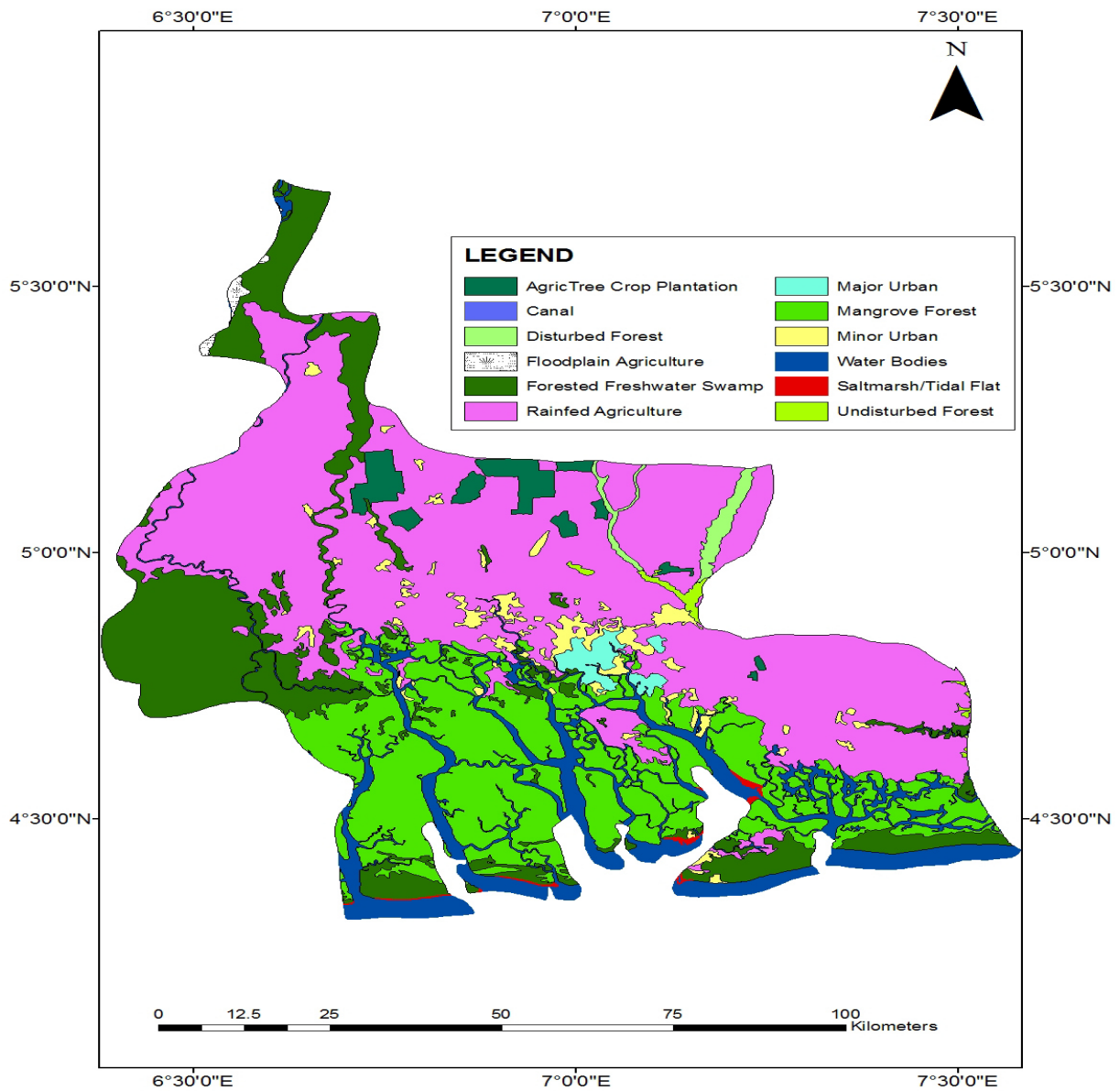
Figure 1. Map of Rivers State Showing Land Use (Source: GIS Laboratory, Department of Geography and Environmental Management, University of Port Harcourt, Nigeria)
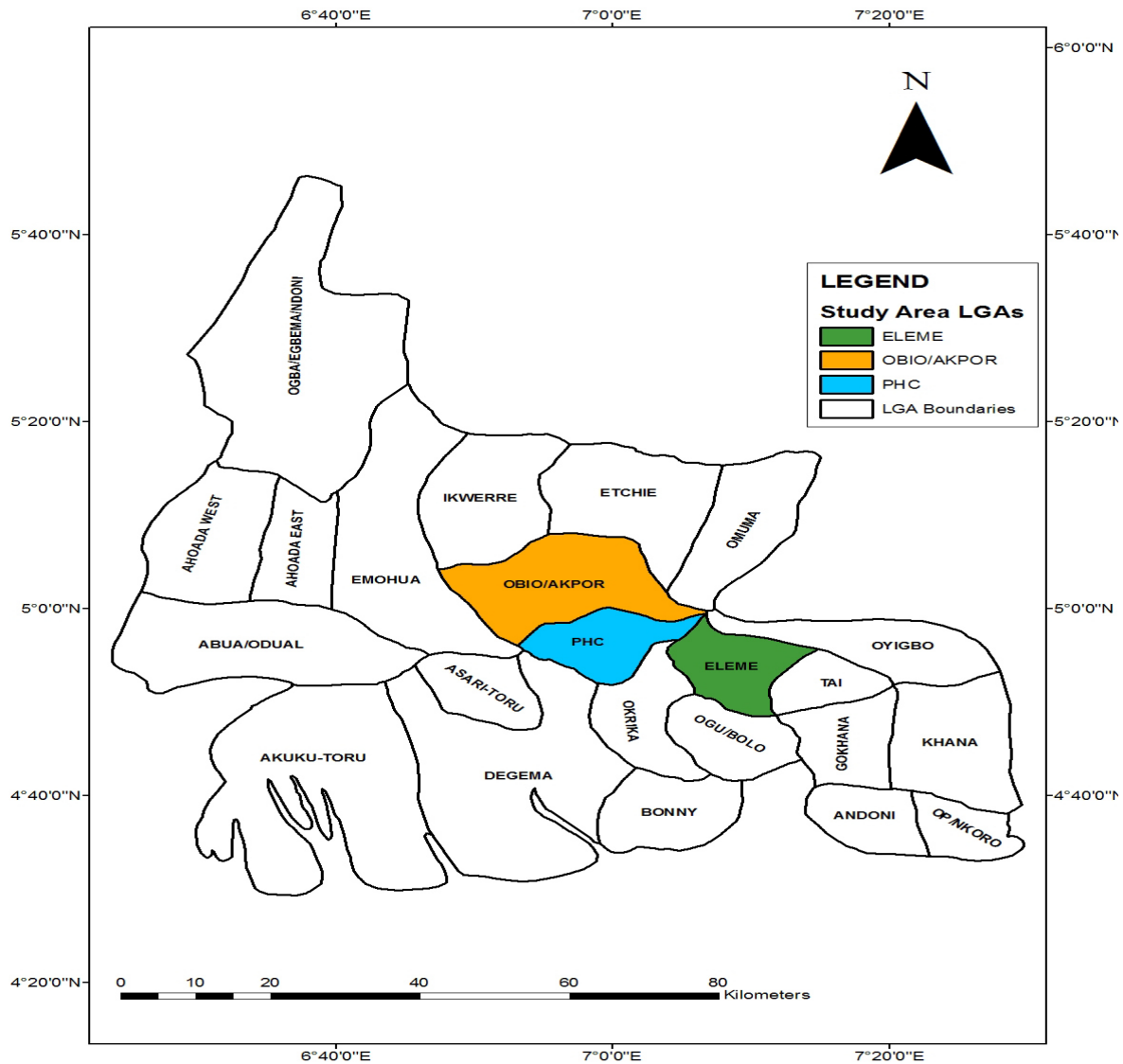
Figure 2. Map of Rivers State showing the Metropolis (Source: GIS Laboratory, Department of Geography
and Environmental Management, University of Port Harcourt, Nigeria)

Methodology

The data obtained for this study includes the design, ownership structure and infrastructural facilities of the
single family housing estates, property characteristics and residential mobility, reasons for preferring housing
areas at the current metropolitan fringe areas of Port Harcourt and satisfaction level of housing located outside
the city centre. Other data includes the List of single family housing estates in the current Port Harcourt
Metropolitan fringe areas (both private and government) and the aggregate population of the two local
government areas making up the metropolitan fringe area.

Population and Sampling

Obio/Akpor and Eleme Local Government Areas (LGAs) of Rivers State were chosen as the study area because
they constitute the current Port Harcourt metropolitan fringe area. Secondly single family housing estates can be
found in these LGAs.

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 (60Units) 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)

Criteria for Selection of Case Study Estates

The following criteria were considered in the selection of Single Family Housing Estates in the five zones identified above:

1. Occupancy rate: This was aimed to select single family housing estates with high occupancy rate and consequently to be able to reach out to as many users as possible. Thus single family housing estates below 30 units were not selected for survey.
2. 30% of the single family housing estates were selected across the zones

In guidance of the above factors, ten (10) single family housing estates were selected from the five zones as case study estates. The ten (10) single family housing estates selected are the following:

ZONE A - WOJI ZONE

1. Rumuogba Housing Estate (110 Units)
2. Golden Valley Estate (90 Units)

ZONE B - IRIEBE ZONE

1. Tonimas Estate (60 Units)
2. Terra Wood Estate (42 Units)

ZONE C - ARTILLERY ZONE

1. New Heaven Estate (110 Units)
2. Cocain Village/Mini Ezeukwu (120 Units)
3. Agip Staff Estate (85 Units)

ZONE D - RUMUOKWURUSI/ELELENWO ZONE

1. Shell Residential Estate (160 Units)
2. Elelenwo Housing Estate/Bristow (60 Units)

ZONE E - AKPAJO/ELEME ZONE

1. Green Village (80 Units)

Data Processing

Data processing entails two major aspects: data editing and coding. For this research, the respondents' perceptions about preferences were ranked on a Likert-type five-point scale. The five categories are: "1 – Very Important", "2 – Important", "3 – Neutral", "4 – Not very important", and "5 – Not applicable". Questions about "Satisfaction" were also prepared likewise with Likert-type five-point scale. The scale ranged between 1 to 5, where "1 – Very Satisfied", "2 – Satisfied", "3 – Fairly Satisfied", "4 – Dissatisfied", and "5" indicates "Very Dissatisfied".

In the processing of the data, the widely known "Statistical Package for the Social Sciences (SPSS) was used. Thus all the variables obtained during the fieldwork were cross tabulated by the computer through the aid of this statistical package. This greatly reduced the chances of errors or problems associated with repetitious calculations arising from using large quantities of data.
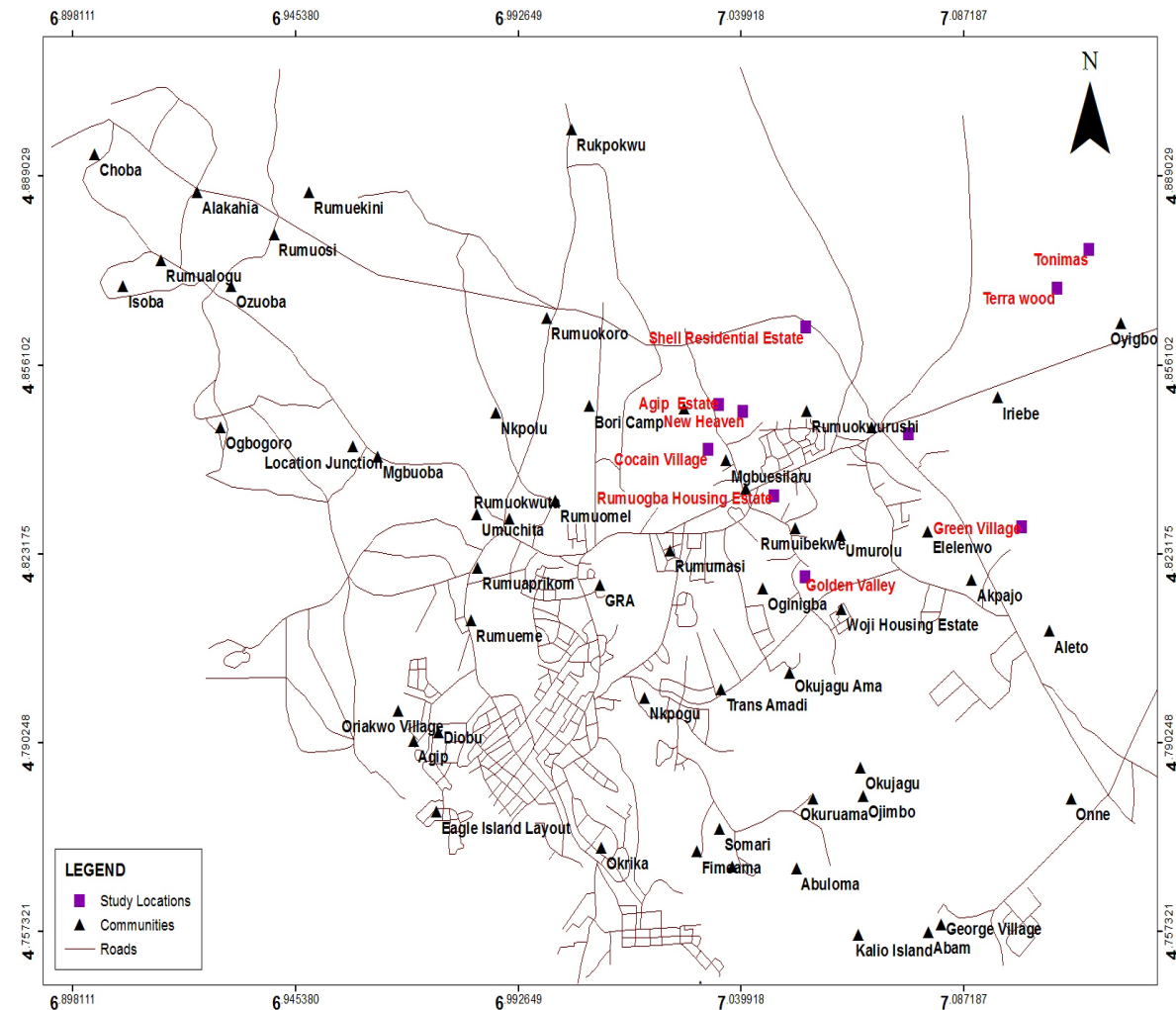
Figure 3. Map of Port Harcourt Metropolitan Fringe Showing Case Study Estates (Source: GIS Laboratory, Department of Geography and Environmental Management, University of Port Harcourt, Nigeria)

Results and Findings

Table 1 below shows the reasons for preferring Single Family housing estates in the Port Harcourt metropolitan fringe areas. From the table, Rumuogba Housing Estate's residents' most important factors for preferring their housing estate are Quality of living environment (18.2%) and size of house (18.2%) while the least factor considered by the residents is Neighbourhood with homogenous character (4.5%). Neighbourhood Homogeneity was considered the least factor by Rumuogba Housing Estate residents because the various housing designs varies as individual developers built their houses to suit their taste.

For Golden Valley Estate which is located in the Woji area of the metropolitan fringe of Port Harcourt, the most important factor considered for choice of the estate is "A safer place than central city" (18.9%). The least factor considered for Golden Valley Estate is "Ease of accessibility" (3.3%). This is largely due to the fact that Woji area of the metropolis is located far from the city centre. There is only one arterial road connecting Wogi to the Port Harcourt – Aba express way and Trans Amadi industrial area.

Table 1 below also showed that Tonimas Estate which is located at the Iriebe area of the metropolis has 'Existence of larger open space' (16.7%), 'Beauty, nature and Environment' (16.7%) and 'Price of house' (16.7%) as factors with highest scores in reasons for preferring housing estates in the fringe area. Price of house was particularly considered as one of the most important factors for choice of this estate by the residents because our interview with them revealed that houses of similar design and quality attracted very high prices in the central city and other choice areas of the metropolis. The least factors considered by residents of Tonimas Estate are 'Ease of accessibility' (3.3%) and 'Existence of garden for private use' (3.3%). For Terra Wood Estate which is also located in the Iriebe area of the metropolis, the most important factor considered by residents as reason for preferring their estate is 'Price of house' (23.8%). This is followed by 'Quality of living environment' (14.3%). The survey clearly shows that Terra Wood Estate residents were attracted to the estate because of the price of house and the serene environment which is devoid of the noise and pollution noticeable in the central

19

city.

Table 1.   Reasons for Preferring Single Family Housing Estates in the Fringe Area

Housing Estates	Ease of Accessibility	Ex Existence of Lager open Space	Beauty, Nature and Environment	Quality of Living Environment	Size of house	A Safer Place than Central city	Price of house	Neighbourhood with Homogenous Character	Existence of Garden for Private Use	Row Total
	No %	No %	No %	No %	No %	No %	No %	No %	No %	No %
Rumuogba Housing Estate	10 (9.1%)	15 (13.6%)	10 (9.1%)	20 (18.2%)	20 (18.2%)	10 (9.1%)	10 (9.1%)	5 (4.5%)	10 (9.1%)	110
Golden Valley Estate	3 (3.3%)	13 (14.4%)	7 (7.8%)	12 (13.3%)	8 (8.9%)	17 (18.9%)	10 (11.1%)	15 (16.7%)	5(5.6%)	90
Tonimas Estate	2 (3.3%)	10 (16.7%)	10 (16.7%)	8 (13.3%)	5 (8.3%)	5 (8.3%)	10 (16.7%)	8 (8.3%)	2 (3.3%)	60
Terra Wood Estate	2 (4.8%)	5 (11.9%)	4 (9.5%)	6 (14.3%)	5 (11.9%)	3 (7.1%)	10 (23.8%)	5 (11.9%)	2 (4.8%)	42
New Heaven Estate	15 (13.6%)	7 (6.4%)	13 (11.8%)	20 (18.2%)	9 (8.2%)	21 (19.1%)	9 (8.2%)	6 (5.5%)	10 (9.1%)	110
Cocain Village	20 (16.7%)	15 (12.5%)	10 (8.3%)	15 (12.5%)	10 (8.3%)	20 (16.7%)	15 (12.5%)	10 (8.3%)	5 (4.2%)	120
Agip Staff Estate	8 (9.4%)	14 (16.5%)	11 (12.9%)	10 (11.8%)	5 (5.9%)	12 (14.1%)	9 (10.6%)	11 (12.9%)	5 (5.9%)	85
Shell Residential Estate	40 (25%)	23 (14.4%)	15 (9.4%)	17 (10.6%)	5 (3.1%)	20 (12.5%)	5 (3.1%)	20 (12.5%)	15 (9.4%)	160
Bristow Estate	5 (8.3%)	10 (16.7%)	8 (13.3%)	5 (8.3%)	7 (11.7%)	5 (8.3%)	5 (8.3%)	10 (16.7%)	5 (8.3%)	60
Green Village	1 (1.3%)	10 (12.5%)	5 (6.3%)	9 (11.3%)	15 (18.8%)	10 (12.5%)	14 (17.5%)	11 (13.8%)	5 (6.3%)	80
Column Total	106	122	93	122	89	123	97	101	64	917

Author's Fieldwork, 2013

The result of the survey as shown in table 1 above also revealed that residents of New Heaven Estate which is located around the Artillery area of the metropolitan fringe area considered the factor, 'A safer place than central city' (19.1%) as the most important factor in their reasons for preferring housing estate. This is largely due to the fact that in this gated and controlled estate, there is the presence of the regular security and estate security personnel.   This factor is closely followed by 'Quality of living environment' (18.2%). For Cocain Village which is also located around the Artillery area of the metropolis, the two most important factors considered by the residents as reasons for preferring their estate are 'Ease of accessibility' (16.7%) and 'A safer place than central city' (16.7%). This high brow deluxe estate is located along the Port Harcourt – Aba express road and is also accessible from Okporo road. In terms of security, Cocain Village is safer than central city and some other parts of the metropolis due to the gated and controlled nature of the estate coupled with the obvious presence of the estate security and regular police. Most of the residents indicate that the urban fringe is safer than the central city. This result is consistent with the work of Olayiwola, et al (2005) which maintained that the urban core of most third world countries are prone to crime and other social vices.

It is also clear from the table that Agip Staff Estate located along Okporo road has 'existence of larger open space' (16.5%) as the most important factor determining choice of the estate. This is closely followed by the factors, 'A safer place than central city' (14.1%) and 'Neighbourhood with homogenous character' (12.9%) respectively. For Shell Residential Estate which is located along Port Harcourt – Aba express road, the most important factor for residents' reasons for preferring the estate is 'Ease of accessibility' (25%). The estate is the most accessible among the case study estates. The 'ease of accessibility' factor is followed by 'Existence of larger open space' (14.4%). The other factors that have high score in reasons for choice of estate are 'A safer place than central city' (12.5%) and 'Neighbourhood with homogenous character' (12.5%). Our interview with residents revealed that the estate is the safest in the metropolis since cases of armed robbery, kidnapping, assassination and other heinous crime do not exist in the estate. This electronically gated and packaged environment are professionally secured by well trained security operatives, trained dogs, CC Cameras and other high-tech security gadgets. This accounts for the reason why most expatriates of the multinational Dutch oil company prefer to live in this estate. Another important factor highlighted by the residents as a reason for preferring this estate is the neighbourhood homogeneity. This is closely followed by 'beauty, nature and environment' (9.4%). The green areas are very conspicuous in this high class residential estate.

Bristow Estate is also one of the high class deluxe residential Villas in Port Harcourt metropolitan fringe areas. It

is also called Elelenwo Housing Estate by the natives due to its location around Elelenwo town in Obio/Akpor LGA. From table 1 above, the two most important factors for preferring this estate are 'existence of larger open space' (16.7%) and 'neighbourhood with homogenous character' (16.7%). All the apartments are similar in design and quality with larger open space and green areas. For Green Village which is located around the Akpajo Eleme area of the metropolis, the most important factor considered by the residents is the 'size of the house' (18.8%). This is closely followed by the 'price of house' (17.5%). The size and price of the detached apartments were seen as major reasons for preferring this estate. Our interview with the residents showed that detached apartments of similar size and quality attracted higher prices in the residential areas close to the central city. This is in agreement with the work of Hoyt (1939) as cited by Ayeni (1978) that deluxe high rent apartments are established near the central business districts.

Generally, table 1 above shows that the most important factor considered by the residents across the ten case study estates as reasons for preferring single family housing estate in the fringe area is 'A safer place than central city'. This is closely followed by the factors 'Quality of living environment' and 'Existence of larger open space'. The least factor considered as determinant of their estate choice is 'Existence of garden for private use'.

Satisfaction Level of Housing Located Outside the City Centre
The aim of this section is to evaluate resident's perceptions of and feelings for their housing units and the environment. This evaluation is made for three different categories including (1) housing estate environment in the fringe area, (2) Single family Residence (house), and (3) accessibility to urban services. Satisfaction level explained for the factors in these categories enabled us to perceive the positive and negative sides of these housing estates outside the city centre.
This section of the survey is arranged as Likert-type and five-point scale likewise with the previous part. The scale ranges from 1 to 5, where "1-very satisfied", "2-satisfied", "3-fairly satisfied", "4-dissatisfied", and "5" indicates "very dissatisfied". Evaluations firstly are done within each category then determined by tri-section of the five-point response scale.
Satisfactions of users in terms of housing estates environment they live in were evaluated according to ten factors as seen in Table 2 below. The table shows that quality of landscaping and security of neighbourhood are factors with highest satisfaction levels. The respondents are generally satisfied with the security of their neighbourhood due to the presence of the regular security operatives and the estate security outfit coupled with all the security facilities noticeable in this high brow residential areas. In most of the case study estates especially Shell Residential estate and Elelenwo Housing Estate (Bristow), the presence of Hi-tech CC cameras, metal detectors, dogs and automated doors and gates are noticeable.
Satisfaction levels belonging to accessibility and recreational facilities vary according to the location of the estate and its design options. Shell Residential Estate and Cocaine Village have the highest scores in terms of accessibility to central city. Golden Valley Estate from the viewpoint of accessibility to the central city is the most remote and disadvantageous location.
Diversity of sports and recreational facilities these estates have is also reflected on their satisfaction level. For example, Shell Residential Estate is the most equipped and with the highest satisfaction level. This is closely followed by Elelenwo Housing Estate/Bristow. However, not every housing estate in the study area is designed in this manner. In some of the estates, social facilities are either completed after the houses or even never constructed.
Further evidence from table 2 below shows that for Rumuogba Housing Estate, the factor with the highest satisfaction level is 'quality of landscaping' (17.3%). This is closely followed by the factors, 'quality of infrastructure services' (16.4%) and 'management (MGT) and maintenance' (10.9%). For Golden Valley estate, the factor with the highest satisfaction level is 'quality of infrastructure services' (23.3%) while the least factor in terms of satisfaction with housing estate environment is 'accessibility to central city' (4.4%). The residents of this estate maintained that they are not satisfied with accessibility to central city. This is largely due to the location of the estate around Iriebe area of the metropolis.
The result of the survey as shown on table 2 below also shows that satisfaction with the factor, 'access to relatives/friends' is the least when the ten case study estates are considered. This is consistent with the work of Hasibe (2004) which revealed that living in this deluxe high class gated and packaged environment causes social isolation. For Green Village, residents are not satisfied with the factors, 'traffic connection with major roads/surrounding' (2.5%) and 'accessibility to central city' (2.5%). This is because of the absence of good link roads to the major highways and expressways. The respondents maintained that due to the nature of the available link roads, accessing the city centre has been difficult.

Table 2. Satisfaction with Housing Estate Environment in the Fringe Area

Housing Estates	Quality of Landscape	Security of Neighbourhood	Traffic Connection with major Roads/Surrounding	Accessibility to central city	MGT and maintenance	Quality of Infrastructure Services	Recreational Opportunities	House Maintenance	Access to Relatives/Friends	Access to Work Place	Row Total
	No %	No %	No %	No %	No %	No %	No %	No %	No %	No %	
Rumuogba Housing Estate	19 (17.3%)	11 (10%)	10 (9.1%)	5 (4.5%)	12 (10.9%)	18 (16.4%)	10 (9.1%)	10 (9.1%)	6 (5.5%)	9 (8.2%)	110
Golden Valley Estate	10 (11.1%)	10 (11.1%)	6(6.7%)	4 (4.4%)	14 (15.6%)	21 (23.3%)	5 (5.6%)	10 (11.1%)	5 (5.6%)	5 (5.6%)	90
Tonimas Estate	10 (16.7%)	5(8.3%)	3(5%)	2 (3.3%)	10 (16.7%)	8 (13.3%)	2 (3.3)	10 (16.7%)	5 (8.3%)	5 (8.3%)	60
Terra Wood Estate	8 (19.0%)	5 (11.9%)	2(4.8%)	3 (7.1%)	5 (11.9%)	5 (11.9%)	5 (11.9%)	5 (11.9%)	2 (4.8%)	2 (4.8%)	42
New Heaven Estate	20 (18.2%)	20 (18.2%)	10 (9.1%)	5 (4.5%)	10 (9.1%)	15 (13.6%)	5 (4.5%)	10 (9.1%)	5 (4.5%)	10 (9.1%)	110
Cocain Village	25 (20.8%)	20 (20.8%)	10 (8.3%)	8 (6.7%)	12 (10%)	10 (8.3%)	10 (8.3%)	10 (8.3%)	5 (4.2%)	10 (8.3%)	120
Agip Staff Estate	10 (11.8%)	10 (11.8%)	10 (11.8%)	5 (5.9%)	10 (11.8%)	10 (11.8%)	10 (11.8%)	10 (11.8%)	5 (5.9%)	5 (5.9%)	85
Shell Residential Estate	29 (18.1%)	31 (19.4%)	12 (7.5%)	8 (5%)	20 (12.5%)	10 (6.3%)	20 (12.5%)	15 (9.4%)	5 (3.1%)	10 (6.3%)	160
Bristow Estate	10 (16.7%)	10 (16.7%)	3(5%)	2 (3.3%)	10 (16.7%)	5 (8.3%)	8 (13.3%)	8 (13.3%)	2 (3.3%)	2 (3.3%)	60
Green Village	14 (17.5%)	10 (12.5%)	2(2.5%)	2 (2.5%)	12 (15%)	10 (12.5%)	10 (12.5%)	11 (13.8%)	3 (3.8%)	6 (7.5%)	80
Column Total	155	132	68	44	115	112	85	99	43	64	917

Author's Fieldwork, 2013

Satisfaction of users in terms of 'Residence' (House) is evaluated according to five factors. Among these factors, the one with the highest satisfaction level is "general appearance of house". (See Table 3 below)

Table 3 Satisfaction with Single Family Residence (House) in the Fringe Area						
Housing Estates	General Appearance of House	Existence of Private Garden	Quality of Construction	Size of House	Garage Size/Parking Space	Row Total
	No %	No %	No %	No %	No %	No %
Rumuogba Housing Estate	42 (38.2%)	18 (16.4%)	21 (21%)	19 (17.3%)	10 (9.1%)	110
Golden Valley Estate	25 (27.8%)	15 (16.7%)	27 (30%)	13 (14.4%)	10 (11.1%)	90
Tonimas Estate	14 (23.3%)	11 (18.3%)	15 (25%)	13 (21.7%)	7 (11.7%)	60
Terra Wood Estate	10 (23.8%)	8 (19.0%)	12(28.6%)	7 (16.7%)	5 (11.9%)	42
New Heaven Estate	29 (26.4%)	21 (19.1%)	30 (27.3%)	13 (11.8%)	17 (15.5%)	110
Cocain Village	45 (37.5%)	21 (17.5%)	34 (28.3%)	9 (7.5%)	11 (9.2%)	120
Agip Staff Estate	24 (28.2%)	11 (12.9%)	25(29.4%)	9 (10.6%)	16 (18.8%)	85
Shell Residential Estate	59 (36.9%)	31 (19.4%)	38 (23.8%)	17(10.6%)	15 (9.4%)	160
Bristow Estate	20(33.3%)	10 (16.7%)	15 (25%)	8 (13.3%)	7 (11.7%)	60
Green Village	25 (31.3%)	21 (26.3%)	14 (17.5%)	9 (11.3%)	11 (13.8%)	80
Column Total	293	167	231	117	109	917

Author's Fieldwork, 2013

Aerial view of akpajo estate

Plate 1

Generally the size and appearance of houses referred to as "villa" or "luxurious house" are approved by respondents. Table 3 above shows that respondents are satisfied with the factor, 'quality of construction'. In the interviews based on survey, it was understood that detailed construction of houses are done by most of the users in some of the estates. Very few houses are constructed by building firms. Examples of the estates constructed by building firms among the ten case study estates include Bristow Estate, Shell Residential Estate, Agip Staff Estate, Green Village and Terra Wood Estate.

In the evaluation of 'garage size/parking space', the satisfaction level drops down. This is largely due to the size in some of the estates which cannot accommodate more than two cars. When individual housing estates are considered, the result of the survey showed that the factor with the highest satisfaction level for Rumuogba Housing Estate is 'general appearance of house' (38.2%). This is followed by the factor, 'quality of construction' (21%). This implies that the residents of this estate are very satisfied with the general appearance of their house and satisfied with the quality of construction.

For Terra Wood Estate, table 3 shows that the respondents are very satisfied with the factor, 'quality of construction' (28.6%), satisfied with the factor, 'general appearance of house' (23.8%), fairly satisfied with the factor, 'existence of private garden' (19%), dissatisfied with the factor, 'size of house' (16.7%) and very dissatisfied with the factor, 'garage size/parking space' (11.9%). The result of the survey as shown in table 3 further shows that the respondents are very satisfied with the factor, 'quality of construction' (29.4%), satisfied with the factor, 'general appearance of house' (28.2%), fairly satisfied with the factor, 'garage size/parking space' (18.8%) and very dissatisfied with 'size of house' (10.6%).

Accessibility level of housing estates to urban services and facilities is evaluated based on ten factors (Table 4).

Table 4. Satisfaction with Accessibility to Urban Services and Facilities

Housing Estates	Access to Shopping Centres	Access to Work Place	Access to Health Services	Access to Local Police	Access to Central City (PH Municipality	Access to Municipal Service	Access to Public Events/ Facilities	Access to Mass Transportation	Access to LGA Obio/ Akpor & Eleme	Access to Relatives/Friends	Row Total
	No %	No %	No %	No %	No %	No %	No %	No %	No %	No %	
Rumuogba Housing Estate	14 (12.7%)	21 (19.1%)	10 (9.1%)	30 (27.3%)	11 (10%)	4 (3.6%)	5 (4.5%)	5 (4.5%)	7 (6.4%)	3 (2.7%)	110
Golden Valley Estate	20 (22.2%)	10 (11.1%)	5 (5.6%)	20 (22.2%)	5 (5.6%)	8 (8.9%)	12 (13.3%)	5 (5.6%)	2 (2.2%)	3 (3.3%)	90
Tonimas Estate	8 (13.3%)	5 (8.3%)	5 (8.3%)	20 (33.3%)	2 (3.3%)	3 (5%)	5 (8.3%)	8 (13.3%)	2 (3.3%)	2 (3.3%)	60
Terra Wood Estate	5 (11.9%)	2 (4.8%)	3 (7.1%)	8 (19%)	2 (4.8%)	5 (11.9%)	5 (11.9%)	5 (11.9%)	2 (4.8%)	5 (11.9%)	42
New Heaven Estate	20 (18.2%)	17 (15.5%)	10 (9.1%)	25 (22.7%)	8 (7.3%)	5 (4.5%)	10 (9.1%)	5 (4.5%)	5 (4.5%)	5 (4.5%)	110
Cocain Village	32 (26.7%)	18 (15%)	10 (8.3%)	20 (16.7%)	10 (8.3%)	8 (6.7%)	10 (8.3%)	5 (4.2%)	5 (4.2%)	2 (4.2%)	120
Agip Staff Estate	20 (23.5%)	5 (4.2%)	10 (11.8%)	20 (23.5%)	5(5.9%)	5 (5.9%)	8 (9.4%)	2 (2.4%)	8 9.4%)	2 (2.4%)	85
Shell Residential Estate	30 (18.8%)	25 (15.6%)	25 (15.6%)	30 (18.8%)	5 (3.1%)	10 (6.3%)	10 (6.3%)	8(5%)	10 (6.3%)	7 (4.4%)	160
Bristow Estate	5 (12.5%)	5 (8.3%)	10 (16.5%)	10 (16.5%)	2(3.3%)	3 (5%)	5 (8.3%)	2 (3.3%)	12 (20%)	6 (10%)	60
Green Village	10 (12.5%)	5 (6.3%)	8 (10%)	22 (27.5%)	2(2.5%)	3(3.8%)	10 (12.5%)	5 (6.3%)	10 (12.5%)	5 (6.3%)	80
Column total	164	113	96	205	52	54	80	50	63	40	917

Author's Fieldwork, 2013

Table 4 above shows that 'access to local Police' has the highest satisfaction levels across the ten case study estates. This is followed by the factor, 'access to shopping centres'. Respondents explained that they do their weekly shopping in big shopping malls within the metropolis and daily shopping around their estates. This is closely followed by access to work place. The respondents are satisfied with accessibility to their work place.

Not having access to the two Local Government Areas (Obio/Akpor and Eleme) that make up the Port Harcourt metropolitan fringe area and access to mass transport services is one of the complaining issues in most of the Housing estates. Respondents maintained that having access to these LGA's headquarters has been a major

constraint in accessibility to urban services and facilities due to the location of the headquarters. On lack of access to mass transport options, respondents believe that the situation is an important problem for people who work in these estates. Families with children complain most about lack of mass transportation system since they have to take their children to school by their own car if school services do not exist.

Access to relatives and friends has the lowest satisfaction level. This result is contrary to the general belief that residents of housing estates at the fringe area of cities can access relatives and friends in the city centre at any time because of the increase in car-dependency. Table 4 above shows that for Rumuogba Housing Estate, the factor with the least satisfaction level is 'access to relatives/friends (2.7%). The respondents say they are very dissatisfied with accessibility to relatives and friends especially those living at the city centre. Most of the users interviewed explained that accessing their relatives and friends at the city centre has been hindered due to the traffic situation in the city and high rate of insecurity in the city core.

Conclusion

Evidence from the research showed changing residential location preference. Almost all of the households left the prestige districts and opportunity of being close to city center and preferred living at the periphery of the city. Findings of the study indicate that forefront pull factors are desire to 'live in a detached house with a private garden', 'being close to natural amenities and large green open spaces', and push factors 'deteriorated environmental quality' and 'traffic congestion in the city center'. The push and pull factors influencing the people preferring these housing estates are important in two ways. Firstly, they are important from the viewpoint of usage, management and planning of urban fringe in the future. Secondly, they are important in perceiving and orienting the physical and social changes that may and can form in the city center. From the urban fringe perspective, single family housing estates present a viable alternative to apartment flats in the city. However, it can be concluded that, demand for single family housing estates is limited, yet, because, they are consumed largely by high income groups.

The result of the survey also reveals that the most important factor considered by the residents across the ten case study estates as reasons for preferring single family housing estate in the fringe area is 'A safer place than central city'. This is closely followed by the factors 'Quality of living environment' and 'Existence of larger open space'. The least factor considered as determinant of their estate choice is 'Existence of garden for private use'.

There is therefore the urgent need to establish single family housing estates and integrate them within the overall urban master plan. In cases where there are no master plans, relevant governments should ensure that master plans are prepared so as to foster orderly development. New housing scheme must be located in consideration of the work place, existing or proposed transport system, availability of water, electricity and other infrastructural facilities in order to meet the needs of the people. 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 achieve the best desired result in terms of size, design, quality of construction and maintenance and adherence to urban planning regulations. Since urban policies and planning are dynamic activities whose formulation and interpretation is a continuing process, there is a need to invigorate planning machinery and activity in Port Harcourt metropolis to incorporate and integrate new planning paradigm into planning of the city and to introduce measures to guarantee public participation in planning.

References

Alagoa, E. J. and Derefaka, A. A.(2001) (ed): *"The Land and People of Rivers State (Eastern Niger Delta)"*. Onyeoma Research Publishers, Port Harcourt

Ayeni, B (1979) *"Concepts and Techniques in Urban Analysis"* (Groom Helm London).

Bryant, C. R. (1995): "The Role of Local Actors in Transforming the Urban Fringe." *Journal of Rural Studies* Vol.11 (No.3)

Burdack, J. (2002): New economic poles in the periphery of European Metropolitan areas. 42nd Congress of the European Regional Science Association (ERSA)

Daniels, T. (1999) *"When City and Country Collide, Managing Growth in the metropolitan Fringe"*. USA, Island Press

Dupont, V. (2005) Peri-Urban Dynamics-Population, Habitat and Environment on the Peripheries of Large Indian Metropolises. *Occasional Paper, French Research Institutes in Indian. New Delhi.*

Ewing, R. (2004) "Measuring Sprawl and its Impacts". Www.Smartgrowthamrica.Org.

Filion, P., Bunting, T.E. and Warriner, K. (1999)"The Entrenchment of Urban Dispersion: Residential Preferences and Location Patterns in the Dispersed City." *Urban Studies* Vol. 36 (No. 8)

Hasibe, V (2004) "Development Trends of Housing Estates in Izmir Fringes of Turkey", *Izmir Institute Turkey*

Hoyt, H. (1939): *"The Structure and Growth of Residential Neighbourhood in American Cities"*. Washington

D.C. Government Printing Office

Mabogunje, A.L. (2002) "Reconstructing the Nigerian City: The New Policy on Urban Development and Housing". Conference Paper on the City in Nigeria. Abuja.

Ogionwo, W. W. (1979) "*The City of Port Harcourt*". Heinemann Publishers Ibadan

Okoye, T. O. (1975) "Port Harcourt", In: G. E. K. Ofomata (Ed) *Nigeria in Maps:Eastern Nigeria States.* Ethiope Publishing, Benin City. Pp. 92 – 93

Osuiwu, B.O & Ologunorisa, T.E.,(1999) "Weather and Climate", In Oyegun, C.U & Adeyemo, A.(Ed): *Port Harcourt Region*, Paragraphics Port Harcourt

Olayiwola, L.M., Adeleye, O., & Ogunsakin, L (2005) "Urban Housing Crisis and Response in Nigeria": *The Planners' Viewpoint*

Wizor, C.H. (2014) "Single Family Housing Estates Development Dynamics in Port Harcourt Metropolitan Fringe Areas: Implication for Sustainable Urban Planning". *Journal of Research on Humanities and Social Sciences*
Vol. 4 No. 6

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:
http://www.iiste.org

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: http://www.iiste.org/journals/ All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: http://www.iiste.org/book/

Recent conferences: http://www.iiste.org/conference/

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library , NewJour, Google Scholar