

Residential Mobility Pattern in Calabar Metropolis

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ABSTRACT: This study is aimed at examining the pattern of residential mobility with particular reference to Calabar metropolis. Residential mobility which is the movement of individuals or households between and within residential districts in a city is an inevitable process in any society and has become part of our urban life. The survey research approach was adopted for the study. Four hundred (400) copies of questionnaires were randomly administered in the study area, while three hundred and ninety three (393) were successfully filled and returned. The data obtained were analysed with the use of tables and simple percentages. Two (2) hypotheses were formulated and tested using the appropriate tests statistics. The findings revealed that the metropolitan area of Calabar experienced residential mobility between and within districts as a result of changes in income, availability of social infrastructure, household's preference among others. However, the results of both hypotheses revealed that the variables for measurement were not very significant in the study. This was because their calculated values were greater than the significant level of 0.05. From the foregoing, some neighbourhoods or districts within the metropolis have experienced rapid transformation while others have degenerated from their original status. The study therefore recommends equitable distribution of income and social infrastructure for sustainable residential mobility. This will help to curtail economic and social segregation among residents of Calabar. The provision or restoration of these facilities will encourage residents to stay in their original neighbourhoods and also attract others to move into a neighbourhood.

KEYWORDS: Residential Mobility, Calabar Metropolis, Pattern, Neighbourhood and Housing.

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I. INTRODUCTION

In the urban spatial structure of a city, the residential area occupies the highest percentage. Movement of households within and between the residential districts is an increasingly important issue which has attracted renewed research interest over the years (Oluwole, 2013). Mobility of residents within the residential areas also called urban residential relocation or intra-urban migration can be described variously by different scholars. Eze, Oluyomi and Ikechukwu (2017) described the term as an interdisciplinary field that focused on population relocation within a city which has implications and related policy issues of that relocation. Animashaun (2011) using the term intra-urban residential mobility, opined that it has to do with movement of urban households from one housing to another. In the words of Gobillion (2008), it is primarily a response to a change in housing needs.

Numerous studies according to Oluwole (2014) have shown that the propensity to move is associated with a number of factors such as age, stage in one's life cycle, socio-economic factors, housing tenure, duration of residence, cost of rent and location relative to the city centre. Other factors include environmental consideration of the area, actors' involvement in the search process and the tendency of households to maximise the expected utility (Olatubara, 2008). More importantly, the satisfaction people derive from housing and the quality of housing depends more on the degree of availability of essential social services and infrastructure facilities (Salau, 1990). Perceptions that conditions are better, safer and easier in some way superior in some distant places induce people to move or relocate. Stress and dissatisfaction with initially occupied units and household size (Jones, 1979) as well as length of residence (Clark & Smith, 1982) are also factors that induce movement. According to Animashaun (2011), the objective factors of residential mobility could be collapsed into two distinct groups; the push and pull factors. The pull factors are the attractions which make people to select new housing environment or location instead of another. The push factors are the repulsive factors which explain the reason why people move away from their housing environment or location.

From the foregoing, it is pertinent to make two important observations about the pull factors in line with the findings of other studies. Hickman (2010) revealed that the pull factor varied by population group and in occasions, a pull factor for one was a push factor for another. Secondly, combination of push-pull factors

driving mobility appeared to vary between groups. While a number of shared push-pull factors emerged across neighbourhoods, there were some factors that were unique to individual neighbourhoods.

According to Li and Tu (2011), four reasons have made intra-urban residential mobility study an inexhaustible source of research topics over four (4) decades now. The outcomes of residential mobility decision are therefore critical to understanding the changes in the spatial character of cities and of metropolitan areas. First, residential mobility is the proximate cause of changes in the composition and character of a neighbourhood. Second, residential mobility study can aid in understanding the changes in demand for mortgage market. Third, intra-urban residential mobility decision making process is linked to a household's investment decision making process as buying a house serves both consumption and investment process. Finally, Li and Tu (2011) observed that the study of psychological factor's driven residential mobility may aid in comprehending speculation behaviours hence prevent housing bubbles from happening.

Residential mobility is an inevitable process in any society; it has become part of the urban dynamics and for one reason or another the phenomenon will continue to occur. However, this study is specifically meant to assess the pattern of the mobility system with particular reference to Calabar metropolitan area.

II. STATEMENT OF THE PROBLEM

Gyimah (2001) observed that since the pioneering work of Rossi (1955) and (1980), there have been increasing interest in the study of intra-city residential movement, especially in the identification of the causal factors underlying the decision to relocate. While most studies in the developed countries centred on residential search and relocation models (Gilbert and Ward, 1985; Gilbert and Varley, 1990; Van Lindert 1991), the emphasis in the developing countries have been on mobility differentials. In Nigeria from literature, most studies on residential mobility have focused on physical, social, economic and psychological considerations as drivers of the movement. One of the major factors influencing residential mobility pattern of households is the demographic characteristics of urban neighbourhoods. Despite this understanding there is paucity of empirical studies that addresses the pattern of residential mobility as many studies dwells mostly on the causes, effect and the trend. It is on the basis of the above that this topic was conceived using a growing city like Calabar as a case study. The outcome provided the basis for making recommendations for an efficient residential mobility pattern in the city.

III. THE STUDY AREA

Calabar metropolis is located in the south-south geo-political zone of Nigeria. The study area is located between latitude $04^{\circ}56^1N$ and $05^{\circ}4^1N$ of the equator and longitude $08^{\circ}18^1E$ and $08^{\circ}24^1E$ of the Greenwich Meridian. The metropolis is in the peninsular formed by the Calabar River, Great Qua River, the Cross River Estuary and the Atlantic Ocean. It is bounded in the north and north-west by the Odukpani local government area, in the south by the Atlantic Ocean, in the east by the Great Qua River, north east by Akpabuyo local government area and west by the Calabar River. The study area covers a total land mass of 406 square kilometres (Udom, 1998).

The main indigenes of Calabar are the Efiks, the Quas and the Efuts. The city though founded by the three ethnic groups mentioned above has the Efik Origin. The Efiks occupy the Henshaw Town and Duke Town areas of the city. The Quas occupy Big Qua Town, Kasusk, Ikot Omin, Ikot Ansa, etc, while the Efuts occupy Efut Ekondo, Efut Abua, Uwanse, etc (Aye, 2000). What is today Calabar was founded in the 15th century A.D. Though the indigenes of Calabar have their local custom and tradition; the Efik language tends to dominate their local languages.

IV. THEORETICAL/CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

4.1 The Concept of Residential Mobility

Residential mobility is the movement of residents of a particular geographical area within a city or an urban area resulting in changes of residence but does not affect residents' eligibility to lay claims to benefits of social amenities of that area (Olushola, 2016). However, the concept of residential mobility implies the movement of households from one residential location to another within an urban area. This is as a result of perceived differences between what a household has and what a household believes it could have elsewhere.

Residential mobility according to Rossi (1955) is a means by which housing consumption pattern adjust over time; and it is a critical component of urban land use dynamics. The concept of residential mobility affects land use patterns, travel demand, housing consumption, housing values and property tax revenues, and urban landscapes and therefore has been studied by researchers from a variety of disciplines (Eluru, Sener, Bhat Pendylala & Axhausen, 2009). In the words of Hedman (2011) residential mobility is a short-distance movement within a local housing market, often in a city. One would therefore conclude that residential mobility as a concept involved the movement of urban residents within a city for the purpose of changing their housing occupation. This movement is driven by various physical, socio-economic, political or cultural factors.

4.2 The Concept of Spatial Preference

The concept of spatial preference provides one of the ways urban geographers and planners are able to test and use concepts related to perception (Eluru, et al, 2009). Preference for where one wants to live is obviously important to an analysis of residential mobility. The preferences for certain neighbourhoods over others in a city depend on the location of the area in relationship to where office or business and friends are located.

Other factors that influence residential preferences include assessment of housing costs, family size, qualitative housing units and environment. Furthermore, preferences could also be influenced by the crime rate in an area and economic, social, professional or educational background of residents (Eluru, et al, 2009). Dielman (2001) identified three (3) major factors at the micro-level: households' members' collective decision, the function of affordability and job relocation or decision of new jobs. Okesoto, Oke and Olayiwola (2014) isolate transport as a major factor influencing locational preference decisions by households. It was therefore revealed that transport cost in the course of making decision of where to live are traded off against other factors such as rental cost. On the whole one may conclude that more than economic, social, historical, cultural and environmental considerations affects decision on residential location preferences.

4.3 Accessibility Model

This model of Richardson (1975) explains that the choice of residential location is dependent on accessibility to work. The model explains that people tend to locate or relocate their residences close to the CBD or their places of work for easy accessibility. In this case, residents would want to live where probably they could walk to their activity locations without incurring high transport cost. In Calabar for instance, most of the traders along Bedwell Street, Hewert Street and Garden Street have their residences around the watt market area for the purpose of easy accessibility.

4.4 Theory of Intra-Urban Migration

According to Sun (2009) there are two (2) general theoretical propositions concerning intra-urban migration; behavioural and economic. Heldt, Donoso, Behamonde-Birke and Heinrichs (2018) opined that the most general model of relocation is the classic push-pull conception where decision to exist a current location or dwelling is aided by "push" forces. Within the general model, behavioural and economic theories posit different mechanisms that govern relocation decision making.

These behavioural theories according Heldt, et al, (2018) focused on individual or household level decision making processes concerning relocation, namely: who moves, why they move, and where they move to. The economic theories, in contrast, concentrate on aggregate socio-economic processes in a broader context, such as how the housing submarkets interact with migration and how accessibility influences migration patterns. Intra-urban migration is therefore a complex social and spatial process involving many aspects of urban phenomenon.

4.5 Literature Review

4.5.1 The Pattern of Residential Mobility

Cities all over the world are characterized by a set of activities which actually account for the concentration of people in them (Akinyetun, 2005). These activities combine to generate the spatial configuration of cities, necessitating spatial interaction for functional inter-relationship (Osoba, 2012). In most countries, residential locations and places of other activities such as work, business, school, recreation, etc. are no longer in close proximity with one another (Olayiwola, 2014). Residential mobility also made possible by transport, provide vital clues to the understanding of human spatial behaviour in all cities especially in developing countries (Akinyetun, 2005). This spatial behaviour or movement from one neighbourhood to another in cities over time defines the residential mobility pattern. It varies between cities/regions depending on both formal policies and established socio-economic characteristics and has different effects and responses in societies (Akinyetun, 2005; Olushola, 2016).

From the foregoing, however, Gbakeji and Rilwani, (2009) observed in their study of Warri, that mobility pattern is influenced by income and occupational structure among others. They equally observed that the low-income group were highest in Igbudu-Hausa quarters and Agbasa district, neighbourhoods with high concentration of medium income earners include Essie layout, Effurum west, Ekpan Ovwum. The high income group are mainly concentrated at these residential districts of Bendel estate, Ejeba, Okumagba and Agaga layouts. On the occupational structure, the pattern of the occupational distribution by residents in the metropolis like traders, self-employed persons, civil/public servants, professionals, administrators, managerial experts, etc. equally explain their levels by annual income and therefore their residential location pattern.

In another development, Oluwole (2014) observed that in Kaduna the various ethnic and religious groups have influence in the pattern of residential mobility. He said some parts of the metropolis are dominated by certain ethnic and/or religious groups. For instance, Ungwan Boro, Ungwan Pama, Ungwan Makawa,

Ungwan Romi and Sabo areas by the metropolis are dominated by Christians and heterogeneous ethnic groups. On the other hand, Ungwan Rimi, Ungwan Sarki, Ungwan Muaza, Ungwan Kanawa, Tuduwada and Rigasa are dominated by Muslims and Hausa/Fulani ethnic groups. Nevertheless, the population of Kaduna is distributed over high, medium and low density residential areas. The low density residential areas; the government residential areas (GRAs) of Malabi are found in the northern part of the city and Barnewa in the southern part. Residents are mostly the high income group. Not far from the city centre are the medium density residential areas, while the high density residential areas are typical of the Ungwas, for example, Ungwan-Sarki, Ungwan Kanawa, Ungwan Rimi and Ungwan Boro. Oluwole (2014) opined that the pattern of residential mobility has been conceptualized as a product of stress caused by inconsistency between households' needs, expectations and aspirations of households' members and the quality of environment including socio-cultural attributes.

4.5.2 Factors of Residential Mobility

Residential mobility is the movement of residents from one housing location to another or from one neighbourhood or environment of a city to another. It must be noted, however that the residential character of a city or neighbourhood is a function of the locational behaviour and decisions of individuals and families (Eluru, et al, 2009). According to Okesoto, et al (2014) literature is unexhausted on arrays of factors affecting residential location and relocations preference or the choice of where to live. They identified three elements that affect residential location decision at the micro level to include:

- i. Households' members collective decision – the decision on where to live is a function of consideration in the choice of where to live. The residential mobility of the elderly people is usually lower than that of the younger age groups. The elderly people preferred less expensive housing locations since their income generally declined due to retirement. At this stage they may also want to relocate to areas near urban services, family or friends, and have little or no consideration for work location and commuting. The younger groups according to Walter (2002) are more interested in distance to work in their residential location.
- ii. Income is another factor that affects preference on where to live. This factor has been of considerable interest among researchers. For instance, they observed that income affects housing affordability but weaker relationship exist between income and housing price. Their conclusion was that there is no income elasticity for housing.
- iii. Another factor is neighbourhood attributes which include: demographic, quantity and availability of amenities and social infrastructure.

One of the oldest studies on residential location preference is that of Alonso (1964). He emphasized that the decision on where one lives is a trade-off between such decisions and various variables like micro-economic trade-off. Accordingly, a household makes decision to move to a place that is capable of satisfying its residential aspirations and at the same time giving consideration for reasonable transport cost to and from home. It is therefore not surprising to conclude that not only economic consideration, but social, cultural, environmental and historical factors that influences residential mobility particularly in developing countries.

4.5.3 Influence of Socio-economic Characteristics of Residents on the Pattern of Residential Mobility

Urban residents are variously classified in relation to their socio-economic structures. This defines the city as an accommodation base housing people of different social class and economic status. These characterization of the urban population most often create the movement of residents from one residential location to another. Socio economic class as defined by Eluru, et al (2009) is relatively permanent and homogenous divisions in a society into which individuals or families sharing similar values, lifestyles, interest and behaviours can be categorized. Accordingly, social scientists have however not found it easy to identify one particular variable of social status, hence the use of related variables like income, occupation, educational background, marital status, type of employment, etc. as parameters for measuring the socio-economic status of urban residents.

The income of household has a vital role to play in residential preferences of residents with low income. Residents may decide to rent small apartments, but with improvement in income, they may decide to move to bigger apartments or even own one, either by building or buying from the housing market. Occupational structure of residents reflects the economic base of neighbourhoods. This invariably influences the income level which impacts on residential preferences. However, the study by Gbakeji and Rilwani, (2009) demonstrated a significant relationship between socio-economic characteristics of residents and intra-urban residential mobility in the urban space. Most theoretical models attribute the desire to relocate to the influence of wages and employment on personal expected earnings (Akinyetun, 2005). The capacity to relocate depends on current income or access to credit facilities to support the move.

Social forces also foster individual or household residential mobility. Support from a household member or ethnic characteristics have been found to increase the probability of relocation. According to Akinyetun (2005), it has been shown that the chances to relocate in India improves when groups of houses from the same sub-caste all decided to move together. He opined that the level of educational attainment tends to

correlate to higher residential mobility, especially among university graduates. Using the age structure, youths correlates to increased mobility, with the peak in mobility occurring in the mid late 20s (Park, 2002).

4.5.4 Impact of Residential Mobility on the Urban Landscape

Residential mobility not only affect individuals or households, but it also affect neighbourhoods and the urban landscape as a whole, Coulton, Theodos and Turner (2009) opined that very high residential mobility turnover can contribute to the erosion of social control and social capital. Residential mobility can change a neighbourhood's demographic or socio-economic mix, which in turn can reposition the neighbourhoods with institutions, resources, and the market place (Coulton, et al, 2009). The evolving profile of a neighbourhood's population can further affect investments by both individuals and institutions through social and political processes that are reinforcing and evolving overtime (Coulton, et al, 2009).

Change of residence within a metropolis also results in the strengthening of family ties. As families change residence, it improves their networking with other people that may share the same faith and the same tribe. Most of the mover households are non-indigenes and as such they carefully move to areas inhabited by people of similar culture (Oluwole, 2013). Although not all moves result in a need to transfer to a new school, a residential change creates stress for children who face a problem of adjusting to new living space and integrated into a new neighbourhood. Most often, according to Coleman (1990); Tucker, Marx and Long (1998) these families may not have enough of social capital upon which they can rely for support during the transactions.

One other impact of residential mobility on the urban landscape is the issue of gentrification. The term gentrification is often used to describe neighbourhood changes that are characterized by an influx of new residents of a higher socio-economic status relative to incumbent residents and by way of rising housing rents/values (Ding, Hwang and Divringi, 2016). Gentrifying neighbourhoods have larger increases in total population, have higher values, educational attainment, household's income as well as a greater decline in poverty rate than in low income non-gentrifying neighbourhoods. The above indices grow more speedily in the gentrifying neighbourhoods and increases (Ding et al, 2016).

V. METHODOLOGY

The study adapted the survey research design where a representative sample was used in the collection of data of which inferences were made about the entire study population. To this end, questionnaire formed the major instrument for data collection. Two main sources of data were used: primary and secondary sources. The primary sources were the administration of questionnaires, interview and observation. While the secondary sources include the National Population Census Report, 2009, journals, reports, past projects etc. Two main types of data were used; the primary and secondary data. The primary data include the socio economic characteristics of respondents while the secondary data include the population of Calabar, among others.

The sample frame for this study was the total population of Calabar metropolis (Calabar Municipality and Calabar South Local Government Area). The projected population of the two local government areas for 2017 was 513581. The sample size based on the sample frame was determined using the sample size determination formula adopted from Yaro Yamane. The formula is stated below:

$$N = \frac{N}{1 + N(e)^2}$$

Where n = Sample size, e = Tolerance error (5%)

N = Population of the study area, I = Constant

From the formula, the sample size was 400. Two sampling techniques were adopted; systematic and stratified sampling techniques. In systematic sampling technique, the study area which is made up of two local government areas: Calabar Municipality and Calabar South respectively, with twenty-two (22) political wards were identified in the metropolis. Twelve (12) in Calabar South and ten (10) in Calabar Municipality. The systematic sampling technique was adopted in selecting the number of wards (in ordered form) to represent the total wards in each council area for administration of questionnaires. After an orderly arrangement of the wards, all the even members were selected; six (6) from Calabar South and five (5) from Calabar Municipality for administration questionnaires.

With the stratified sampling technique the eleven (11) council wards were properly identified and demarcated using the boundary roads/streets surrounding each ward. Within each ward, random sampling was carried out to identify and distribute the 400 questionnaires based on the proportion of each ward. On the whole, a total of 383 questionnaires were retrieved from the field, giving a percentage of 95.75 success rate as shown in table 1

Table 1: Proposed Distribution of Questionnaires and Response rate in Calabar

S/N	Selected Wards	Existing Population	Projected Population 2017	Ratio	No of Questionnaires Distributed	No. of Questionnaires Returned
1.	Ward 2	5800	12883	5	36	34
2.	Ward 4	5200	11551	2	15	14
3.	Ward 6	5300	11773	3	21	19
4.	Ward 8	6300	13994	6	43	42
5.	Ward 10	16800	37318	8	57	56
6.	Ward 12	2650	5886	1	07	07
7.	Big qua (14)	9754	21666	7	50	48
8.	Obutong (16)	18044	40081	9	64	60
9.	Kasuk (18)	5478	12057	4	29	28
10.	Efioete (20)	25716	57123	10	71	68
11.	Ediba (22)	2650	5886	1	07	07
Total		103664	230218	56	400	383

Source: Field Survey, 2018.

Both descriptive and inferential statistics were used. The descriptive statistics employed the use of tables and charts in the interpretation of data from the field. Inferential statistics was used in testing the hypotheses. In testing the first hypothesis, multiple regression was used while the second hypothesis used analysis of variance (ANOVA). The general formula for regression analysis is as shown below.

$$y = a + bx_1 + bx_2 + \dots + bx_n + e$$

Where y = the dependent variable

b = regression coefficient

x = the independent variable

e = the residual error (Holmes, 2014)

The dependent variable was the pattern of residential mobility, while the independent variables were the socio economic characteristics of respondents. These were restricted to income, household personal preference, distance to work place, availability of social infrastructure and transport costs. Analysis of variance (ANOVA) was used in testing the second hypothesis. It searches for variations between and among or between and within independent variables. The general formula is shown below. ANOVA was therefore used to determine whether there was significant variation in the rate of residential mobility between the neighbourhoods in Calabar. The dependent variables (y) was the rate of residential mobility in the study area while the independent variables (x) were the residential neighbourhoods as factors of location.

$$SST = \sum x^2 - \frac{(\sum x)^2}{N} \quad (1)$$

$$SSB = \frac{(\sum x_1)^2}{N} + \frac{(\sum x_2)^2}{N} + \frac{(\sum x_3)^2}{N} + \dots + \frac{(\sum x_n)^2}{N} \quad (2)$$

$$SSW = SST - SSB \quad (3)$$

Where SST = Total variation (total sum of square)

SSB = Variation between squares (sum of squares between)

SSW = Variation within groups (sum of squares within) (Nwachukwu, 2012)

VI. DATA ANALYSIS AND RESULTS

6.1 Occupational Status of Respondents

Table 2 shows the occupational status of respondents. A total of 143 [37.3%] respondents were public/civil servants, 108[28.2] respondents were traders, 67 [17.5%] respondents were artisans, while 65[17.0%] respondents were students/applicants respectively. This was an indication that public/civil servants dominated during the survey.

Table 2: Occupational Status of Respondents.

Occupational Status	Number of respondents	Percentage
Public/civil servants	143	37.3
Trading	108	28.2
Artisans	67	17.5
Students/Applicants	65	17.0
Total	383	100%

Source: Field Survey, 2018

6.2 Monthly Income of Respondents

The income range of respondents as shows in table 3 revealed that respondents earning below ₦10,000 were 24 (6.3%); 102(26.6%) earned between ₦18,000 to N30,000; 108 (28.2%) earned between ₦10,000 to ₦18,000; 115 (30%) earned between ₦30,000 to ₦50,000; while respondents with income range of ₦50,000 and above were 34 representing 8.9%. Those in the income range of ₦30,000 to ₦50,000 formed the highest while the least were those in income of below ₦10,000 per month.

Table 3: Monthly Income of Respondents

Monthly Income (₦)	No. of Respondents	Percentage
Below 10,000	24	6.3
10,001 – 18,000	108	28.2
18,001 – 30,000	102	26.6
30,001-50,000	115	30.0
50,001 and above	34	8.9
Total	383	100

Source: Field Survey, 2018

6.3 Household Size of Respondents

The household size of respondents is presented in Table 4. The data revealed that 134 respondents representing 55.14% belong to a household size of 0-3. Those with a household size of 4-6 were 213 (55.14%), while those with a household size of 7-9 were 36 representing 9.50%. This clearly shows that the average household size of respondents was between 4-6 persons.

Table 4: Household Size of Respondents

Household Size	No. of Respondents	Percentage
0 -3	134	35.36
4 – 6	213	55.14
7 – 9	36	9.50
10 and above	-	-
Total	383	100

Source: Field Survey, 2018

6.4 Factors Influencing the Pattern of Residential Mobility

Table 5 shows the factors influencing the pattern of residential mobility in the study area. About 135 [35.2%] respondents said that income was the factor influencing their pattern of residential mobility, 120[31.3%] respondents said distance to work place was responsible for their residential mobility pattern, and 96 [25.1%] respondents said availability of social infrastructure was the factor influencing the pattern of residential mobility in the study area. Household personal preference accounted for 11[2.9%], while transport costs was 21 [5.55%]. Though there were other factors, the study restricted itself to these five (5). This shows that among the factors mentioned, income was more prominent.

Table 5: Factors Influencing the Pattern of Residential Mobility

Factors	Number of Respondents	Percentage
Income	135	35.2
Distance to Work Place	120	31.3
Availability of Social Infrastructure	96	25.1
Household Personal Preference	11	2.9
Transport Cost	21	5.5
Total	383	100%

Source: Field Survey, 2018

6.5 The Impact of Residential Mobility on the Urban Landscape

Table 6 shows the impact of residential mobility on the urban landscape in the study area as perceived by the respondents. A total of 121 [31.6%] respondents were of the opinion that residential mobility has brought about urban gentrification in the study area, 101[26.4%] respondents were of the view that changes in neighbourhood demographic characteristics was the impact of residential mobility on the city's landscape, 14

[3.7%] respondents favoured residential stress as the impact of residential mobility in Calabar, 63 [16.4] respondents identified improvement of social networking as the impact created due to residential mobility, while 95[24.8%] respondents said strengthening of family ties as a factor influenced by residential mobility in the study.

Table 6: Impact of Residential Mobility on the Urban Landscape

Impact	No. of respondents	Percentage
Urban Gentrification	110	28.7
Changes in Demographic Characteristics	101	26.4
Improvement of Social Networking	14	3.7
Residential Stress	63	16.4
Strengthening of Family/Ethnic Ties	95	24.8
Total	383	100%

Source: Field Survey, 2018

6.6 Quality of the Environment

Table 7 shows the quality of the environment in the study area. About 119 [31.1%] respondents said that the environment was good, 127[33.2%] respondents said the environment was fair, 79 [20.6%] respondents said the environment was very good, while 58[15.1%] respondents said the environment was poor respectively. This was an indication that the quality of the environment has influence on residents’ housing mobility in the study area.

Table 7: Quality of the Environment

Condition	Number of respondents	Percentage
Very Good	79	20.6
Good	119	31.1
Fair	127	33.2
Poor	58	15.1
Total	383	100%

Source: Field Survey, 2018.

6.7 The Rate of Residential Mobility

Table 8 below shows the rate of residential mobility in the study area of which 115 (30.0%) respondents said that the rate of residential mobility was high, 119 (31.1%) respondents said the rate of residential mobility was very high, 91(23.8%) respondents said the rate of residential mobility was low, while 58 (15.1%) respondents said the rate of residential mobility was very low.

Table 8: The Rate of Residential Mobility

Rate	Number of respondents	Percentage
Very High	115	30.0
High	119	31.1
Low	91	23.8
Very Low	58	15.1
Total	383	100%

Source: Research’s field survey, 2017

6.8 Factors within the Neighbourhoods that Influence Change of Location

Table 9 below shows the factors within the neighbourhood that influences change of location in the study area. About 131 (34.2%) respondents said electricity was the factor, 121 (31.6%) respondents said water supply was a factor that influences change of location in the study area, 93 (24.3%) respondents said the quality of roads was a factor that influences change of Location, while 38 (9.9%) respondents said security was a factor within the neighbourhood that influences change of location respectively.

Table 9: Factors within the Neighbourhood that Influence Change of Location

Factors	Number of respondents	Percentage
Electricity	131	34.2
Water Supply	121	31.6
Quality of Road	93	24.3
Security	38	9.9
Total	383	100%

Source: Field Survey, 2018.

The result of the first hypothesis using multiple linear regression as shown in table 12 indicates that the significant value was 0.219, while the R square was 76.5%. Generally, the result shows that there was no significant relationship since the calculated significant value (0.219) was greater than the significant value of 0.05. This result therefore accepted the null hypothesis. The result suggests that though the pattern of residential mobility is influenced by the socio-economic attributes of residents in Calabar, statistically it was not significant.

6.9 Multiple Regression Analysis

$$X_i = A + B_2 S_1 X_2 + B_3 S_1 x_3 + \dots + B_k S_1 X_k$$

- Where X_i = Predicted value of dependent variable
- A = Constant or intercept
- $B_2 - B_k$ = Standard regression coefficients of independent variable
- $S_1 - S_k$ standard deviations of the variables link

Table 10: Standard deviation for $S_1 - S_k$

X	\bar{X}	$X - \bar{X} = x$	$(x - \bar{X})^2 = x^2$
134	76.4	57.6	3317.76
120	76.4	43.6	1900.96
96	76.4	19.6	384.16
11	76.4	-65.4	4277.16
21	76.4	-55.4	3,069.16
$\sum X = 382$		$\sum (x - \bar{X}) = 0$	12949.2

	Df	sum of squares	mean square
Regression	2	8795.05639	4397.52819
Residual	604	2698.60399	26.20004
F = 167.844.34		Significant F = 0.0	

Table 11

Variable	Beta in	Partial	Min Toler	T	Sig T
Income	.10412	.20613	.57236	2.127	.0358
Household size	.08794	.17911	.60268	1.839	.0689
Occupational status	.20788	.38260	.58123	4.182	.0001
Personal preference	-.07600	-.15575	.60544	-1.592	.1144

Significant = 0.2192
 Multiple R = 87476
 Adjusted R Square = .76065
 Standard Error = 5.11860

Table 12

Variables	Df	Sig	R	R2	SR	AR
\bar{X} 76.85 976.4	2	0.2192	.87476	.76521	5.11880	.76065

The second hypothesis uses analysis of variance (ANOVA). Since the calculated value was greater than the critical value, the null hypothesis (H_0) tested at 5% significant level was accepted while the alternate

hypothesis (H₁) was rejected. Therefore, the result shows that though the rate of residential mobility in Calabar varies between neighbourhoods, statistically it was not significant (see Table 15).

Table 13: Calculation for Various S.S.

X _{ij}	x _{2j}	(X _{ij} - \bar{X}_1) ²	(X _{2j} - \bar{X}_2) ²
131	115	1239.04	368.64
121	119	635.04	538.24
93	91	7.84	23.04
38	58	3340.84	1428.84
$\sum_j x_{ij} = T_1$ 383	$\sum_j x_{2j} = T_2$ 383	$\sum_{j=1}^4 (x_{ij} - \bar{x}_1)^2$ 5222.76	$\sum_{j=1}^4 (x_{2j} - \bar{x}_2)^2$ 2358.76

$$\bar{x}_1 = \frac{\sum x_{1j}}{n_1} = \frac{383}{4} = 95.8; \quad \bar{x}_2 = \frac{\sum x_{2j}}{n_2} = \frac{383}{4} = 95.8; \quad \bar{x} = \frac{\text{Grand total}}{\text{Total number of observation}}$$

$$= \frac{383+383}{4+4} = \frac{766}{8} = 95.8$$

Within sample sum of squares

To find the variation within the samples, the sum of the squares of the deviations of the observations in each sample was computed from the mean value of the respective samples.

Sum of square within the samples =

$$\sum_{j=1}^4 (x_{1j} - \bar{x})^2 + \sum_{j=1}^4 (x_{2j} - \bar{x}_2)^2 = 5222.76 + 2358.76 = 7581.52$$

Sum of Square between Samples (Rate Residential Mobility) is:

$$\sum n_1 (x_{1j}) + \sum (n_2 (x_{2j})) = 4 (95.8) + 4 (95.8) = 383.2 + 383.2 = 766.4$$

$$\text{Total Sum of Square} = \sum_1 \sum_j (X_{ij} - \bar{x})^2$$

The total variation in the sample data was obtained on calculating the sum of the squares of the deviation of each observation from the grand mean, for all the samples.

Table 14: Calculating for Total S.S

X _{ij}	(X _{ij} - \bar{x}) ² = (X _{ij} - 95.8) ²	X _{2j}	(X _{2j} - \bar{X}) ² = (X _{2j} - 95.8) ²
131	1239.04	115	368.64
121	635.04	119	538.24
93	7.84	91	23.04
38	3340.84	58	1428.84
383	5222.76		2358.76

$$\text{Total sum of square (TSS)} = \sum (X_{1j} - \bar{x})^2 + \sum (X_{2j} - \bar{x})^2 = 5222.76 + 2358.76 = 7581.52$$

Note that the sum of squares within samples + sum of squares between samples =

$$7581.52 + 766.4$$

$$= 8347.92$$

Within samples sum of squares = Total S.S – Between Samples S.S proceeding this way,

$$\text{Within samples (Error) S.S} = 7581.52 - 766.4 = 6815.12$$

Degree of freedom between classes (Rate of Residential Mobility)

$$\text{S.S.} = k - 1 = 2 - 1 = 1$$

$$\text{Total S.S.} = n - 1 = 8 - 1 = 7$$

$$\text{Within classed (Error) S.S.} = n - k = 8 - 2 = 6$$

Table 15: ANOVA Summary

Source of variation	d.f	Sum of squares (S.S.)	Mean S.S.	Variance Ratio (F)
Between samples (Rate of Residential Mobility)	2 - 1 = 1	766.4	$\frac{766.4}{1}$	$\frac{766.4}{1083.07} = 0.71$
Within Sample (Error)	8 - 1 = 7	7581.52	$\frac{7581.52}{7} = 1083.01$	
Total	8	8347.92		

VII DISCUSSION OF FINDINGS

7.1 The Pattern of Residential Mobility in Calabar

The spatial behaviour or movement of urban residents from one neighbourhood to another in cities over time defines the pattern of residential mobility. From the foregoing, as pointed out by Gbakeji and Rilwani (2009), mobility pattern in Calabar is basically influenced by income and occupational structure of residents. Others include ethnic/religious affiliation, personal preferences, quality of the environment etc. (see table 5). During the course of the study, it was observed that the high income class are mostly found inhabiting the state and federal housing estates, the new Ekorinim area, Aka-Effa layout, Asari-Iso layout among others. The low income are found predominantly around Anantigha, Henshaw Town axis, Ikot Effangha, Ikot Omin, Edim Otop etc. While the medium income are found predominantly around Big Qua Town and Essien Town and Marian axis. Table 5 shows other influential factors of residential mobility in Calabar. From the above, Calabar displayed sectorial formation or pattern of neighbourhood living.

7.2 Factors Influencing Residential Mobility in Calabar

From the study conducted as shown in table 5, income contributed the highest proportion among the factors of residential mobility in Calabar. This according to the opinion of respondents accounted for 35.2%, distance to place of work accounted for 31.3%, availability of social infrastructure had 25.1%, while household preference and transportation costs accounted for 2.9% and 5.5% respectively. Other contributing factors include security, physical condition of the environment, rate of household formation, socio-cultural factors etc.

The study also revealed the factors within the neighbourhoods that influence change of location in the study area (table 9). The table shows that 34.2% of residents favoured electricity as a factor, 31.6% residents said water supply was a factor influencing change of location in the study area, 24.3% of residents said quality of roads was a factor that influences their change of location, while 38.9% of residents said security was a factor within the neighbourhoods that influences their change of location.

7.3 Influence of Socio-Economic Characteristics of Residents on the Pattern of Residential Mobility in Calabar

The urban environment as an accommodation base houses people of different social class and economic status. In Calabar the high social class are found living in specific locations where the costs of land and housing are exclusively high beyond the middle and low income residents. These areas include; the GRA in Federal Housing Estate, new Ekorinim, parts of State and Federal Housing Estate, Satellite Town. These areas also have good accessible social amenities and adequate play spaces for the children.

The middle and low income residents are found living at locations that could be affordable based on their income. However, as their income improves, they may decide to relocate to better and bigger apartments or even own their own houses, either by building or buying from the housing market. Though there is relationship between the pattern of residential mobility and the socio-economic characteristics of residents in Calabar, the result of the hypothesis was very not significant. This was because the calculated significant value of 0.219 was greater than the significant value of 0.05. This implies that other factors contributed in influencing the pattern of residential mobility in Calabar.

7.4 Impact of Residential Mobility on the Landscape of Calabar

Residential mobility not only affect individuals/households, but also the urban landscape. In Calabar metropolis, changing of residential locations by residents has impacted on the city's landscape. The various neighbourhoods in Calabar has changed in both demographic and socio-economic status as well as physical changes. Neighbourhoods like Ekorinim which was predominantly inhabited by the low income group, has today changed and turned into environment for the high class people with complex structures. This has changed the physical background of the area, its demographic and socio-economic composition, with its attendant high costs of land/housing.

On the aspect of urban gentrification, locations like 8th miles, Ikot Eneobong among others that were predominantly inhabited by the low and middle income residents are now characterised by high, medium and low income mix due to the influx of new residents of higher socio-economic status in search of owner occupied residences, relative to the incumbent residents. From table 6, the impact of residential mobility on the landscape of Calabar was assessed based on respondents' opinions. Those who supported urban gentrification accounted for 28.7%, change in demographic structure 26.4%, improvement in social networking 3.7%, residential stress 16.4, while strengthening of family ties was 24.8%.

VII. RECOMMENDATIONS AND CONCLUSION

This study was basically designed to determine the pattern of residential mobility with particular reference to Calabar. However, Calabar displayed sectorial pattern of residential mobility influenced by such variables as income, occupational status, household preference, ethnic/religious affiliations, availability of social infrastructure, distance to work places, transportation costs among others. The various neighbourhoods in Calabar have changed in both demographic and socio-economic structure as well as physical changes.

8.1 Recommendations

- i. It is important that before the status of towns change, adequate land use planning must be put in place to cater for such changes and effective development control mechanisms should be positioned for maximum and effective land use development.
- ii. Rapid change have been witnessed in most of neighbourhoods, while others have deteriorated from their original status. This study therefore recommended equitable distribution of income and social infrastructure for sustainable residential mobility. This will help to curtail economic and social segregation among residents of Calabar.
- iii. One of the underlying factors instigating residential mobility is security. It behoves the government of Cross River State therefore, to be more active in securing the lives, environment and properties of residents of Calabar to enhance social interrelation and stability and reduce the incidence of residential mobility due to lack of adequate security.
- iv. To reduce residential mobility, neighbourhoods should be provided with adequate infrastructure and services. The provision or restoration of these facilities will encourage households to stay in a neighbourhood and also attract households to move into the neighbourhood. Since some push and pull factors differ with densities, town planners should take into consideration the factors for each density when planning for new residential areas.

8.2 Conclusion

Residential mobility is a process which has significant effect on the urban landscape. Public policies should attempt to promote equal development of the metropolis through the improvement of infrastructural facilities in the deteriorated and less developed neighbourhoods so as to encourage residents to stay much longer in a particular location. There must also be other inducements such as discount on rental properties in neighbourhoods with inadequate infrastructure. There should also be the establishment of low cost housing schemes in descent locations to mitigate massive outflow of people from deteriorated neighbourhoods in the city.

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