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Assessment of Population pressure on Urban Housing in Ngwa Road, Ohanku and Obohia Parts of Aba South, Abia State Nigeria

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Abstract: ***The effect of population growth on urban housing is a global challenge but the worst examples are found in the developing world which has led to an increased growth of poorly planned cities in the developing world, and loss of aesthetics. The aim of this research is to assess the level of population pressure on urban housing within Ngwa Road, Ohanku and Obohia environs in Aba South local government area in Abia State. The research evaluated housing demand and supply in the area, condition of houses in the area, factors encouraging population growth in the study area and level of compliance of buildings with town planning laws. The study area has an estimated 2021 population of 138017 as projected from 88,951 in 2016 with a growth rate of 2.94%. The research data was collected through household survey, Aba South Town Planning Authority, National Population Commission and the Aba South Street Naming and House Numbering Office. The simple random sampling technique and the purposive sampling technique were employed by the researcher with a sample size of 399.9 at 0.05 confidence level which was determined using the Taro Yamane method for sample size collection. The Principle Component Analysis (PCA), Principle Component Regression (PCR), standard deviation, weighted mean, percentages/proportions to analyze the data collected. The Principal Component Analysis result showed that component I have the highest loading with eigen value of 6.721 while component II has an eigen value of 3.279. The result showed that ease of access to commercial activities and educational level of heads of households are major factors encouraging population growth in the study area. The research revealed a housing demand and supply cluster estimate of 60.11% which was not considered statistically high. The average response of 93.2% is that houses in the study area are in a poor condition. The Aba South town planning authority revealed a 0.741 standard deviation which shows a high level of non-compliance with town planning laws. The research hypothesis was tested using Spearman Rank Correlation test at 0.05 level of confidence and the null hypothesis was accepted. Looking at the Land-Use-Land-Cover images of the area obtained for 3 epochs from 1980-2020, the study area experienced an major growth in rate of housing stock after year 2000 and with increasing population growth, the area may soon be unable to carry the population that will be found there. This research calls the attention of the Abia State government in particular and the federal government in general to address these challenges through recommended public-private partnership and decentralization of pull factors. These recommendations will require periodic reevaluation to ensure the set objectives are met at all times across various spatial environment.***

I. INTRODUCTION

A. Background of Study

When the number of people living in a particular place seems too much for the carrying capacity of the place, it will likely result in pressure on the area and this pressure is manifested in various forms such as persistent infrastructural decay due to steady wear and tear arising from overuse, stretch in services such as security, water and electricity, improper land use and decline in housing quality due to high demand irrespective of quality. This demand for housing has been an issue of global concern as the housing provision still remains one of the most difficult problems facing humanity. According to Gioietta (2019) it is estimated that about 1.6 billion people (more than 20 percent of the world's population) may lack adequate housing. The most adversely affected by inadequate housing are the urban poor, who constitute the majority in the developing countries. In 1930, Mexico City was described as perhaps the most beautiful city in North America and the most exotic Capital city of the hemisphere remained unchanged over the years and timeless in its atmosphere. It was praised as beautifully laid out, with wide streets and avenues, still the "city of palaces" that baron von Humboldt called it in the 10th century. The 70-meter-(200-ft) wide "paseo-de-la-reforma" which is often noted as "*one of the most beautiful avenues in the world*". It was shaded by a double row of trees and lined with luxurious residences. By the 1950s, with a population of over 2 million and an area of 52 sq. km. (20 sq. mi), Mexico-City was no longer unchanged. The old, rich families who formerly resided along the Pasco de-la-reforma had fled from the noise and crowding.

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There "palaces" were being replaced by tall blocks of apartment and hotels. Industries were expanding and multiplying, tens of thousands of rural folk were flooding in from the country side every year. By 2000, with its population estimated at more than 18 million and its area at over 3000 sq. km (1160 sq. mi), the Mexico City Metropolitan Area was among the world's largest urban complexes, the toll exacted by its growth has been heavy. In many squatter neighborhoods, less than some 4 million resident have access to the sewage system. About Five people live in a single room and that room generally is in a hovel in one of the largest slums in the world. (Fellmann, Getis, Getis, Malinowski 2005)

According to Anderson and Galatsidas (2014), Africa and Asia will face numerous challenges in meeting the needs of their growing urban population such as housing and infrastructure. Despite this rapid rate of urbanization in developing countries like Nigeria, there exists poor and inadequate urban housing infrastructure to support the increasing population. Urbanization growth rate has increased in Nigeria over the years. In the 1930s, only 7% of Nigerians lived in urban centers, during the 1950s, it increased to 10%, by the 1970s, it grew to 20%, the 1980s saw it enter 27%, by the 1990s, the percentage of urban dwellers has reached 35% then in 2010, it increased to 43.48% and in 2019, at 51.16% more than half of the nation's population became urban dwellers (Okupe 2002, Statista 2020). The urban population growth has created severe housing problems resulting in overcrowding and in a situation in which 60% of Nigerians can be said to be "houseless persons" (FGN 2004).

Ebie (2009) is of the view that due to the importance of housing and the fact that housing in its entire ramification is beyond mere shelter and all social services and utilities that makes a neighborhood a livable environment. It should now be considered the right of every Nigerian irrespective of social strata to have access to safe and decent accommodation at affordable prices or rentals with secure tenure.

According to Isam'il, Ishaku, Yahaya, Tanko, Ahmed (2015) The Draft of the National Urban Development Policy (2012) notes that Nigerian towns are growing without adequate planning besides, urbanization in Nigeria is characterized by unplanned growth, deteriorating infrastructure and inadequate housing. In addition, Abiodun and Segun (2005) assessed the housing conditions in a typical Nigerian town; they discovered that most of the houses fall short of the basic requirements of decent accommodation and are therefore not conducive for human habitation. Moreover, Amao (2012) examined the rate of urbanization, housing quality and environmental degeneration in Nigeria. He discovered that poor housing quality has serious adverse effects on the environment and the health of city residents.

The Mexico City and Nigeria examples shown above can be seen in most urban areas globally but mostly in the developing countries including Nigeria where the trend seems to have continued unchecked.

II. STATEMENT OF RESEARCH PROBLEM

Ideally, there is supposed to be comfortable accommodation for everyone living within the study area, this accommodation is supposed to create order, improve standard of living, help achieve acceptable public health standard, encourage investors/developers and improve productivity. In developed climes, Houses are built and occupied considering approved capacity, maintenance is periodic and taken seriously, supporting services are efficiently provided, population is put under check through massive education and enlightenment, but in the study area, the reverse is the case. A lot of the houses in the study area are poorly maintained, they lack access to running water which makes it difficult to sustain hygiene, and many have more than three (3) occupants per room leading to high possibility of the outbreak of diseases and a potential threat to public safety. Ogbonna et.al. (2016) examined the determinants of squatter development in southern Aba region of Abia State. The research revealed the interplay of factors like the collapse of the agricultural economy of area, weak institutional governance, poor physical planning at local government level, marginalization of Southern Aba leading to urban sprawl and influx of urban poor into the region, unemployment, ineffective land policies and failure of state government's housing policies. Wizor and Ogbonna (2020) investigated the challenges and prospects of urban residential housing in Aba metropolis, the study revealed that poor economic status, weak housing policies and high population due to low cost of living are some of the are some of the factors creating housing challenges in Aba Metropolis. These challenges are clearly visible in the study area. Also houses in the area are threatened by rain due to drainage overflow, roads that are unfit for vehicular movement and failure of developers to stick to approved plans. These conditions have led to a poor quality of life in the area, drastic devaluation of investments in the area, increased crime rate, reduced the social status of those living there and denying them a sense of belonging. These challenges have brought untold disrepute to the study area to the extent that one feels insulted when described as someone living within the study area and those who actually leave there do not feel comfortable identifying with the area during public discussions. There is therefore the need to examine the challenges posed by this ugly trend in Ngwa road, Ohanku and Obohia with a view to recommending ways to ameliorate the challenges which can be said to be at primary stage for now but will certainly escalate if continuously ignored.

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III. ASSESSMENT OF THE LEVEL OF HOUSING DEMAND AND SUPPLY IN THE AREA

Questions	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)	Level of agreement	Decision
House rent in the study area is expensive for low and middle income earners.	57 (14.40)	94 (23.60)	5 (1.20)	64 (16.00)	179 (44.80)	49.36<50%	Disagree
Houses in the study area are mostly occupied by traders/artisans.	205 (51.20)	97 (24.40)	17 (4.40)	80 (20.00)	0 (0.00)	81.36>50%	Agree
Proximity to business location increases demand for housing within the study area.	177 (44.40)	70 (17.60)	14 (3.60)	50 (12.40)	88 (22.00)	70.00>50%	Agree
Houses in the study Area are fully occupied	28 (7.20)	49 (12.40)	40 (10.00)	76 (18.80)	206 (51.60)	40.96<50%	Disagree
It will be difficult for people who need accommodation in the area to get any	43 (10.84)	29 (7.23)	45 (11.24)	90 (22.49)	193 (48.19)	42.01<50%	Disagree
Traders and artisans are willing to relocate to places farther from their business locations.	173 (43.20)	66 (16.40)	115 (28.80)	20 (5.20)	25 (6.40)	76.96>50%	Agree
Overall assessment	28.54%	16.94%	9.87%	15.81%	28.83%	60.11>50%	Agree

Source: Researchers' computation using SPSS 25.0 and MS-Excel

The result in table 3 above with a cluster estimate of 60.11%>50% indicates that the level of housing demand and supply in the Area is moderate. However, the respondents did not give adequate support that house rent in the study area is expensive for low and middle income earners (since 49.36<50% are in agreement which is less than half of the sampled population size of 399.997). Meanwhile, there is high degree of consent that houses in the study area are mostly occupied by traders/artisans (with 81.36>50% in agreement with the statement); also there is high acceptance of the statement that proximity to business location increases demand for housing within the study area (70.00%>50%) in fact, some respondents confirmed orally that they will prefer a distance that will not require vehicular movement; but still Traders and Artisans are willing to relocate to places farther locations (76.96>50%) if the conditions are right On the other hand, the respondents (40.96<50%) were of counter opinion that Houses in the study Area are fully occupied, they mostly opined that there are reasonable number of houses with lower size occupants. They equally disagreed that it is difficult for people who need accommodation in the area to get any (42.01<50%). Conclusively, the level of housing demand and supply in the study area is not statistically high ($t^* = 1.366$, $p=0.230>0.05$)

IV. CONDITION OF HOUSES IN THE STUDY AREA

Question items	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)	Average response	Decision
The restrooms are not overworked	27 (6.80)	37 (9.20)	61 (15.20)	81 (20.40)	194 (48.40)	41.12<50%	Disagreed
The rooms are not occupied by 2 or more occupants per room	48 (12.00)	62 (15.60)	98 (24.40)	59 (14.80)	133 (33.20)	51.68>50%	Agreed
Houses have steady running water	49 (12.40)	59 (14.80)	8 (2.00)	56 (14.00)	227 (56.80)	42.40<50%	Disagreed
The houses have modern water system toilets	1167 (41.60)	137 (34.40)	6 (1.60)	17 (4.40)	72 (18.00)	75.44>50%	Agreed
Houses are well maintained to ensure comfort	66 (16.50)	74 (18.50)	14 (3.50)	86 (21.50)	160 (40.00)	50.00=50%	Agreed
Houses are protected against challenges such as drainage overflow	53 (13.20)	59 (14.80)	6 (1.60)	89 (22.40)	192 (48.00)	44.56<50%	Disagreed
There are rules on the number of occupants per room/flat	27 (6.80)	37 (9.20)	10 (2.40)	76 (19.20)	249 (62.40)	35.76<50%	Disagreed
Town planning authority come for routine inspection in the area after building	0 (0.00)	3 (0.80)	13 (3.20)	27 (6.80)	356 (89.20)	23.12<50%	Disagreed
Overall assessment	13.66%	14.66%	6.74%	15.44%	49.50%	45.51<50%	Poor

Source: Researchers' computation using SPSS 25.0 and MS-Excel

From the survey result in table 4 it can be deduced that the housing conditions in the area is poor but because of the economic implication of getting a better house, the occupants have chosen to stay until their financial condition improves. In a more specific term, the respondents affirm that the houses within the study area are mostly not overpopulated (51.68>50%), they agreed that the houses have access to modern water system toilets (75.44>50%) though that the houses do not have steady running water (42.40<50%), but are well maintained to ensure comfort (50%). On the other hand, they disagreed that the restrooms are not overworked as less than half of the respondents (41.12<50%) agree with the statement. Also the houses do not give reasonable protection against challenges such as drainage overflow (44.56<50%) and there are no rules on the number of occupants per room/flat (35.76<50%) making it possible for tenants to either sublet part of their apartments or harbor friends and relatives beyond fair period of time and that the town planning authority do not come for routine inspection after building in the area (23.12<50%) which gives room for deviation from approved development pattern. From the t-test result [see Appendix B], the housing conditions in the area is statistically poor (t* = -0.845, p=0.426).

Table 5 Level of compliance with town planning laws

Questions	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Mean	Std.	Decision
Houses in the area are built according to Town Planning guidelines	0 (0.0%)	1 (25.0%)	1 (25.0 %)	2 (50.0%)	0 (0.0%)	2.75	0.957	Reject
There is absolute compliance with town planning laws in the study area	0 (0.0%)	0 (0.0%)	1 (25.0 %)	3 (75.0%)	0 (0.0%)	2.25	0.500	Reject
Town planning laws are very adequate to tackle contemporary housing challenges in the area	0 (0.0%)	0 (0.0%)	1 (25.0 %)	2 (50.0%)	1 (25.0%)	2.00	0.816	Reject
There is adequate punishment for defaulters	1 (25.0%)	2 (50.0%)	0	1 (25.0%)	0 (0.0%)	3.75	1.258	Accept
There is sustainable demand by developers to continue to build in the area	2 (50.0%)	2 (50.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	4.50	0.577	Accept
Town planning authority is saddled with the responsibility of ensuring and maintaining physical aesthetics	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (25.0%)	3 (75.0%)	1.25	0.500	Reject
There is periodic appraisal of the functionality of houses in the area	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (50.0%)	2 (50.0%)	1.50	0.577	Reject
Cluster result						2.57	0.741	Reject

Source: Researchers' computation using SPSS 25.0 and MS-Excel

Based on the response of the town planning authority as shown in table 5 Houses in the area are not built according to town planning guidelines (2.75<3.00). Some developers just buy building materials and start building without even consulting the town planning authority and sometimes even without building plans leading to deviation from town planning laws in the study area

(2.25<3.00) also the town planning laws are not very adequate to tackle contemporary housing challenges in the area (2.00<3.00) and this creates an anomaly that is not envisaged by law giving defaulter the opportunity to exploit that gap.. However, it is accepted that there is adequate punishment for defaulters (3.75>3.00) but since there is no routine inspection after construction, it is likely that the monitoring gap has created an advantage for defaulters. Also there is a sustainable demand by developers to continue to build in the area (4.50>3.00) but it will require strict monitoring to ensure compliance during and after building. On the other hand, it was strongly disagreed that the town planning authority is saddled with the responsibility of ensuring and maintaining physical aesthetics (1.25<3.00), and disagreed that there is periodic appraisal of the functionality of houses in the area (1.50<3.00). Conclusively, the town planning authority provided that the houses in the area do not comply with the town planning laws (mean=2.57<3.00), though contemporary challenges have proven that the laws needs to be updated. (t* = -0.955, p=0.377>0.05)

V. TABLE SHOWING FACTORS ENCOURAGING POPULATION GROWTH IN THE STUDY AREA

Questions	Yes	No	No Response
House rent in the study area is expensive for low and middle income earners.	152	243	5
Houses in the study area are mostly occupied by traders/artisans.	302	80	18
Proximity to business location increases demand for housing within the study area.	248	138	14
Households prefer locations that are organized with beautiful landscape	78	282	40
Most households prefer negotiations through lawyers	72	282	46
Households usually demand for houses with steady running water, security and standard 12 by 12 rooms	238	47	115
Heads of households are mostly O' level holders	157	132	111
Most heads of households own personal cars	79	199	122
Increased commercial activities	311	76	13
Is population on a steady increase	392	0	8

VI. CORRELATION AND PRINCIPAL COMPONENT ANALYSIS

Having determined the perceived factors from the respondents, based on their responses to the questionnaire, effort was made to examine the nature of the relationships among the various identified factors encouraging population growth and their basic underlying structure. From the questionnaire responses a total of 8 variables were isolated from the data. The definition, labeling and parameters of the variables are presented in table 4. The result of the statistical analysis is presented in below.

A. showing Identified Variables Encouraging Population Growth in Areas

Variable Codes	Name of Variable	Variable Label
X1	House rent in the study area is not expensive for low and middle income earners.	HRENT
X2	Houses in the study area are mostly occupied by traders/artisans.	HOCUPY
X3	Proximity to business location increases demand for housing within the study area.	PROXM
X4	Households prefer locations that are organized with beautiful landscape	LSCAPE
X5	Most households prefer negotiations through lawyers	NEGO
X6	Households usually demand for houses with steady running water, security and standard 12 by 12 rooms	WATER
X_7	Heads of households are mostly O' level holders	EDUCA
X_8	Most heads of households own personal cars	PERSON
X_9	Increasing commercial activities	COMEC
X_{10}	Is population on a steady increase	POPUL

These were properly coded to ensure easy handling of data for PCA analysis. This is shown in table 4.6 the result of the correlation analysis is shown in table 4.7

B. Showing Field Data of the variables encouraging population growth

S/N	Locations	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
1	Ohanku	59	112	98	22	19	98	52	39	159	178
2	Obohia	43	102	80	27	34	65	54	20	101	111
3	Ngwa Road	50	88	70	29	19	75	51	20	51	103

The raw data was transformed into a matrix of standard scores, Z, given by the formula:

$$Z = (X - \bar{\bar{X}}) \Big/ \delta$$

Where, Z is standard score; X is each variable; $\bar{X}$ is mean of each variable; δ is standard deviation. The table below shows the matrix of standard scores. This was followed by a correlation analysis of the variables and this yielded a 15 x 15 symmetrical matrix with diagonal unity.

C. Showing Matrix Of Standard Scores For The 8 Variables Isolated From The Responses Collected

Locations	X1	X2	X3	X4	X5	X6	X7	X8
Ngwa road	1.272466	1.151385	1.323501	-1.35873	-0.70711	1.351066	-0.26726	1.414214
Ohanku	-1.17067	0.135457	-0.23017	0.339683	1.414214	-1.03743	1.336306	-0.70711
Obohia	-0.1018	-1.28684	-1.09333	1.019049	-0.70711	-0.31364	-1.06904	-0.70711

D. Showing Correlation Matrix Of Factors Encouraging Population Growth

	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}
X1	1.000									
X2	.479	1.000								
X3	.688	.967	1.000							
X4	-.743	-.943	-.997	1.000						
X5	-.828	.096	-.163	.240	1.000					
X6	.989	.606	.790	-.836	-.734	1.000				
X7	-.599	.416	.169	-.091	.945	-.471	1.000			
X8	.900	.814	.936	-.961	-.500	.955	-.189	1.000		
X9	.596	.990	.993	-.980	-.043	.710	.287	.887	1.000	
X10	.853	.867	.966	-.983	-.414	.922	-.093	.995	.927	1.000

Table above reveals a high association between some variables which indicates the presence of serial autocorrelation as many of the factors provided showed strong correlation with each order. For example, X_1 is strongly correlated with X_5, X_6, and X_8. With these very serious autocorrelations that characterize the data, another statistic was employed to properly explain the data. This was subjected to Principal Component Analysis (PCA). PCA is a powerful multivariate statistical analytical technique which is often employed in geographical examinations to simplify the relationship between large bodies of variables. The PCA analysis was able to collapse the 8 variables into two significant and orthogonal components that explained the variables in the observed data in table above

E. Showing Varimax Rotated Component Matrix of Variables

	Variables	Components	
		I	II
X1	House rent in the study area is expensive for low and middle income earners.	.647	-.763
X2	Houses in the study area are mostly occupied by traders/artisans.	.979	.202
X3	Proximity to business location increases demand for housing within the study area.	.998	-.056
X4	Households prefer locations that are organized with beautiful landscape	-.991	.135
X5	Most households prefer negotiations through lawyers	-.107	.994
X6	Households usually demand for houses with steady running water, security and standard 12 by 12 rooms	.754	-.656
X7	Heads of households are mostly O' level holders	.224	.975
X8	Most heads of households own personal cars	.915	-.404
X9	Increasing commercial activities	.998	.065
X10	Is population on a steady increase	.950	-.313
Eigen value		6.721	3.279
% of variance explained		67.21	32.79
Cumulative % explained		67.21	100.00

The varimax rotation was used to maximize the covariance loadings on each component so as to achieve as many high and as many low loadings as possible while maintaining the orthogonal nature (i.e. the uncorrelation) of the original components. From table above it is clear that the two components explained 100% of the variance while all the components had Eigen values greater than 1.00.

F. Showing Variables with high Loadings on Component I

Variables	Variable Name	Loadings
X2	Houses in the study area are mostly occupied by traders/artisans.	0.979
X3	Proximity to business location increases demand for housing within the study area.	0.998
X4	Households prefer locations that are organized with beautiful landscape	-0.991
X8	Most heads of households own personal cars	0.915
X9	Increasing commercial activities	0.998
X10	Is population on a steady increase	0.950

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G. showing Variables with high loadings on Component II

Variables	Variable Name	Loadings
X5	Most households prefer negotiations through lawyers	0.994
X7	Heads of households are mostly O' level holders	0.975

From the extracted tables of the components for factors encouraging population growth, it is clearly depicted that component 1 and 2 have Eigen values of 6.721 and 3.279 respectively. Thus, component 1 explains 67.21 % of the variations in factors encouraging population growth while component II explains 32.79% of such variation in encouraging population growth in the study area. It was clearly established that variables X2, X3, X4, X8, X9 and X10 loaded highly on component 1. This indicates ***Ease of access to commercial activities*** as factors encouraging population growth in the study area. In component 2, X5 and X7 load highly. This implies that ***Educational level of household head*** affects population growth in the study area. Consequently, it is clear based on the foregoing that the population growth in the study area is encouraged as a result of:

1) Ease of access to commercial activities (Z_1)
2) Educational level of heads of households (Z_2)

Multiple regression analysis was performed on the components to yield a principal component regression (PCR). The Principal Component Regression has been widely acclaimed by researchers to provide a better explanation than least square regression method. The intention of using PCR is to extract the underlying effects in the X data and to use these to predict Y values (Ezenwaji, Nwabineli and Phil-Eze, 2018). Thus, only independent factors were used and as such are expected to improve the quality of the research significantly. The dependent variable is the population growth (X_{10}) with the loading of 0.950 in the first component while the Z_1 and Z_2 are the component defining variables 1 and 2 respectively. The PCR equation expressing the close possible relationship between Population growth and 2 specified independent component variables is:

$$Y\ (X_{10}) = 66.55 + 0.967(Z_1) - 0.221\ (Z_2)$$

The summary of the result is shown in below.

H. Result of PCR analysis

Statistics	Result
Multiple correlation	1.000
Coefficient of Determination (R^2)	1.000
Standard Error of Estimate (SEE)	0.000

The relative importance of the variables was computed using values of multiple correlation coefficient obtained by introducing successive independent variables at each computation i.e. Ry.x, Ry.x_1x_2, etc. (Ezenwaji et al., 2018). The difference between the squared multiple correlation (R^2) is then regarded as the contribution of each variable.

I. Relative Contributions of the Variables

Variable	Multiple R	R^2	R^2 change
Z_1	0.975	0.951	95.1
Z_2	-0.257	0.066	-88.1

VII. POPULATION OF THE STUDY AREA

Year	Total population	Growth rate (%)
2016	88951	
2021	138017	2.94

Source: National Population Commission

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Estimated Geometric Projection of the population of the study area from 2016 to 2021 (5 years) at a growth rate of 2.94%. Calculate thus; $X(t) = Xo \times (1 + r)\, t$

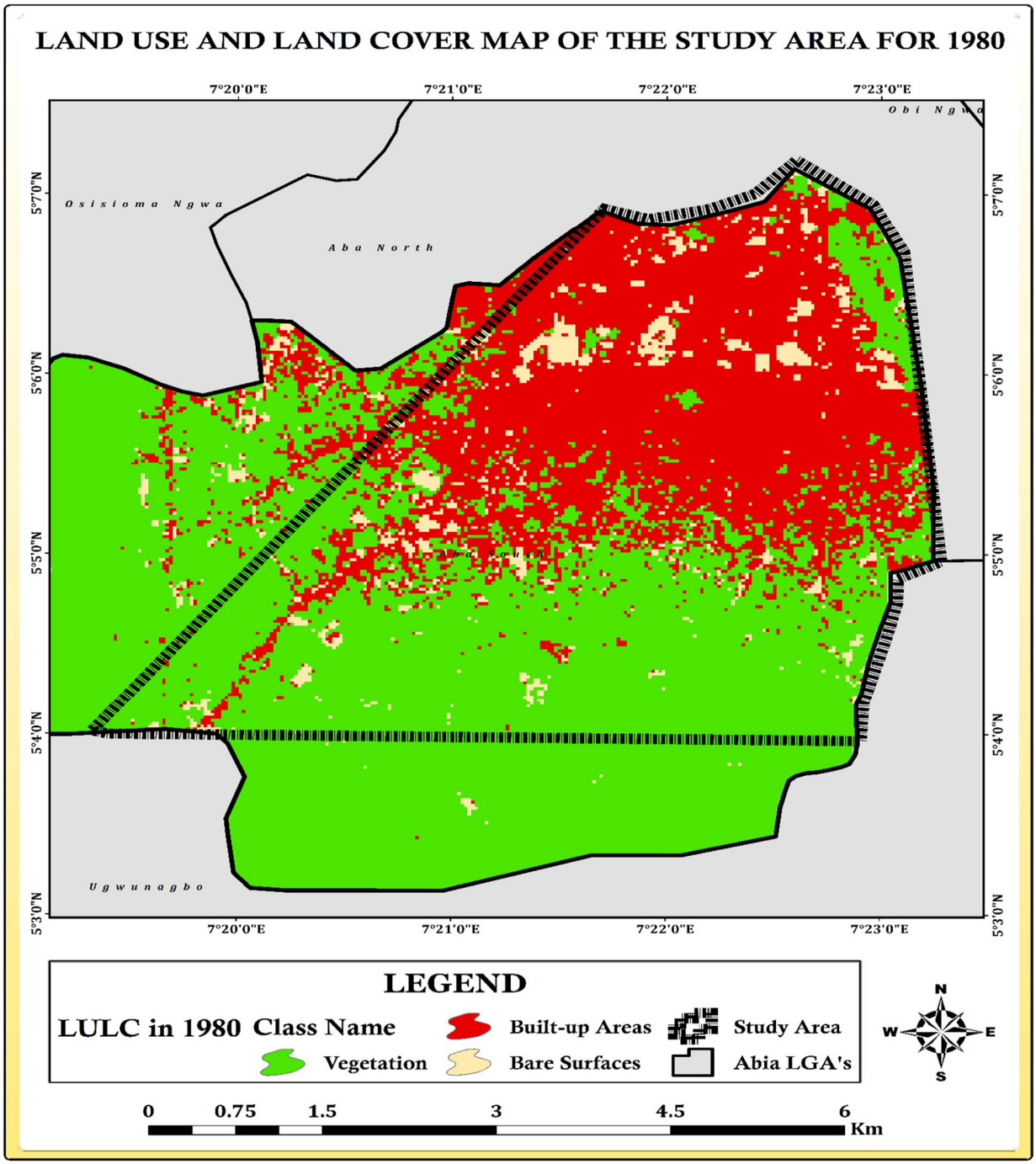
Where X (t) is final population after time (t)

Xo is initial population

R is Rate of growth

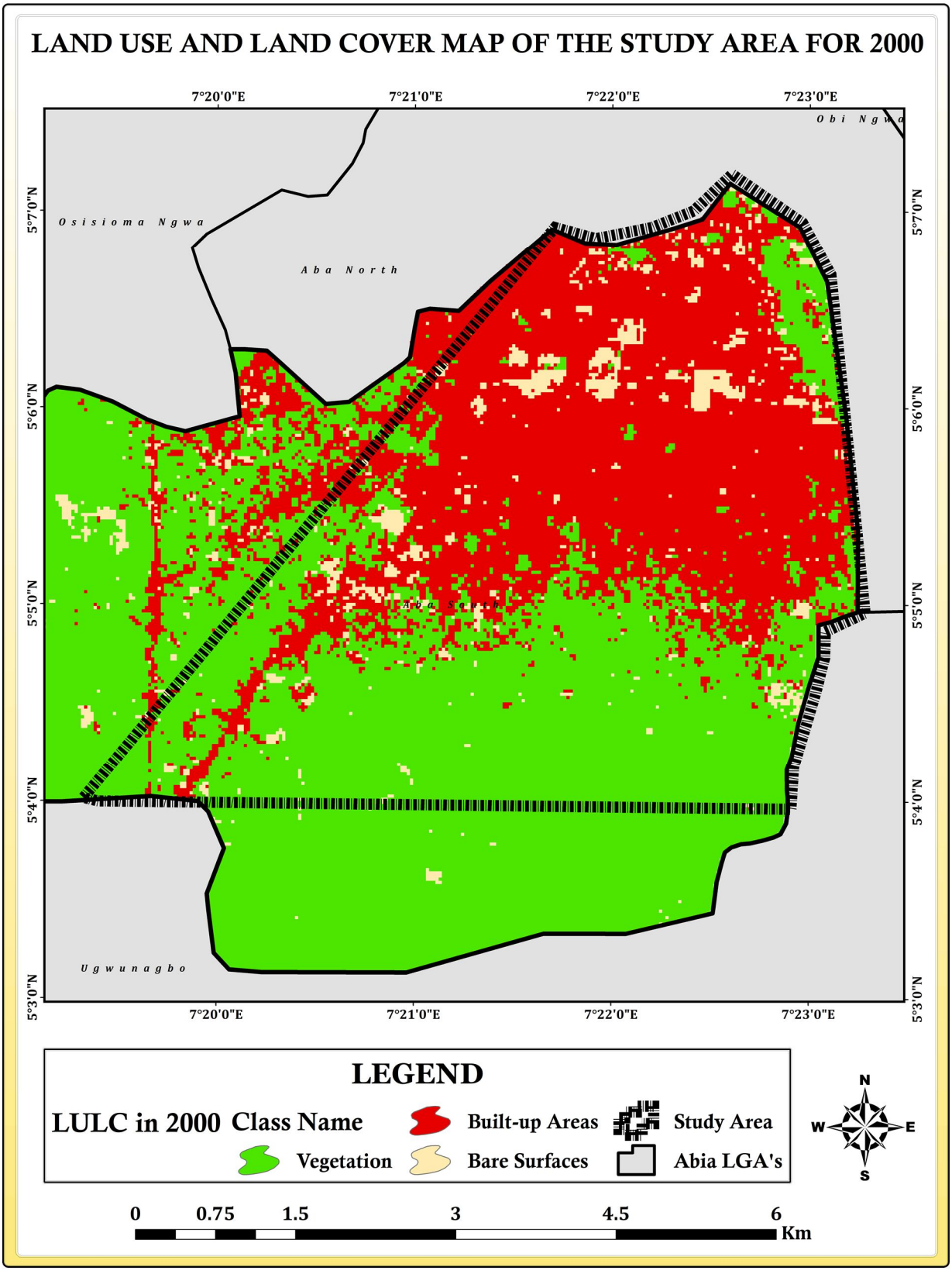
T is total time (5 years)

Final population is equal to 138017



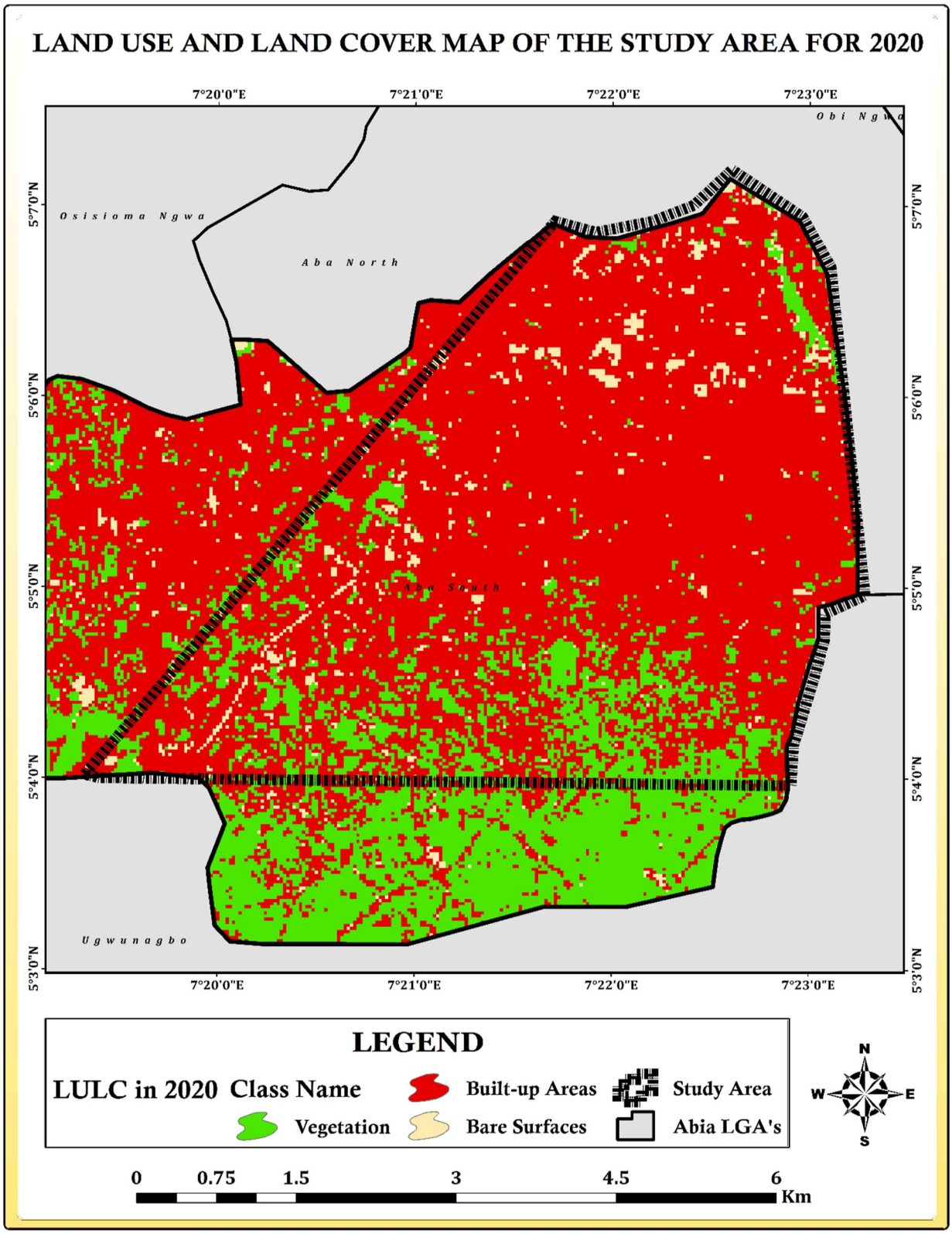
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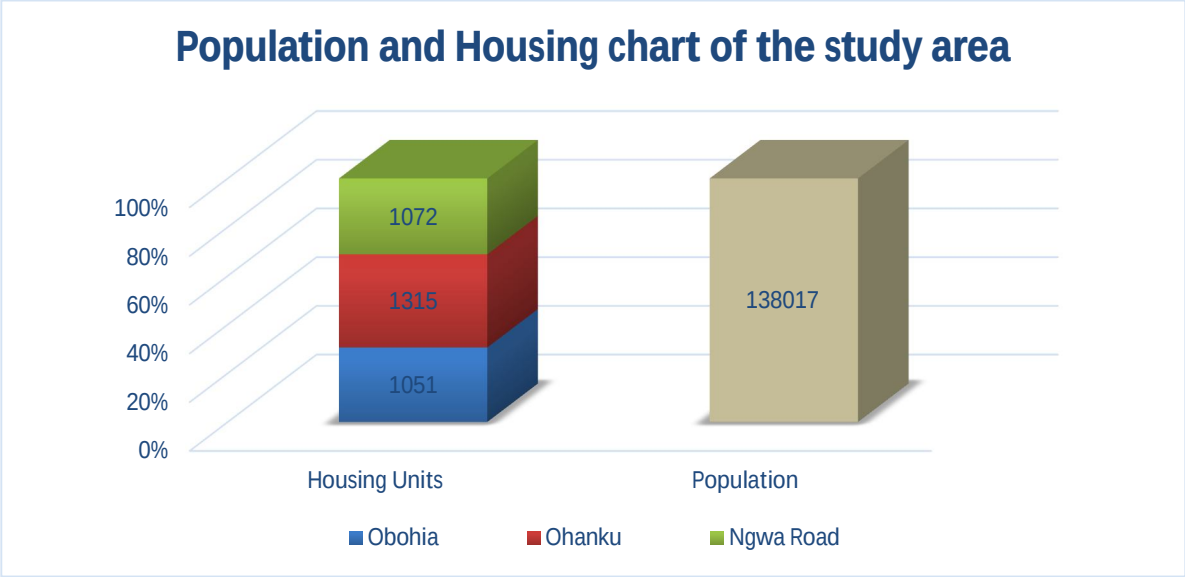
Source: Abia State Ministry of Lands and Survey

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VIII. HOUSING STOCK WITHIN THE STUDY AREA

The study Area comprises of three (3) major areas known as Ngwa road, Ohanku and Obohia with the area almost fully occupied except for few sites with bare surface and uncompleted building which has been taken over by grass. The household units captured are excluding buildings used as stores, churches, banks, hospitals, bakeries and warehouses thus (see appendix E);

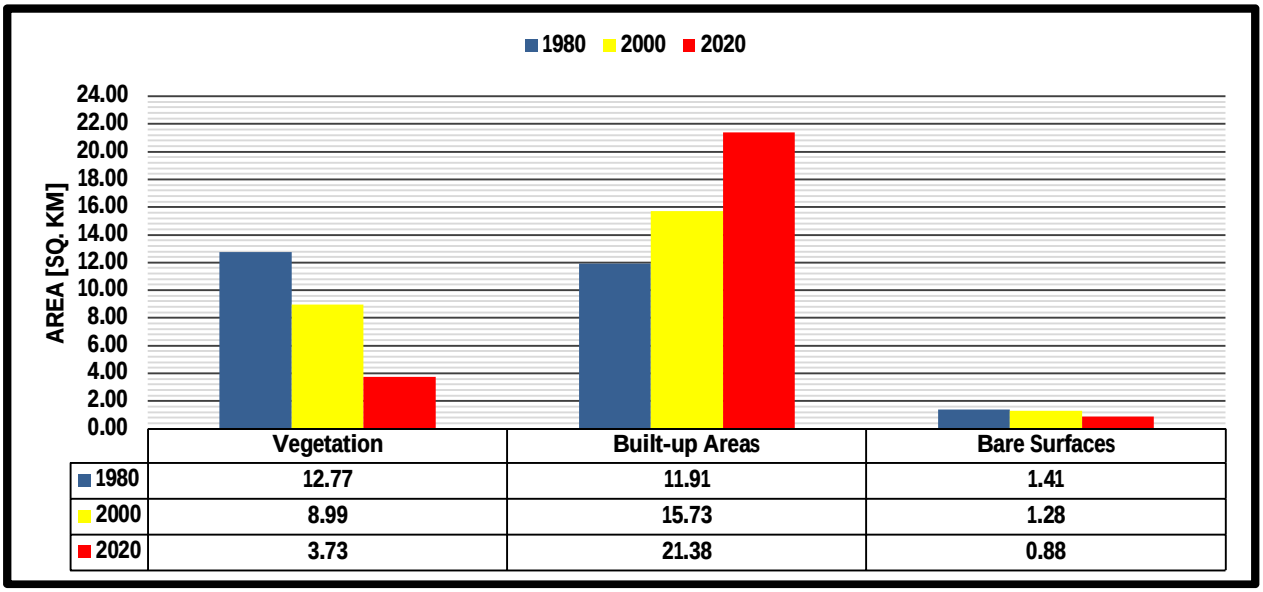
A. Graphical Representation of Household units and Population in the study Area



Showing the Housing stock and population of the study area

Tab 9.1 above shows a total of 3438 household units carrying a 2021 projected population of 138017 in the study area. With an annual average approval of 130 houses in the study area as given by the Aba South Town Planning Authority, there is expected annual increase in the housing stock though with possible growth in population. This report already points to the possibility that the study area is generally crowded and calls for an emergency review of the reasons behind this huge population in such small area.

B. Effect of Population pressure on the built environment of the study area from 1980- 2020



	Vegetation	Built-up Areas	Bare Surfaces
1980	12.77	11.91	1.41
2000	8.99	15.73	1.28
2020	3.73	21.38	0.88

IX. CONCLUSION OF FINDINGS

Based on the Researchers' analysis, housing stock, population data and land use land cover imagery analysis of 1980, 2000 and 2020, the population of people in the study area have continued to grow over time with visible increase in the level of housing demand which is a major contributor to the visible increase in the size of built up area from 1980-2020, careless establishment of markets and stores, dilapidated supporting infrastructures such as roads and drainages, absence of top quality investments, loss of confidence in the prospects and potentials of the area and establishment of ghettos and shanties within the study area. There is the need for urgent solution to the multifaceted challenges faced by people within the study area which is basically as a result of improper planning for the imminent population growth, obsolete town planning laws, poor emphasis on monitoring and compliance. These are responsible for the myriads of challenges prevalent within the area which makes it attractive to crime and disharmony.

X. SUMMARY OF FINDINGS

The study assessed population pressure on urban housing within Ngwa road, Obohia and Ohanku parts of Aba South revealed a steady increase in the population size due to proximity to the market as most of those living in the area are traders and artisans and imbalance between housing stock and population in the study area. The Land-Use-Land-Cover analysis of the area depicts increased urbanization and acute loss of vegetation, there is also poor housing condition, shallow town planning laws with poor monitoring especially after construction and no local regulation to avoid overcrowding in terms of both housing stock and number of occupants per room/flat.

XI. CONCLUSION

Population growth and housing in the study area are inexplicable phenomena that should be considered together to ensure harmony and address spatial and social dis-functionalities that is currently found within the study area. There is need to empower local authorities to regulate the type and number of buildings in the area to help reduce the pressure and concentration within the study area.

XII. IMPLICATIONS OF FINDINGS

The findings is an indication that standard of living in the study area is quite low. It highlights the high probability of disease outbreak, increased crime rate, poor access to census enumerators, social and emergency services and massive disconnection between the people and government if nothing is done quickly to nip the ugly trend in the bud.

XIII. RECOMMENDATIONS

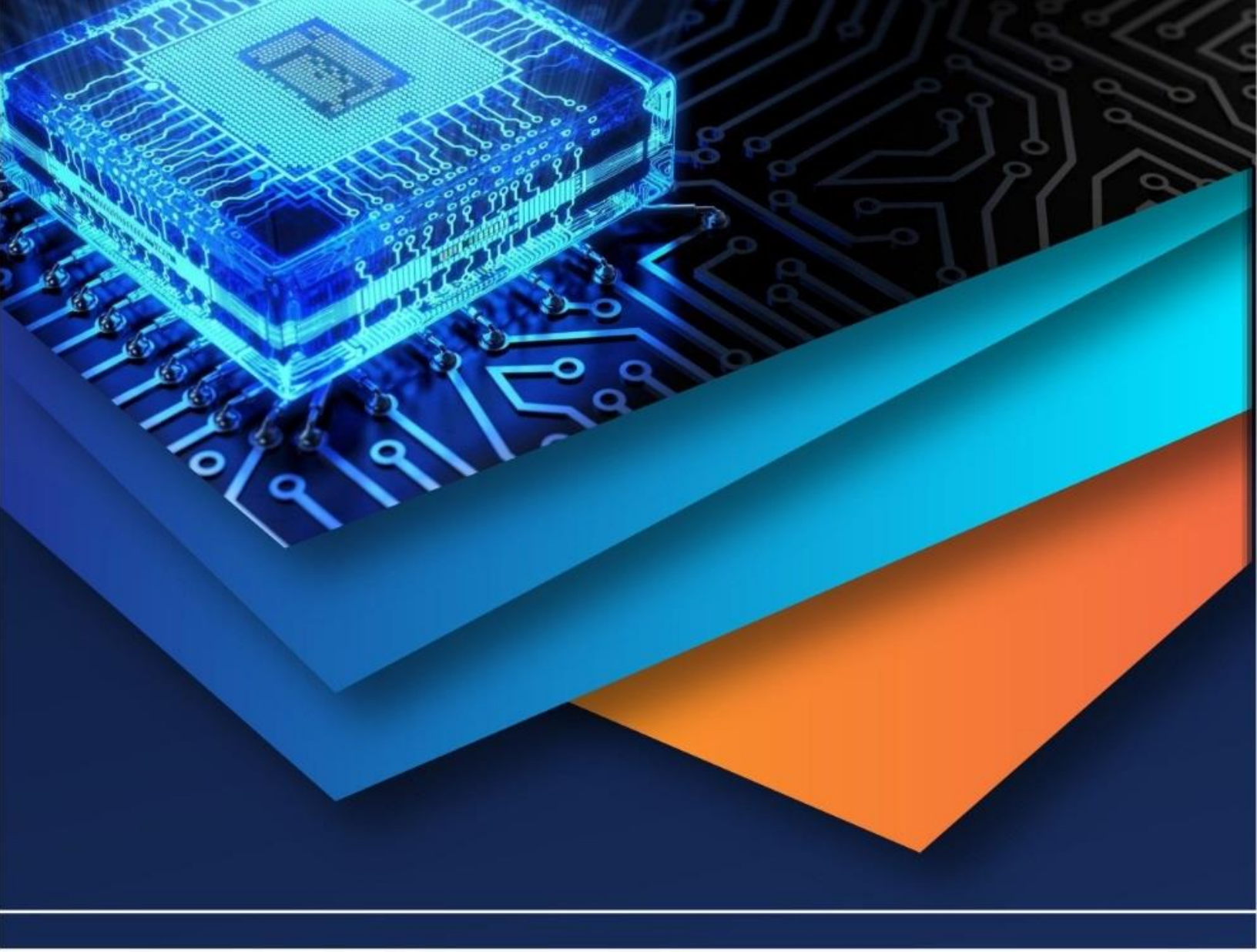
To significantly reduce the effect of these findings, the following solutions are proposed to ameliorate these challenges; a more robust town planning law that will capture and periodically monitor approved number of occupants per room/flat using GIS techniques, regular physical maintenance by property owners to ensure there is no deviation from approved standard. Also on a larger scale, a private sector driven housing provision policy where tier-one banks can be asked to set aside 5% of their annual profit for maybe 5 years then the same bank will use the fund to set-up a mortgage package targeted at low income earners with turnover of not more than 2 million naira per year. The capacity of their businesses which will be determined by the bank's evaluation of their businesses, the mortgagor's payment of 10% equity contribution and the provision of a guarantor shall be the collateral needed to secure a housing loan. Upon agreement by the parties involved, a real estate institute shall be contracted to execute the housing project based on approved standard and specification and the mortgagor pays back the loan monthly as stated in a repayment schedule. Since most of the occupants in the area are traders and artisans, the decentralization of the markets which is a pull factor will also help spread economic activities to other parts of the state and reduce pressure on the study area. The government is also expected to champion the acceptability of bottle/plastic houses by using such houses and advertising the builders. Also the Moladi construction which is a South African building technology should be further examined in terms of material importation or substitution to see the possibility of achieving quality housing at a lower cost.

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