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Housing-Related Urban Poverty In Nyangasang And Anantigha Areas Of Calabar Metropolis, Cross River State, Southern Nigeria

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Abstract: ***This paper examined the level of housing-related urban poverty in Nyangasang and Anantigha areas Calabar. The questionnaire was used to collect data on housing poverty with a success rate of 89.8 percent (449) for the stu area. Kernel density analysis in a GIS environment was used to estimate the number of jobs located per 1000 m^2. SPS provided the tool for analysis of statistical data leading to test of formulated hypothesis. The findings of this study reveal that that residential mobility has significant relationship with socioeconomic variables such as gender, marital statu household size, education, annual income and kind of job, $F(6, 402) = 8.903$, $p < .001$. The findings of this study informed t need for the provision of adequate housing for low income earners in these locations and elsewhere in the metropolis. Th living conditions of these sampled locations and the ill-planning associated with them thus suggest potential danger loomin The study advocated among other things the social inclusion of the urban poor where local planning effort shou concentrate on low income housing, public transport provision and improvement, adoption of non-motorized transport as w as an integrated urban land use and transport development strategies. This should be focused on acknowledgement of t home-job locations relationship of the urban poor as to bring employment opportunities closer to the urban poor and vi versa.***

Keywords: housing provision; housing quality; urban poverty; rapid urbanization

I. BACKGROUND

Increasing urbanization is emerging as the most pervasive and dominant challenge as well as opportunity facing most cities in Nigeria today. For several decades, cities and towns have remained centers of agglomeration economies, investments, technology, innovation, economic growth and tertiary jobs. Their contribution to most countries' GDP is immense. They also serve as reservoirs of skills, capital and knowledge. Cities are centers of creativity, generators of resources for the national and state exchequers, and are also the hope of millions of migrants from the rural hinterland and smaller settlements. With growth of the service sector and surge of knowledge economy, the population pressure on cities is bound to escalate. Thus, cities are increasingly faced with negative consequences of rapid urbanization. These include polarization of population in large cities, high densities, degradation of environment, traffic congestion, pollution, poverty and social exclusion, unemployment, crime and social unrest. Fast growing urban population in developing countries with attendant consequences in access to services is expected to increase.

Rapid urbanization has led to social exclusion in many developing countries. The socially excluded people "are not just poor, but that they have additionally lost the ability to both literally and metaphorically connect with many of the jobs, services and facilities that they need to participate fully in society (Church, Frost & Sullivan, 2000). Additionally, the inadequate transport infrastructure of most urban centres in developing economies aggravates social exclusion since it reduces the convenience of access to public transport for the urban poor (Wati, 2009). For this category of urban residents a private motorized mode is too expensive, even as the public transport alternatives remained unplanned, unreliable and

often poorly coordinated.

It is evident from many studies that the rate of urbanization and indeed population growth especially in developing countries has out-grown their planning, management and economic capacities. This has resulted in adverse consequences on mobility needs and living conditions of residents and the physical environment (Allender, Foster, Hutchinson, & Arambepola, 2008; Chan, Tang, & Wong, 2002; Fekade, 2000; Fiadzo, Houston, & Godwin, 2001; Mukhija, 2004). The unprecedented population growth is as a result of natural birth increase and migration experienced at both national and transnational level due largely to clustering of certain economic activities in space. This has posed serious challenges ranging from low socio-economic status of residents, poor accessibility to job locations, high crime level, poor housing and environmental conditions, poor access to water and sanitation and so on. The aforementioned effects have often resulted in a sharp divide among the social classes and have tended to further impoverish the already poor social class. This according to Mitlin (2001) and Devas (2004) are broad indications to suggest that the intensity and nature of urban poverty itself is changing and therefore recognized the role of sustainable housing as a way of poverty reduction and bridging the gap between urban social classes. Similarly, the important role of transportation to job accessibility has been highlighted (Bertolini, le Clercq, & Kapoen, 2005; Cheng & Bertolini, 2013; Geurs & van Eck, 2003; van Wee & van Der Hoorn, 1996). Most importantly, however, is the role of transport in meeting the mobility needs and stimulating socio-economic participation of societies.

II. THE RATIONALE

This study is set up in two residential neighbourhoods in Calabar, a city in the southern part of Nigeria. It presently serves as the capital of Cross River State, believed to have been settled in the 15th Century by the Efiks and Kwas. The city has been known to European sailors as far back the 15th century and later recognized as an international seaport around the 16th Century enabling it to later serve as a major slave trade port from the 17th to 19th Century. Calabar had been the seat of government of the Niger Coast Protectorate, Southern Protectorate and Oil River Protectorate from 1885-1906. Geographically, Calabar lies between Longitudes 8^0 19^1 30^{11} and 8^0 25^1 30^{11} east of the Greenwich Meridian and Latitudes 4^0 57^1 55^{11} and 5^0 40^1 30^{11} north of the Equator. It comprises of Calabar Municipality and Calabar South Local Government Area, which occupy an area of about 406 square kilometer (figure 1). Using growth rate of 2.8 per cent and a 2006 baseline population of 328,826 (National Population Commission, 2006), the total population is estimated at above 400,000 in 2017. The city which is sandwiched in between two rivers, the Calabar River and Kwa River has a lowland terrain with highest and lowest points at about 100m and 2m respectively (Okon, Ogba, Idoko, Eni &Sule, 2015).

Calabar is experiencing sprawl effects in its environs, eastwards to Akpabuyo and northwards to 8 miles and beyond. Although, it is often said that the expansion of Calabar is constrained by the two rivers above, development experts believe that socio-economic characteristics rather offer better explanation for the pattern of development in Calabar. With the establishment of the Calabar International Conference Centre, the Unicem Factory, the Garment Factory, the proposed Cross River State Super Highway and Deep Sea Port, it is expected that the development of Calabar and environs may not be easily predicted.

Nyangasang and Anantigha in Calabar Municipal and Calabar South Local Government Areas respectively are two neighborhoods that share similar socioeconomic and physical characteristics with each other. Their choice as study location was due largely to difficult physical characteristics of the neighborhoods, which makes access of residents to employment locations difficult or costly (travel time and transport fares). For example, while Nyangasang has a difficult and undulating topography with high incidence of erosion, Anantigha is low-lying area liable to flooding.

Housing is one of the core requirements of human existence. The ambition of all people to own or have access to decent shelter is not a luxury but an absolute necessity. The Nigerian government since independence in 1960 has pursued various housing policies, yet housing poverty remains unabated. Housing poverty is directly linked to other forms of poverty and very often seen as an urban phenomenon, while the rural area is associated with lack of other basic amenities. The explosive population movement and growth has aggravated the existing problem of residential accommodation for both the public and private workers in Calabar Metropolis. For instance, there exists acute housing shortage in Calabar Municipality where population increase far out grow urban housing development. The supply of residential housing in Calabar falls behind the demand and the accumulations of unsatisfied housing demand compel and further complicate the overcrowding of people and physical structures. Soaring rent has become the order of the day because of the development of population-pull companies such as the Free Trade Zone (FTZ), Nigeria Port Authority (NPA), Unicem, Tinapa, General Electric, International Conference Centre (ICC), Calabar Garment Factory, and so on.

This study addressed the key question of the location of poor housing in relation to access to potential job locations in Calabar. Results of this study shall among other things provide practical options for increasing accessibility in terms of bringing people and job opportunities within easy reach of each other as an important step in addressing urban poverty and social exclusion.

III. LITERATURE REVIEW

Urban poverty is the scourge of most cities of third world countries, although regional differences exist in the Third World countries, in all cases urban poverty has been on the increase, the physical and human dimension of poverty are clearly manifested in the grooving number of rural refugee, unemployment, homeless, the uneducated, the pavement dweller, the slum and shanty town confined and inhabiting large area of degraded environment un-served by basic urban facility, utilities and services (Aluko, 2003). The urban poor are families or individuals living below the poverty line who

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are distinguished by characteristic such as unemployment, underdevelopment, lack of or inadequate access to basic service such as water and sanitation, hygiene, electricity, health and education and lack of basic nutrition, shelter, clothing and access to information and new technologies needed for their survival. The situation of urban poor is further aggravated by the difficult and degraded environmental conditions in which they live which are easily prone to various forms of disaster.

The contribution of improved housing and basic services to urban poverty reduction is increasingly being recognized. Whilst the importance of income generation in addressing urban poverty has long been seen as critical,

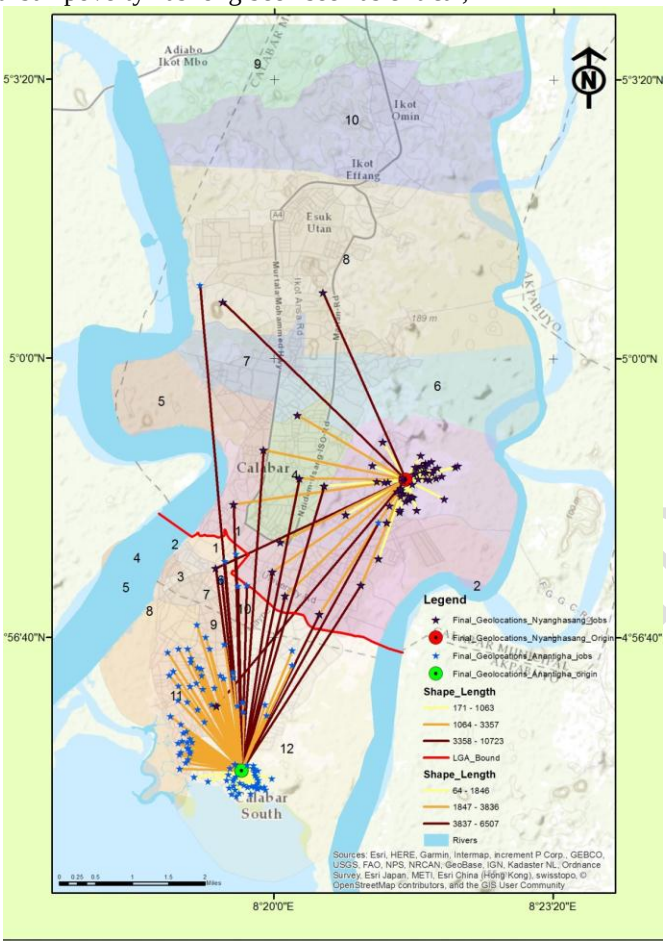

Figure 1: Calabar metropolis showing job locations in both Anantigha and Nyangasang

It is now understood that better housing and associated infrastructure and service can improve health (directly increasing well-being and income opportunities), reduce expenditure and offer opportunities for home-based employment. At the same time, experiences to date have shown that for poverty related interventions to be successful, they need to be both affordable and inclusive of many different groups within urban poor communities.

The diversity of backgrounds and needs has long been recognized as a characteristic feature of the urban poor (Racelis, 1999). 'Urban poverty' is increasingly differentiated along gender, age, locational and occupational characteristics, and poverty itself can take various forms, including income or food poverty, housing poverty and inadequacy of access to basic urban services. Minujin's (1995) analysis of the situation in Argentina shows that, between 1980 and 1990, average household income in Buenos Aires fell by 22 per cent and new groups entered poverty: "… the poor became even poorer and middle-income groups experienced massive downward mobility, entering the world of the poor" (Racelis, 1999).

According to Brokerhoff and Brennan (1998) in their essay on "The Poverty of Cities in Developing Regions", since the 1970s, big cities of the developing world have experienced three unprecedented demographic changes: Most "megacities" (cities with 5 million residents or more) have absorbed huge population increments; other large cities have experienced, on average, a doubling of population size; and national populations have become increasingly concentrated in cities with one million or more residents. They further observed that, as a result of these and related changes, the long-standing presumption that living conditions are better for big-city residents have come into question. This study uses indicators of children's status and level of infant mortality to compare wellbeing across cities of one million or more residents and smaller settlements within developing regions.

Using the official urban household surveys of the National Bureau of Statistics (NBS) from 1992 to 1998, Fang, Zhang, and Fan (2002) found that, for the low income urban households, the rate of increase in expenditures on housing has outpaced the rate of income growth, making the poor more vulnerable to sudden shocks. Based on fieldwork in Beijing and Shanghai in the late 1990s, Wang (2000) found that, in addition to the problem of urban residents who live in relatively poor housing conditions, a newly emerging incidence of housing poverty among the poor migrants of rural origin was growing, although not recognized by the government.

Hiroshi (2006) examined distributive implications of two important issues for urban housing in the late 1990s, namely, the privatization of public-owned housing and the wave of rural-urban migration. He further observed that the housing conditions of urban households improved significantly in the 1990s, and the majority of urban households that used to rent housing became owners of their own housing through disposal of public-owned housing at discounted prices.

The measurement of urban poverty by a specific income threshold is quantitative and convenient but not necessarily sufficient. Poverty is multidimensional and the issues are more complex. Income and consumption measures do not capture the qualitative dimension of being poor such as the lack of comfort, health, personal safety, and social inclusion. The urban poor are normally associated with low levels of education, lack of employment opportunities, large family size, and poor housing conditions. With an escalating cost of living in urban areas, the urban poor are very vulnerable to uncertainties in income. The urban poor are also more exposed to health hazards due to crowded living conditions and the sick building syndrome. Findings from numerous studies showed a significant positive association between housing conditions and chronic illnesses (Habib, Mahfoud, Fawaz, Basma & Yeretzian, 2009; Green, 2011; Navarro, Ayala & Labeaga, 2010).

The study of Zainal, Kaur, Ahmad, and Khalili, (2012) on housing conditions and quality of life of the urban poor in

Malaysia showed a small, but significant positive relationships between housing conditions, health, safety, and social support which provide empirical evidence of the relationship between housing conditions and quality of life. He therefore asserted that his findings using the participatory approach enlighten the issue of considering housing condition as a social economic indicator of urban poverty. Dao (2008), Hong, van den Bosch, Quang and Zuidgeest (2011), and Hossain (2007), explored poverty and vulnerability of poor urban dwellers and found that urban poor are vulnerable to their respective human capital investment variables. In another study, Green (2011) found that physical housing conditions such as the presence of roaches, plumbing defects, and heating/cooling problems contribute significantly to mental health dysfunction such as being depressed, feeling worried, feeling sad, feeling helpless, and feeling emotionally upset.

However, in Nigeria, the proportion of the Nigerian population living in urban centres in the 1930s was less than 3 percent, and 10 percent in 1950, by 1970, 1980 and 1990, 20 percent, 27 percent and 35 percent lived in the cities respectively, over 40 percent of Nigerians now live in urban centres of varying sizes (Olotua and Bobadoye, 2009; Okupe, 2002). The explosive rates of growth have not only progressively complicated and exacerbated inter-related problems of human settlements and environment, but have also greatly accelerated poverty (Oladunjoye, 2005).Nigeria as a developing country appear to be facing a more rapid rate of urbanization, mainly as a result of rural-urban migration, Lagos is among the world fastest growing cities in the world with a population of 10,788,000 in the year 2010 (UN-Population Division, 2011). population projections of major Nigeria's cities, shows that the urban population in Nigeria's cities are rising generally from 1985 to 2010, and the projection still continue with steady growth till 2025 (Olalekan, 2014). The above review has revealed that the correlation between housing and urban poverty and thus opened a research gap on what critical role access to job locations play in ameliorating urban poverty. This is the motivation for this research, with the main objective of using housing quality to predict volume of jobs that are accessible to residents of Anangtigha and Nyangasang.

IV. METHOD

The study adopted a case study design which is an in-depth study of housing-related urban poverty and accessibility to job locations in parts Anangtigha and Nyangasang parts of Calabar was undertaken. This approach focused on specific research problems in both study locations. Different data layers in both discrete and continuous forms were used in this study. Geo-locations of housing units of selected research respondents, as well as, job locations formed part of several data. Others included socioeconomic data of respondents and housing quality of respondents, travel diary of sampled residents (continuous), and so on.

The data for this study were generated through primary and secondary sources. Primary data sources included questionnaire, interviews, and field observations. The questionnaire sought information on the type of house, assets, stable income source, etc.; employment type; location of work; daily commute mode, pattern, and so on. Secondary sources of data included relevant published data that aided the research efforts. They were gazette information in journals, periodicals and seminar papers on urban housing-related poverty, social exclusion and accessibility to job locations.

Preliminary survey was carried out to justify the choice of study locations after general study of the prevailing housing conditions in Calabar. This enabled the researcher to reasonably account for the specific problems of the study area. The various data layers needed for these researches were considered during this phase, which culminated in the presentation of this study. The researcher at this stage undertook familiarization and reconnaissance survey of study area, preparation of project plan, and implementation of project plan.

Topographic map of the study area provided initial listing of houses for the survey through the stratified sampling method to collect household data. Hand-held GPS was used to aid ground troth during field exercise. Only residential buildings were sampled for the survey from initial listing and geo-location of transects from the map. Where listed buildings were non-residential, it was immediately substituted with residential buildings upon arrival for data collection. The field research focused on interviewing heads households in each sampled building.

For the purpose of this study, an assessment of housing quality was carried out, an aggregate of which was used to define whether a respondent was house-related poor or not. Certain housing facilities in the study area were assessed, including roof, doors, windows, walls, toilet, floor, kitchen and bathroom. In other to examine the relationship between housing quality and poverty, a multi-criteria analysis was carried out on the various housing quality materials using assigned numerical values. These values were assigned with an increasing order based on quality, in which every housing variable with highest value was assigned to highest quality. A total was calculated for every respondent and then a categorisation developed such as high, moderate and low quality housing. We further applied kernel density analysis (in a GIS environment) on these aggregates to determine the number of jobs that can be located per 1000 m^2 in the study area. Hypothesis was tested using the multiple regression analysis in SPSS. A combination of these different data layers for this study is presented in figure 2.

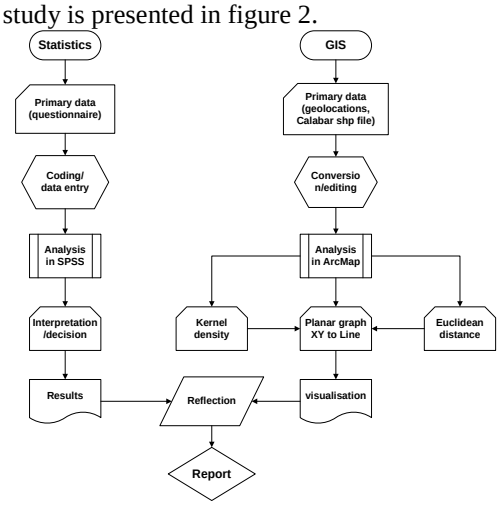

Figure 2: Data layers and procedure of analysis for the study

V. RESULTS AND DISCUSSION OF FINDINGS

A. HOUSING QUALITY OF RESPONDENTS

Affordable and secure housing provides an essential foundation for a decent life through better outcomes in health, education, employment and early childhood development. It can facilitate a pathway in and out of poverty. About 45.2 percent of respondents reside in rented houses while residence in personal and family house accounts for 40.3 and 14.5 percent respectively (figure 3). It thus suggests that one out of every two respondents do not pay rent and therefore reduced income expenditure on rent.

It is revealed in Table 1 that over 60 percent of residents in both study locations uses zinc as roof material while aluminium accounts for 23.3 percent. The traditional local raffia material that was popular for roof making in the pre-colonial and post independent era seem to have become obsolete, accounting for only 0.9 percent of sampled houses. About four door types were identified where hard wood doors account for 62.8 percent. Furthermore, 82.2 percent of walls are made of cement blocks. Water closet (WC) type of toilet accounts for 67.5 percent while tiles (53 percent) is the dominant floor type. Most kitchens and bathrooms are internal (68.2 percent and 66.6 percent respectively).

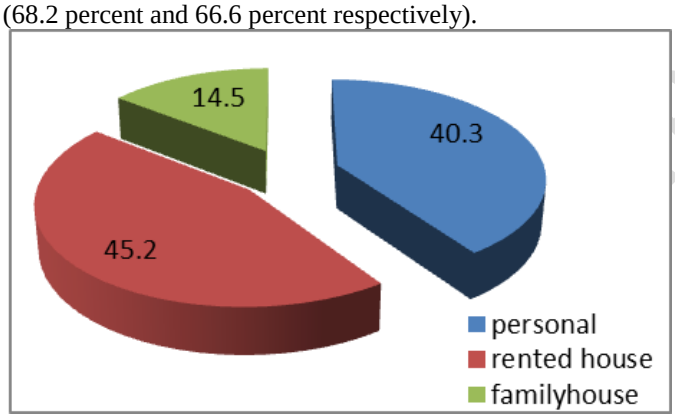

Figure 3: Distribution of dwelling status of residents in Calabar

B. HOUSING-RELATED POVERTY AND JOB LOCATIONS

In other to examine the nature of housing-related poverty, a multi-criteria analysis was carried out on the various housing quality as discussed in method. A kernel density analysis on these housing quality revealed that about 17 jobs are estimated per 1000 m2 in Anantigha and 19 jobs per 1000 m2 in Nyangasang (figure 4). However, as our society becomes more mobile and people reside farther away from their job locations, competent decision making has become critical for residents in Calabar.

C. DETERMINANTS OF RESIDENTIAL HOUSING LOCATION CHOICES

However, as our society becomes more mobile and people reside farther away from their job locations, competent decision making has become critical for residents in Calabar. However, very little is known about the relationship between residential choice and decision-making. It was further investigated to ascertain which factors influenced residential choice making of residents. The dominant consideration for residential choice making in the study area as revealed in Table 2 is house ownership status (41.3 percent). This is corroborates earlier findings about residential status of respondents where over 40 percent indicated that they own their houses. The second most important factor is the low rent in the study area (25.8 percent). This factor clearly revealed the difficulty of defining housing-related poverty in the study area.

Housing quality	Frequency	Per cent
Roofs		
Step tiles	30	6.8
Asbestos	36	8.2
Aluminium	105	23.8
Zinc	266	60.3
Raffia	4	.9
Doors		
Steal	135	30.1
Hard wood	282	62.8
Aluminium	23	5.1
Flush	9	2.0
Walls		
Bricks	74	16.5
Blocks	369	82.2
Mud	6	1.3
toilets		
Water closet	303	67.5
Pit/bucket	115	25.6
Open defecation	27	6.0
Others	4	.9
Floor		
Terrazzo	17	3.8
Tiles	236	53.0
Cement	192	43.1
Kitchen		
Internal	306	68.2
External	119	26.5
Corridor	18	4.0
Others	6	1.3
Bathroom		
Internal	295	66.6
External	148	33.4

Source: Author's field survey, 2017

Table 1: Quality of housing facilities in the study area

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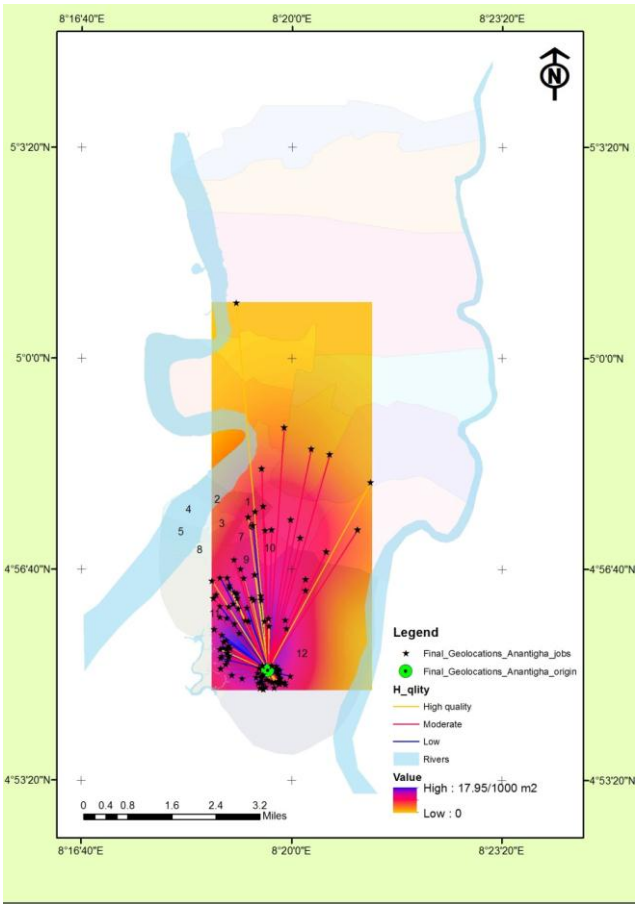

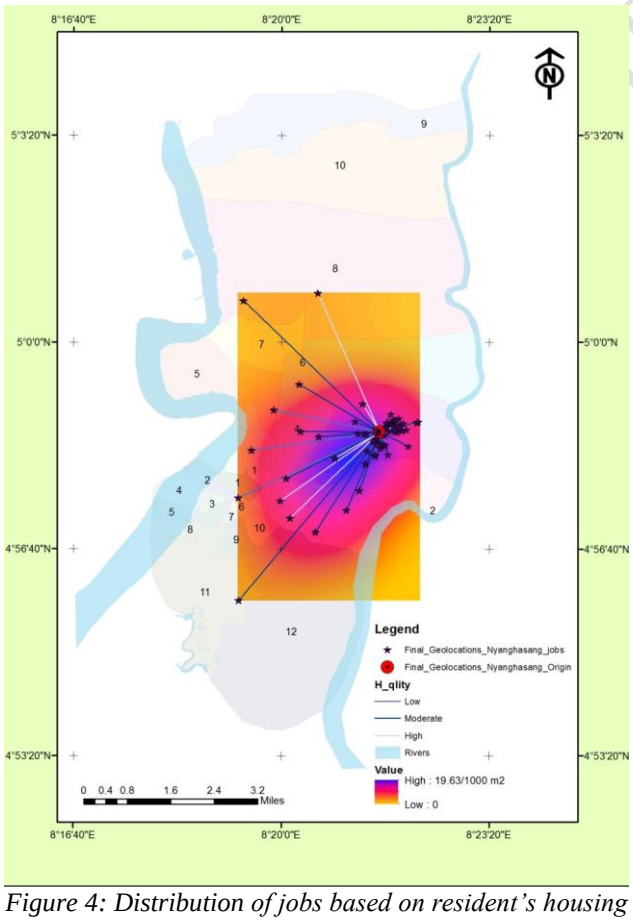

Figure 4: Distribution of jobs based on resident's housing quality in Anantigha and Nyanghasang

Housing quality	Frequency	Per cent
Security/safety	59	13.3
Low rent	115	25.8
House ownership	184	41.3
Rising income	37	8.3
Proximity to work	15	3.4
Infrastructure	11	2.5
Proximity to child school	6	1.3
Access to major road network	18	4.0

Source: Author's field survey, 2016

Table 2: Important considerations for residential choice-making in the study area

D. TEST OF HYPOTHESIS

Gender, marital status, household size, education, annual income and kind of job were used in a standard multiple regression analysis to predict residential mobility of respondents. The correlations of the variables in Table 3 shows all correlations, except for the one between marital status and household size, were statistically significant. The prediction model was statistically significant, $F(6, 402) = 8.903$, $p < .001$, and accounted for approximately 10 percent of the variance of residential mobility ($R^2 = .117$, Adjusted $R^2 = .104$). Residential mobility was primarily predicted by lower levels of marital status, education and kind of job, and to a lesser extent by higher levels of gender and annual income. The raw and standardized regression coefficients of the predictors together with their correlations with residential mobility, their squared semi-partial correlations and their structure coefficients, are shown in Table 4. Gender and education received the strongest weight in the model followed by annual income.

With the sizeable correlations between the predictors, the unique variance explained by each of the variables indexed by the squared semi-partial correlations was quite high. Inspection of the structure coefficients suggests that, with the possible exception of gender, education and kind of job whose correlation is still relatively substantial, the other significant predictors were strong indicators of the underlying (latent) variable described by the model, which can be interpreted as other perception variables. From the multiple regression equation, it can be summarized thus:

$$Yi = (b_0 + b_1X_{i1} + b_2X_{i2} + \ldots + bnXn) + \varepsilon_i \qquad \text{eq. 1}$$

Residential mobility = $b_0 + b_1$gender$i$ + $b_2$marital status$i$ + $b_3$household size$i$ + $b_4$education$i$ + $b_5$annual income$i$ + $b_6$kind of job$i$

= 1.307 + (.241gender$i$) + (-.008marital status$i$) + (-.044household size$i$) + (-.095education$i$) + (.123annual income$i$) + (.059kind of job$i$).

Variables	1	2	3	4	5	6	7
1.Residential mobility	1.000	.245	.020	-.054	-.158	.067	.201
2.Gender	0	1.000	.178	-.043	.097	.006	.225
3.Marital status			1.00 0	-.142 1.000	.140 -.074 1.000	-.031 .150 .232	.100 -.093 -.265
4.Household size						1.000	.070 1.000
5.Education							
6.Annual income							
7.Kind of job							

Note: All correlations except for that of marital status and household size were statistically significant ($p < .005$). They do not predict residential mobility as independent variables

Table 3: Correlations of the variables in the analysis (N = 415)

Variables	b	SE-b	Beta	Pearson r	sr^2	Structure Coefficient
Constant	1.307	.148				
gender*	.241	.049	.243	.245	0.053	0.716
marital status	-.008	.039	-.011	.020	0.000	0.058
household size	-.044	.031	-.069	-.054	0.005	0.158
education*	-.095	.026	-.190	-.158	0.032	0.462
annual income*	.123	.054	.114	.067	0.013	0.196
kind of job*	.059	.037	.083	.201	0.006	0.588

Note. The dependent variable was dwelling status, $R^2 = .074$, Adjusted $R^2 = .068$
sr^2 is the squared semi-partial correlation.
$* p < .05$.

Table 4: Standard regression results

However, the intercept (.000) is not significantly different from 0 at the 0.05 alpha level and this therefore suggest that a combined effect of all six variables in predicting residential dwelling status in the study area is significant and thus the basis for rejecting the null. Rather, the alternate hypothesis that residential mobility is significantly related with socioeconomic variables such as gender, marital status, household size, education, annual income and kind of job was accepted.

VI. CONCLUSION AND RECOMMENDATIONS

The findings that house ownership remains an important consideration for residential choice-making in the study area also corroborate our findings. This is in addition to the fact that majority live in either personal or family houses in the study area. The findings of this study reveal the need for the provision of adequate housing for low income earners in these locations and elsewhere in the metropolis. The difficulty with which poverty can be measured by the use of housing quality has been further exposed. A combination of other indicators to map urban poverty in these excluded low income residential areas is therefore advocated.

The living conditions of these sampled locations and the ill-planning associated with them thus suggest a potential danger looming. For example, poor planning and development control aside from negligence on the part of power holding company of Nigeria (PHCN) was responsible for the electrocution of tens of people in a football viewing centre in 2017. The difficult terrain of both locations also remains a critical element that needs to be addressed. The terrain in Anantigha is low-lying, liable to flood and therefore a discouragement to investors to locate well-paying jobs to alleviate social exclusion and thus poverty. That of Nyangasang is bedeviled with steep valleys with characteristic gully and sheet erosion, thus limiting access to and from good paying jobs. However, the only attraction to these places is the low cost of land as well as low house rent.

To push the agenda of social inclusion of the urban poor forward, this study shows that local planning effort should concentrate on low income housing, public transport provision and improvement, adoption of non-motorized transport as well as an integrated urban, land use and transport development strategies. This should be focused on acknowledgement of the home and job locations of the urban poor as to bring employment opportunities closer to the urban poor and vice versa.

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