

**HOUSING SATISFACTION ATTRIBUTES AMONG HOUSEHOLDS IN
UYO CAPITAL CITY TERRITORY, AKWA IBOM STATE, NIGERIA.**

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FACULTY OF ENVIRONMENTAL STUDIES

UNIVERSITY OF NIGERIA

ENUGU CAMPUS

JANUARY, 2015

TITLE PAGE

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ENUGU CAMPUS**

JANUARY, 2015.

CERTIFICATION

This is to certify that Etuk, Emmanuel Okon with registration Number PG/Ph. D/06/45782 was a postgraduate student of the Department of Urban and Regional Planning, Faculty of Environmental Studies, University of Nigeria, Enugu. He has satisfactorily completed the requirements for the award of Ph.D in Urban and Regional Planning.

This thesis embodies an original work and has not, to the best of my knowledge, been submitted in part or whole for award of any other degree of this or any other university.

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DEDICATION

This thesis is dedicated to my dear wife, Barr/Mrs Udaug, Emmanuel Etuk and all my children: Arc Solomon Etuk, Dr Emmanuel Etuk, Barr. Emem-Abasi Etuk, Mfon-Abasi Etuk and Jerry Emmanuel for their continual love and support.

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ABSTRACT

In Nigeria, attempts at determining household housing satisfaction based on household income are often not guided by rigorous parameters. Past housing policy lumped income groups together, variations in income levels notwithstanding. Housing satisfaction aspirations of many people were frustrated. The unwholesome condition manifested in building alteration practices from their original forms to households' desirable forms. The study is aimed at determining indices for various income groups in Uyo base on their identified housing satisfaction attributes and by implication guide future housing policies and programmes.

In order to achieve the set goal, specific objectives were formulated to: (i) identify and classify satisfaction factors for the various income groups in Uyo, (ii) examine differences among the various income groups in Uyo, (iii) determine attributes for the low, medium, and high-income groups in Uyo, (iv) examine the relationship between housing satisfaction and socio-economic backgrounds of households and (v) determine correlations between housing satisfaction and types of house ownership by households in Uyo.

The study adopted survey research design. Primary data were collected aided by structured questionnaire and interview while secondary data were obtained mainly from published and unpublished materials. The study covered an area measuring 15 kilometers radius which cuts across six other local government areas of Akwa Ibom State. The population of the study is 61,192 household heads. A total of 1783 questionnaire, representing 0.3 percent of the sampled population was distributed to household heads. Williams (1978) formula for determining sampled population as was adopted by Kerlinger and Lee (2000) was used to determine the sampled population. Stratified random sampling technique was used to draw the sample for the study. Of the 1,783 questionnaire distributed, 1,560 were returned. The instrument for the study was a structured questionnaire containing twenty-one questions. Respondents responded to on a 5- point Likert Scale. Test of reliability of the questionnaire was conducted using Cronbach alpha and the result of 0.80 was obtained while its validation were carried out by three experts: my supervisor, a statistician and a lecturer from my department.

Four statistical tools were employed in the analysis to test five hypotheses. 1. Principal Component Analysis (PCA), used for testing hypothesis one and three, 2. Analysis of variance (ANOVA) was used to test hypothesis two; 3. Multiple Linear Regression (MLR-Stepwise Method) was used to test hypothesis four; 4. Spearman Correlation Technique was used to test hypothesis five.

The study identified and classified fourteen significant satisfaction factors that influenced housing satisfaction of various income groups which were:

architectural/neighbourhood facilities, convenience and recreational, housing amenities/aesthetics, public facilities and security, community facility and comfort, housing investment reward, housing materials and design, health considerations, protection against hazard, functional housing amenities, ease of movement and leisure, housing facilities, structural stability/facilities, and cross ventilation. These factors had cumulative percentage of variance explained with Eigen Value of 54.746 representing 96.78 percent of the total variability of the model. The result show differences among the three income groups in the study area as the one-way ANOVA result was (df 2 (1557), $F=34.829$, $P = 0.000$, $p < 0.05$ significant level), as medium and high-income groups were in one sub-set and low and high-income groups were in a different subset. PCA housing satisfaction analysis for the three income groups showed 81.11%, 81.98% and 84.15% for low, medium and high. Housing satisfaction related with only two socio-economic variables: education and income levels with a fine fit (R^2 adjusted = 90.90%) indicating strong relationship, excluding age that was insignificant. House owners and tenants co-related at 0.01 with 0.87 correlation using Spearman's Correlations technique. The major findings of the study attested that housing satisfaction factors are the determinants of housing satisfaction among households in Uyo Capital City Territory, and in similar Nigerian cities.

TABLE OF CONTENTS

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CHAPTER ONE

1.0 INTRODUCTION	-	-	-	-	-	-	-	-	1
1.10 Background of the Study	-		-	-	-	-	-	-	1
1.20 Statement of the Problem			-	-	-	-	-	-	4
1.30 Goal and Objectives	-	-	-	-	-	-	-	-	8
1.31 Goal	-	-	-	-	-	-	-	-	8
1.32 Objectives	-	-	-		-	-	-	-	8
1.40 Research Questions	-	-	-	-	-	-	-	-	9
1.50 Statement of Hypotheses	-		-	-	-	-	-	-	9
1.51 Presentation of Variables	-		-	-	-	-	-	-	10
1.60 Scope of the Study	-	-	-	-	-	-		-	13
1.70 Limitations of the Study			-	-	-	-	-	-	14
1.80 Significance of the Study	-		-	-	-	-	-	-	15
1.90 - Organization of the Study			-	-	-	-	-	-	17
1.100 Definition of Terms	-		-	-	-	-	-	-	17

CHAPTER TWO

2.0 THEORETICAL FRAMEWORK	-	-	-	-	-	-	19
2.10 The Fundamental Theory of Supply and Demand	-	-	-				19
2.11 The Application of Theory of Demand, Supply, and Market to Housing Satisfaction	-	-	-	-	-	-	20
2.20 Cobweb Theory to Demand, Supply, and Price						-	25
2.30 Model for Generating Optimal Housing Mechanism	-					-	28
2.40 Basic Satisfaction Approaches and Conceptualization						-	31
2.50 Expectancy Theory	-		-			-	36
2.60 Theory of Basic Satisfaction	-	-				-	37
2.70 Theory of House Ownership and Housing Satisfaction						-	40
2.80 Theory of Residential Neighbourhood and Eco-Housing						-	42
2.90 Differences in Conceptualization of Shelter and Housing						-	46
2.100 Strength, Weaknesses and Gap of Theoretical Framework						-	50

CHAPTER THREE

3.0 LITERATURE REVIEW	-	-	-	-	-	-	53
3.10 Global Overview of Housing Satisfaction				-	-	-	53
3.20 Identification of Factors and Measurement of Housing Characteristics	-	-	-	-	-	-	57

3.30 Differences in Housing Satisfaction among various Income Groups	69
3.40 Predictors of Housing Satisfaction Attributes among Income Groups	76
3.50 Development of Socio-economic Indicators for Measurement of Housing Satisfaction - - - - -	78
3.60 Assessment of Tenants' and House Ownership Statuses with Housing Satisfaction - - - - -	88
3.70 Other Related Studies on Housing Satisfaction - - -	92
3.71 Methods of Assessing Household Housing Satisfaction - -	92
3.72 Socio-Cultural, Land Use Policy and Housing Satisfaction - -	95
3.73 Review of Households' Participation in Housing Programmes -	108
3.74 Existing Housing Situation in the Southern Nigeria - -	111

CHAPTER FOUR

4.0 THE STUDY AREA - - - - -	115
4.10 Geographical Location of Uyo Capital City Territory 115	- -
4.20 Historical Background of Uyo Capital Territory - - -	119
4.30 Physical Features of Uyo Capital City Territory 121	- - -
4.31 Topography and Drainage - - - - -	121
4.32 Climate- - - - -	122

4.33 Vegetation	-	-	-	-	-	-	-	-	-
126									
4.34 Temperature	-	-	-	-	-	-	-	-	-
127									
4.35 Soils	-	-	-	-	-	-	-	-	-
127									
4.40 Existing Housing and Demographic Situation in Uyo	-							-	-
128									
4.41 Population and Population Growth Trend	-	-	-	-	-	-	-	-	-
128									
4.42 Existing Housing Situation in Uyo Capital Territory	-	-	-	-	-	-	-	-	-
130									
4.50 The Case Study of Sectorial Zones	-	-	-	-	-	-	-	-	-
132									
4.51 The Sectorial Divisions of Uyo Capital Territory	-	-	-	-	-	-	-	-	-
132									

CHAPTER FIVE

5.0 METHODS AND PROCEDURS	-	-	-	-	-	-
144						
5.10 Method of Data Collection-	-	-	-	-	-	-
144						

5.11 Secondary Materials	-	-	-	-	-	-	-
144							
5.12 Primary Materials	-	-	-	-	-	-	-
145							
5.20 Sample Frame and Sample Size	-			-	-	-	-
145							
5.21 Sample Frame	-	-	-	-	-	-	-
145							
5.22 Sample Size	-	-	-	-	-	-	-
145							
5.23 Stratified Sampling Technique	-	-	-	-	-	-	-
147							
5.24 Stratified Random Sampling Technique Application	-				-	-	-
148							
5.25 Questionnaires Distribution	-	-	-	-	-	-	-
152							
5.40 Description of the Questionnaire Format	-			-	-	-	-
153							
5.50 Description of Statistics Used in the Analysis	-			-	-	-	-
155							
5.51 Descriptive Statistics	-	-	-	-	-	-	-
155							

5.52 Inferential Statistics -	-	-	-	-	-	-	-
156							
5.521 Principal Component Analysis (PCA)	-	-	-	-	-	-	-
156							
5.522 Analysis Of Variance (ANOVA)	-	-	-	-	-	-	-
160							
5.523 Multiple Linear Regression (MLR)	-	-	-	-	-	-	-
162							
5.524 Spearman Correlation Technique (rs)	-	-	-	-	-	-	-
165							
5.60 Validation and Reliability of Instruments	-	-	-	-	-	-	-
166							

CHAPTER SIX

6.0 DATA PRESENTATION, ANALYSIS, AND INDINGS	-	-	-	-	-	-	-
167							
6.10 Data Presentation and Analysis	-	-	-	-	-	-	-
167							
6.11 Sex of the Respondents	-	-	-	-	-	-	-
167							
6.12 Age of the Respondents	-	--	-	-	-	-	-
168							

6.13 Marital Status of the Respondents	-	-	-	-	-
169					
6.14 Educational Status of the Respondents	-	-	-	-	-
170					
6.15 Household Size of the Respondents	-	-	-	-	-
171					
6.16 Duration of living of the Respondents	-	-	-	-	-
172					
6.17 Occupation of the Respondents	-	-	-	-	-
173					
6.18 Income level of the Respondents	-	-	-	-	-
174					
6.19 Expenditure Pattern of the Respondents	-	-	-	-	-
176					
6.20 Types of housing occupied by Respondents	-	-	-	-	-
177					
6.21 Transportation Mode and Option of the Respondents	-	-			
178					
6.30 Satisfaction with Access to Housing and House Ownership	-	-			
179					
6.31 Satisfaction with House Ownership of the Respondents	-	-			
179					

6.32 Reasons for Tenant's Household inability to own a house	-		
181			
6.33 Tenants' Savings Initiatives to attain House Ownership Status	-		
182			
6.34 Tenants Satisfaction with Access to Public Housing	-	-	-
183			
6.35 Tenants Satisfaction with Access to Private Housing	-	-	-
184			
6.36 Tenants Satisfaction with Access to Official Quarters	-	-	
186			
6.37 Landlord's Satisfaction with Use of Foreign and Local Building			
Materials	-	-	-
187			
6.38 Landlord's Benefited from Public Housing Programmes	-	-	
190			
6.381 Landlord's Satisfaction with Public Constructed Housing	-	-	
192			
6.39 Reasons for Landlord's Inability to Benefit from Public Housing	-		
193			
6.40 Selection of Primary Housing Satisfaction Determining Variables	-		
194			
6.41 Analysis of the 66 Primary Housing Variables	-	-	-
198			

6.42 Analysis of Housing Satisfaction Levels for Low, Medium and High

Income Groups - - - - - - - -
206

6.43 Principal Component Analysis for Low Income Group - -
208

6.44 Principal Component Analysis for Medium Income Group - -
211

6.45 Principal Component Analysis for High Income Group - -
214

6.50 Test of Research Hypotheses - - - - - -
216

6.51 Research Hypothesis One - - - - - -
216

6.52 Research Hypothesis Two - - - - - -
219

6.53 Research Hypothesis Three: - - - - - -
220

6.54 Research Hypothesis Four:- - - - - - -
226

6.55 Research Hypothesis Five - - - - - -
228

6.60 Discussions of Findings - - - - - -
229

6.61 Objective One	-	-	-	-	-	-	-	-
229								
6.62 Objective Two-	-	-	-	-	-	-	-	-
240								
6.63 Objective Three	-	-		-	-	-	-	-
242								
6.64 Objective Four	-	-	-		-	-	-	-
246								
6.65 Objective Five	-	-	-	-	-	-	-	-
251								
6.70 Summary of Findings	-	-	-	-	-	-	-	-
255								

CHAPTER SEVEN

7.0 RECOMMENDATIONS AND CONCLUSION	-	-	-					
258								
7.10 Recommendations	-	-	-	-	-	-	-	-
258								
7.20 Conclusion	-	-	-	-	-	-	-	-
260								
7.30 Policy Guidelines and Contribution to Knowledge	-	-						
262								
References	-	-	-	-	-	-	-	-
263								
Appendixes	-	-	-	-	-	-	-	-
284								

Questionnaire - - - - -
315

LIST OF TABLES

Table 5.1 Sample Size Distribution per Sector	-	-	--	-
148				
Table 5.2 Showing Questionnaires Distribution and Rate of Return	-			
153				
Table 5.3: Showing the Format of ANOVA Output Summary Table	-			
162				
Table 6.1 Sex of the Respondents	-	-	-	-
167				
Table 6.2 Age Group of the Respondents	-	-	-	-
168				
Table 6.3 Marital Status of the Respondents	-	-	-	-
169				
Table 6.4: Educational Status of the Respondents	-	-	-	-
171				
Table 6.5: Household Size of the Respondents	-	-	-	-
171				
Table 6.6: Duration of living of the Respondents	-	-	-	-
173				
Table 6.7 Occupation of the Respondents	-	-	-	-
174				
Table 6.8 Monthly Income level of the Respondents	-	-	-	-
175				

Table 6.9 Expenditure Pattern of the Respondents -	-	-	-
176			

Table 6.10 Type of housing of the Respondents -	-	-	-
178			

Table 6.11(a) Transportation Mode of the Respondents -	-	-	-
179			

Table 6.11(b) Transportation Option of the Respondents -	-	-	-
179			

Table 6.12 House Ownership Status of the Respondents -	-	-	-
180			

Table 6.13 Reasons for Tenants' Respondent inability to own a house -			
181			

Table 6.14: Tenant Savings Initiatives to attend House

Ownership Status -	-	-	-	-	-	-	-
183							

Table 6.15 Tenants Satisfaction with Access to Public Housing -	-	-
184		

Table 6.16 Tenants Satisfactions with Access to Private Housing-	-
185	

Table 6.17 Tenants Satisfaction with Access to Official Quarters -	-
187	

Table 6.18 (a) Landlord's Satisfaction with Foreign Building Materials	-
188	

Table 6.18 (b) Landlord's Satisfaction with Local Building Materials	-
189	

Table 6.19 Landlord's Beneficiaries from Public Housing Programmes	-
191	

Table 6.20 Landlord's Satisfaction with Public Constructed Housing	-
192	

Table 6.21 Reasons for Landlord's Inability to Benefit from	
Public Housing	- - - - -
193	

Table 6.22 Sixty-Six Identified Housing Determining Variables	- -
194	

Table 6.23: Extraction of Fourteen Housing Satisfaction Factors in their	
order of Importance	- - - - -
200	

Table 6.24 Groupings of Fourteen Housing Satisfaction	
Secondary Factors	- - - - -
201	

Table 6.25 Low Income Housing Satisfaction Factors and Loading	-
210	

Table 6.26 Medium Income Housing Satisfaction Factors and	

Previous Studies - - - - - - -

239

LIST OF FIGURES

Fig.2.1: Model of Demand and Supply as it relates to Housing Provision	19
Fig.2.2: Demand and Supply market mechanism as it relates to Housing Provision	24
Fig.2.3: Constant Amplitude Model	26
Fig 2.4: Stable Equilibrium Model	27
Fig 2.5: Model Generating Optimal Housing	30
Fig: 4.1 Map of Akwa Ibom showing (15km) limit of Uyo Capital Territory	116
Fig: 4.2 Map of Uyo Capital Territory Showing 15km Limit	117
Fig. 4.3 Aerial Map Showing Extent of Uyo Capital Territory	118
Fig. 4.4 Aerial Map Showing Hydrology and Drainage of Uyo Capital Territory	122
Fig. 4.5 Map of Akwa Ibom Showing Rain Distribution	125
Fig: 4.6 Histogram Showing Population Growth of Akwa Ibom State	129

Fig.4.7 Master Plan of Uyo Capital Territory Showing Eight

Sectoral Divisions - - - - -	-	-	-	-	-	-	-
133							
Fig.4.7 (i) Sector I (Existing built-up Neighbourhood)	-	-	-				
135							
Fig.4.7 (ii) Sector II (Semi-built-up residential Neighbourhood)	-	-					
136							
Fig.4.7 (iii) Sector III (Semi-built-up residential Neighbourhood)	-	-					
137							
Fig.4.7 (iv) Sector IV (Semi-built-up residential Neighbourhood)	-	-					
138							
Fig. 4.7(v) Sector V(Semi-built-up residential Neighbourhood)	-	-					
139							
Fig.4.7(vi) Sector VI (Semi-built-up residential area)	-	-	-				
140							
Fig. 4.7(vii) Sector VII (Semi-built-up Industrial Neighbourhood)	-	-					
141							
Fig.4.7(viii) Sector VIII (Govt. and Central Commercial							
Neighbourhood)	-	-	-	-	-	-	-
143							
Figure 6.1Sex of the Respondents	-	-	-	-	-	-	-
168							

Figure 6.2 Age Group of the Respondents	-	-	-	-	-
169					
Figure 6.3 Marital Statuses of the Respondents	-	-	-	-	
170					
Figure 6.4 Educational Statuses of the Respondents		-	-	-	
170					
Figure 6.5 Household Sizes of the Respondents	-	-	-	-	
172					
Figure 6.6 Occupations of the Respondents	-	-	-	-	-
174					
Figure 6.7 Income level of the Respondents	-	-	-	-	-
175					
Figure 6.8 Expenditure Patterns of the Respondents		-	-	-	
177					
Figure 6.9 Type of housing of the Respondents	-	-	-	-	
178					
Figure 6.10 House Ownership Statuses of the Respondents-		-	-		
180					
Figure 6.11 Reasons for the Tenant's Respondent inability					
to own a house	-	-	-	-	-
182					

Figure 6.12 Respondents Tenant Savings Initiatives for House

Ownership - - - - - - - - - -

183

Figure 6.13 Tenants Satisfaction with Accessibility to Public Housing-

184

Figure 6.14 Tenants Satisfaction with Accessibility to Private Housing-

186

Figure 6.15 Tenant's Satisfaction with Accessibility to

Official Quarters - - - - - - - - - -

187

Figure 6.16 (a) Landlord's Satisfaction with Foreign Building Materials- 189

Figure 6.16 (b) Landlord's Satisfaction with Foreign Building Materials-

190

Figure 6.16 (c) Landlord's Satisfaction with Local Building Materials -

190

Figure 6.17 Landlord's benefited from Public Housing Programmes-

191

Figure 6.18 Landlord's Satisfaction with Public Constructed Housing-

192

Figure 6.19 Reasons for Landlords' Inability to Benefit from Public

Housing - - - - - - - - - -

193

CHAPTER ONE

1.0 INTRODUCTION

1.10 Background of the Study

Housing all over the world has remained an interdependent phenomenon that affects every facet of humanity. The importance of housing satisfaction globally imparts on the social, physical, and psychological well being of every household, irrespective of socio-economic status, colour and race.

Over the last three decades, Nigeria, like several developing countries, has emphasised affordable housing schemes, but with little success (Ogu, 2002). Nigeria has a population of over 140 million people (PCN, 2006). Considering this figure, to provide adequate and satisfactory housing for Nigerian households is definitely an issue of dire national importance. Housing experts in Nigeria however believe that, more than 50 percent of Nigerians are without satisfactory shelter (Sule, 1982; Gyuse, 1984; Wahab, 2002; and Ogunleye, 2000). Accordingly, the Federal Mortgage Bank of Nigeria, (2010) recommended that by the year 2015, about N56 trillion would be required to provide 16 million public housing units for the low-income group alone in Nigeria.

The government effort so far was strongly attached to the producers' specifications rather than the end users' satisfaction attributes. In effect, the propensity of a household deriving satisfaction from a housing unit occupied depends on a variety of factors. One is that, policy makers consider all income groups together in housing policy programmes, differences in household income groups notwithstanding. Housing providers often always assume that house seekers are desperately in need of a house, their desired housing satisfaction requirements notwithstanding. Olatubara (1996) confirmed this claim by arguing

that, the decisions of policy makers on housing programmes hardly include satisfaction requirements of all income groups, as their evaluation of household units in most housing programmes is not comprehensive.

Nigeria's housing needs is high up to the average rate of 3.0 percent per annum (Ajanlekoko, 2001). This situation is as a result of population growth and rapid urbanisation caused by rural-urban migration, which further raised the concern from economic and social stakeholders as its inadequacy is expanding. Going by this, Ajanlekoko, (2001) identified housing dissatisfaction as a social problem which attracted the commitment of the Federal Government of Nigeria that fought the scourge through multiplicity of programmes and projects, but the expected results, has not been yielded. This scourge tended to frustrate the housing satisfaction aspirations of many income groups that cannot put up effective demand for satisfactory housing. For instance, the Nigerian National Housing Policy (FGN, 1999); (FGN, 2004) and National Salaries, Income and Wages Commission (NSIWC, 2010) defined the low income group as all persons whose monthly income is below the National Minimum Wage of N18,000.00 or does not exceed N26,000.00 per month for salary Great Level 01 to 06, (that is N306,000.00 per annum). Also all people with income range of N26,001.00 - N87,000.00 per month for salary Great Level 08 to 14, (that is N1,042,408.00 per annum) were defined as medium-income while all people with income range from N147,000.00 per month and above for salary Great Level 15 and above, (N1,767,816.00 per annum) were defined as high-income group. This amount is however slightly above the United Nations poverty line of US \$1 per day, which is equivalent to N170.00 per day. Adedeji and Olotuah (2012) however observed that, for the low income group, about fifty-seven percent (57%) of Nigerian population fall within this range. The unwholesome condition among different income groups in various Nigerian cities is therefore partly visible or expressed in building alterations and informal housing practices that change dwelling units from their original forms to what seems like

forms that are more desirable. Thus according to Ezenagu (2000), most housing programme failed due to the failure of policy makers to distinguish between the attributes of housing satisfaction and effective demand of the various income groups. As Tuan (1972) argued, each class or income group has its own set of values, attitudes, attributes and behavioral routine that should not be ignored in housing programmes.

Therefore, Uyo Capital Territory was chosen as a case study of Akwa Ibom State because it represents other thirty-one local government areas of the state. It was also chosen because of its overall size, facilities and functions as a state capital. It has the highest concentration of urban population in the south-south region in addition to small land area constantly under competition for other non-residential land uses, compared with similar state capitals in the same region such as Umuahia, Yenogua, Port Harcourt and Asaba. The state is the center of all commercial, institutional, educational, industrial, religious, political and socio-cultural activities which cuts across other eight administrative boundaries and is centrally located from other senatorial headquarters such as Eket and Ikot Ekpene. It is also one of the fastest developing state capitals in the South-South geopolitical region of Nigeria and has the highest stock of housing in the region. The study area Uyo is related to other state capitals such as Umuahia, Yenogua, Port Harcourt and Asaba where this study could be applied due to its small land area, concentration of urban population and rapid physical development, (UPA 2006).

This study therefore was imperative to achieve sustainability in housing satisfaction, whereby housing providers regulate housing activities to suit the three income groups by comprehensively identifying and classifying factors that account for housing satisfaction of each income group in Uyo as a case study and for duplication in a similar capital city territory in and outside the region. This research therefore, was on study of housing satisfaction among households in Uyo

Capital City Territory, with particular interest on how the various income groups evaluate their housing satisfaction including its internal and external components, whether in private or public housing neighbourhoods of Uyo. A case study of this nature has contributed to the growing body of literature in Nigeria on housing satisfaction as it has provided Government and housing providers a good policy framework on how best to provide housing base on various income groups satisfaction attributes but not on housing cost categorization of lumping up of all the income groups base on effective demand. The study is necessary as the country is developing measures to achieve the Millennium Development Goal (MDG) of providing satisfactory housing for her urban and rural population by 2015.

1.20 Statement of the Problem:

In Nigeria, attempts at determining household housing satisfaction based on various income groups namely; low, medium and high were often not guided by rigorous parameters. Hence, past housing policy interventions lumped income groups together, the wide variations in income levels notwithstanding.

This tended to frustrate the housing satisfaction aspirations of many income groups who could not put up effective demand for satisfactory housing. For instance the low income group whose annual income falls below the National Minimum Wage of N18,000.00 per month with an annual income range of N100,000.00 and below would not put up effective demand for satisfactory housing. It was observed that, for the low income group, about fifty-seven percent (57%) of Nigerian population fall within this range, (Adedeji and Olotuah, 2012). The unwholesome condition among different income groups in various Nigerian cities is therefore partly visible or expressed in building alterations practices that change dwelling units from their original forms to what seems like forms that are more desirable.

Effort in the past to meet housing satisfaction of the three income groups in Nigeria through new construction had been hijacked by the high-income groups in the study area. Mohsini (1989), and Torbica and Strouh (1999) for example argued that, housing developers focused attention more on how well the physical structure of housing conforms to design specifications rather than to occupant's satisfaction. This is due to the failure of current housing policies to address housing satisfaction components of the various income groups nationally.

Furthermore, the national government that supposes to play active role in solving the accentuated problem of housing provisions in the country in consonance with the National Housing Policy (2004) of providing the enabling environment for housing operators is rather standing by as a disinterested umpire. The impact of this problem has multiplier effects on the housing satisfaction and households' income affordability in Nigeria. In effect, the finished houses rather fell below the acceptable standard as constructed medium and high-income housing by public and private housing producers in the country were not equally affordable to all income groups.

On the other hand, the provision of satisfactory housing for households of the three income groups in Uyo Capital City Territory is equally a failure. The parameters guiding housing development in the study area focused more on the conformity of the constructed units specifically to the design specifications. Housing providers focused more on housing cost categorization based on theoretical household income instead of minimum socially acceptable standards of housing components, housing neighbourhoods components, household supposed income levels and what constitutes the minimum housing unit for a given income group. This scenario is noticeable in public and private residential neighbourhoods of Uyo where buildings exhibit physical forms which in most

case, are complete departure from what they hitherto should be. There also exist problem of conflict of distinctive statistically determined housing satisfaction factors to guide actors and stakeholders in the housing industry in the study area, which tends to conflict with the affordability of various income groups.

The Akwa Ibom State Property Development Authority (AISPDA, 2010), reported that due to this dichotomous medium and high-income housing production, some units always remain unsold for so long due to the reasons beyond the price factor, which range from poor housing locations, poor architectural designs, inadequate housing and neighbourhood facilities. These unsold houses do not attract the targeted market value while another major problem is the issue of abandoned housing projects due to government-misplaced priority.

Thus, it was observed that failure of most public and private housing projects in the study area was due to lack of adequate identification and classification of housing satisfaction factors for various housing programmes. Onibokun (1985) argued that, relevant factors or parameters that combine to determine housing satisfaction attributes of the households were ignored. In effect, the criteria which guided housing design and development were only based on developers's hypothetical income group housing cost categorization of low, medium and high income housing and effective demand rather than on households's identified satisfaction attributes for the various income groups.

Also, housing satisfaction studies by past researchers for instance Olatubara and Fatoye (2007), considered the residents's housing cost categorization of finished low, medium, and high cost public housing estates, excluding the situation in private estates and mix-use housing neighbourhoods of Lagos. Basing housing on unit cost categorization instead of household supposed income(s) capabilities is misleading. According to Stone (2006), definition of

housing satisfaction based on the expenditure-to-income ratio is simply not a valid measure because the low-income group conventionally cannot put up effective demand for the housing unit categorized as low income housing.

Hulchanski, (2005) argues that the use of housing expenditure to income ratio is not a valid and reliable method of defining housing satisfaction because it does not represent the behavior of supposed households. Housing expenditure-to-income ratios therefore failed to account for the diversity in household types, stages in the family life cycle of each household, the diversity in household consumption patterns, cultural differences and the problem of defining income focusing on the cash income only. In practice, housing policies and strategies often targeted at meeting housing satisfaction of the developing nations fails because these governments lacked the financial and analytical capacity to estimate housing satisfaction factors of the citizens before converting such requirements into effective demand.

Housing satisfaction analysis has therefore been asserted to be quantified using both household income and standards of acceptable housing satisfaction factors available by conditions of supply and households' demography and social changes (UNCHS/Habitat, 1996). For this reason, the measurement of housing satisfaction became complex and depended upon definitions of minimum socially acceptable standards of housing components, housing neighbourhoods components, household supposed income levels and attributes, and what constitutes the minimum housing unit of a given household.

This is advancement from the study of Olatubara and Fatoye (2007), where housing cost categorization were studied based on theoretical household income rather on household supposed income group levels and what constitutes their minimum housing satisfaction attributes. There has been no known study to determine the housing satisfaction attributes of each of the three income groups.

This study therefore was under taken to fill this significant gap in the knowledge of housing satisfaction factors needs of the various income groups in Uyo Capital Territory as against the practice where all income groups were lumped up together in housing policy programmes, irrespective of differences in income groups and satisfaction attributes.

Also, past studies in the area were based on developers's design specifications, theoretical design concept, housing cost categorization of low, medium and high income and effective demand rather than on households's identified housing satisfaction attributes and supposed income groups.

1.30 Goal and Objectives:

1.31 Goal

To determine housing satisfaction indices for various income groups of Uyo Capital Territory City Territory with a view to providing a frame work for future policy guidelines of housing programmes, in Akwa Ibom State.

1.32 Objectives

In order to achieve the above stated goal, the specific objectives of this research were to:

1. To identify and classify housing satisfaction attributes for various income groups in Uyo.
2. To examine the housing satisfaction variation attributes among the various income groups in Uyo.
3. To examine housing satisfaction attributes among the various income groups of low, medium, and high-income groups in Uyo.
4. To examine the relationship between housing satisfaction and socio-economic characteristics of households of Uyo.

5. To determine correlation that exists between housing satisfaction and types of house ownership by households in Uyo and makes policy recommendations.

1.40 Research Questions:

The study attempted to answer the following questions:

- i. What are the housing satisfactions attributes of the various income groups in Uyo?
- ii. Does housing satisfaction attributes differ among the low, medium and high-income groups in Uyo?
- iii. Can housing satisfaction attributes be determined among the various income groups of low, medium, and high-income in Uyo.
- iv. Does housing satisfaction relate with the socio-economic characteristics of households in Uyo Capital Territory?
- v. Does housing satisfaction correlate with types of house ownership by households in Uyo Capital City Territory?

1.50 Statement of Hypotheses:

To answer the above research questions, five null hypotheses at 0.05 levels of significance were postulated. These hypotheses were used to identify and classify housing satisfaction factors and attributes for the three income groups for future housing policy programmes in the study area, Uyo.

Ho 1: Housing satisfaction attributes among households in Uyo Capital City Territory cannot be significantly identified and classified.

Ho 2: There is no significant difference between housing satisfactions attributes among the three income groups namely; low, medium, and high in Uyo Capital City Territory.

Ho 3: Attributes of housing satisfaction for the low, medium, and high-income groups cannot be significantly determined in Uyo.

Ho 4: There is no significant relationship between housing satisfaction and socio-economic characteristics of age, education, and income of households in Uyo.

Ho 5: There is no correlations between housing satisfaction and types of house ownership by households in Uyo.

1.51 Presentation of Variables:

The variables employed in the measurement of housing satisfaction for Uyo Capital City Territory are indicated below:

1. Floor plan of the dwelling
2. Height of ceiling
3. Size of bedroom
4. Performance of foundation
5. Numbers /positions of electrical points
6. Location of bedrooms
7. Street design
8. Toilet design
9. Bathroom design
10. Fire wood kitchen design
11. Numbers of bathroom
12. Gas kitchen design
13. Number of toilets
14. Operation of electrical fitting
15. Quality of paint
16. Quality of materials use on the wall

17. Operation of plumbing fitting
18. Quality of building materials
19. Quality of materials use on the floor
20. Location and size of balcony
21. Day light brightness of the house
22. Indoor air quality
23. Noise pollution
24. Water pollution
25. Landscape of street
26. Window materials
27. Source of water
28. Drainage system
29. Refuse disposal system
30. Street lighting
31. Number of bedrooms
32. Availability of parking space
33. Security system in the house
34. Open spaces for recreation
35. Building setbacks from fence
36. level of privacy in the house
37. Level of neighbourhood security
38. Emergency escape routes
39. Aesthetic appearance of housing
40. Availability of on street bay
41. Nearness to police station
42. Nearness to medical facility

43. Nearness to fire service
44. Nearness to place worship
45. Nearness to children school
46. Nearness to market
47. Getting value for money spent on housing
48. Cost and effort of house upkeep
49. Easiness of house maintenance
50. Nearness to recreational facilities
51. Nearness to place of work
52. Rate of housing deterioration
53. Neighbourhood reputation
54. Condition of roads
55. Plumbing conditions in the house
56. Availability of play ground
57. Erosion effect
58. Availability of public transport
59. Availability of private space
60. Good location of building
61. Good site layout
62. Condition of ceiling
63. Storage facility
64. Leaking roof
65. Availability of exit door
66. Visual aesthetics of neighborhood

Source: Researchers's Field Survey 2012

1.60 Scope of the Study:

The study was limited to Uyo Capital City Territory, Akwa Ibom State, Nigeria. It focused on the identification and classification of factors determining housing satisfaction for various income groups namely; low, medium and high income groups of Uyo Capital Territory

It focused specifically on households' head supposed income groupings of low, medium and high-income as no work has been able to determine the users' housing satisfaction attributes in the study area. For avoidance of doubt, the Nigerian National Housing Policy (FGN, 1999), (FGN, 2004) and National Salaries, Income and Wages Commission (NSIWC, 2010) defined the low income group as all persons whose monthly income is below the National Minimum Wage of N18,000.00 or does not exceed N26,000.00 per month for salary Grade Level 01 to 06, (that is N306,000.00 per annum), all people with income range of N26,001.00 - N87,000.00 per month for salary Grade Level 08 to 14, (that is N1,042,408.00 per annum) as medium-income and all people with income range from N147,000.00 per month and above for salary Grade Level 15 and above, (N1,767,816.00 per annum) as high-income group. Even when income were used, the criteria were only based on developers housing cost categorization of low, medium and high income groups and effective demand rather than on households' supposed income groups and satisfaction attributes.

The territorial limit of 15 kilometers radius, comprising eight neighbourhoods of Uyo Capital Territory was studied as follows:

1. Ata Uyo, Aka, Oku & Iboko districts	(Neighbourhood1)
2. Anua, Use/Idu Eniong & Nsukara Offots	(Neighbourhood2)
3. Mbiabong Ifa, Itiam and Afaha Ibesikpo	(Neighbourhood 3)
4. Nung Oku, Mbiokporo, Mbiorebe & Atan	(Neighbourhood 4)
5. Aka offot, Itiam Etoi, Atan Offot & Afaha Offot	(Neighbourhood 8)

6. Obio Etoi, Afia Nsit, Ikot Oku Ubo & Obio Offot (Neighbourhood 5)
7. Ikono Uyo, Ediene, Idoro & Obio Ibiono (Neighbourhood 6)
8. Ibiaku Itam, West Itam, Odiok & Afaha Oku (Neighbourhood 7)

Source: Uyo Master Plan 2007.

The aggregate data for the eight Neighbourhoods of Uyo Capital Territory highlighted the socio-economic, physical, and environmental parameters of housing satisfaction factors in both public and private housing Neighbourhoods of the territory. The study was a cross sectional study that was based on the geographical area covered by the Uyo Capital City Territory limit.

1.70 Limitations of the Study:

The limitations encountered in the study were the conflict of data on the residential housing stock of the Capital Territory. Data relating to the existing housing stock of the study area, the Uyo Capital City Development Authority (UCCDA) and the housing stock recorded by Akwa Ibom Housing Developers Association (AKHDA) could not be obtained because much of the informal housing activities within the capital territory were not recorded officially. Such housing stocks were not included in the study as the researcher depended only on the housing data obtained directly from the respondents in the field.

The researcher encountered some limitations in identifying some of the housing structures affected by conversions from the original uses. To overcome this limitation, it was necessary to conduct physical assessment of individual buildings by identifying and excluding those ones affected by use conversions other than residential uses.

In addition, there was lack of cooperation due to suspicion by the officials of Akwa Ibom Loans and Savings Limited (AKLSL) and the Staff Housing Loans Board (SHLB) of Uyo, which led to their refusal to give out data on housing

loans beneficiaries, thus these data were excluded from the study. There were also difficulties of obtaining current maps from the Department of Surveys and Town Planning Uyo, but the introductory part of the questionnaire cleared the doubt.

1.80 Significance of the Study:

The significance of the study of housing satisfaction attributes among households of Uyo based on various income groups need not be over-emphasized. The study analyzed housing satisfaction determining factors of the various income groups in Uyo Capital Territory, as a case study of Akwa Ibom state, Nigeria. Through this study, the trend where housing developers laid more emphasis on how well buildings conform to structural specifications instead of various households' income groups satisfaction factors and attributes has been reversed. The study is significant because as Jiboye, (2009) argued, housing shall continue to remain the largest consumption and investment item of most households' lifetime savings, low-income group notwithstanding.

Additionally, there is increased awareness of the significance of inter-relationship between households' income, housing attributes, affordability, and the housing producers. Furthermore, there is need to demonstrate the value for households' income investment in housing by assessing whether their building components are satisfactory. The usefulness of analyzing the level of housing satisfaction perceived by a given income group in a mixed income neighbourhood, through investigation into the individual housing unit occupied, provided useful information for measuring and judging the success of housing developments constructed by public, private and individual developers. It enabled strategized functional analysis of housing satisfaction attributes of the various income groups in the study area.

However, before now, despite increased allocations to housing sector, the satisfaction expected from households had been widening, principally due to weak functional component analysis of individual income group attributes and uncoordinated housing operations in the study area.

Moreover, there is emergence of new interest in identifying and developing set of pragmatic housing satisfaction indices that could be employed to measure and promote sustainable household housing satisfaction for various income groups in urban settlements globally. This interest is based on the fact that, housing as a unit of environment, exert a lot of influence on health, efficiency, social behavior, satisfaction and general welfare of the community (Onibokun, 1982). Thus, Ajanlekoko (2004) stated that a vigorous and buoyant housing sector is a signal of a strong programme of national investment and the foundation and first step to future economic growth of a nation.

Therefore, the concern attached to the problem of housing satisfaction of the various income groups in Uyo Capital City Territory is an indication of highly deplorable conditions in which the households, most especially, the low and medium income groups in the capital territory resides, as manifested in their insanitary housing conditions and overcrowding. Thus, in view of the vicious circle of housing satisfaction problem in Uyo, the outcome of the analysis assisted in looking at housing satisfaction requirements of the various income groups of the territory in a holistic manner rather than from the narrow urban rich perspective. The holistic view is capable of assisting housing developers with the understanding of the overall satisfaction attributes of each income groups and also provides vital planning inputs for future housing actions plan in the study area. It thus stimulates need for further research in the region and Nigeria in general.

1.90 Organization of the Study:

This study was organized in seven chapters. Chapter one highlighted the pertinent background information about the study; statement of the problem, goal and objectives, research questions, hypothesis, variables used for the measurement, scope of the study, limitation of the study, significance of the study, definition of terms and acronyms/abbreviations.

The second chapter dealt with the theoretical or conceptual framework. The third chapter highlighted the literature review of the previous studies. The fourth chapter defined the study area which included; location, climate and physical features, historical development, existing condition and the estimated population of the study area.

The fifth chapter defined the methods and procedures of the study, which included sources of data, secondary and primary sources, sampled population, sampled frame and procedure, instrument for data collection, statistical analysis, validation, and reliability of instruments used for the analysis.

The sixth chapter discussed data presentation, analysis, and findings, while the seventh chapter discussed recommendations and conclusion of the study.

1.100 Definition of Terms:

Housing Delivery: This means the process by which residential housing is supplied to the consumers by the producers.

Housing Satisfaction: Refers to housing satisfaction as the degree of contentment experienced by an individual or a family member with regard to the current housing situation.

Private Housing Sector: This refers to the formal and informal private housing producers in the building industry.

Informal Private Housing Developers: Means the unorganized private housing sector developers either for self-occupier or rental purposes.

Formal Private Housing Developers: This refers to the organized private housing developers, developing houses for sales or rental purposes e.g. Real Estate Property Developers.

Private Investment Houses: Refers to commercial financial institutions offering housing loans for housing development.

Community Base Organizations: This refers to group of people coming together for purposes of undertaking community projects e.g. housing.

Developers Equity Funds: This means accumulative savings for developing a building.

Central Business District (CBD): This refers to the concentration of all the main businesses, offices, retails outlets in the city, and is frequently the oldest part of it.

Environment: Refers to the total sum of all conditions that surrounds a man at any point on the earth's surface.

City: It refers to an area that has basic characteristics of being spatial with concentration of people and economic activities.

Public housing: This is a form of housing tenure in which the property is owned by a government authority, which may be central or local.

Social housing: This is an umbrella term referring to rental housing; which may be owned and managed by the state, or by not-for-profit organizations, or by a combination of the two, usually with the aim of providing affordable housing.

2.00 CHAPTER TWO: THEORETICAL FRAMEWORK

2.10 The Fundamental Theory of Supply and Demand:

In recent years, the supply and demand theory has become a commonly used framework when considering the production and utilization of goods and services. It is therefore against this background that the study explored and examined the fundamental theory of demand and supply and its application to household housing satisfaction among the various income groups in Uyo Capital City Territory, Akwa Ibom State, Nigeria.

Smith (1776), Smith and Slusky (1939) propounded demand and Supply theory. The theory is based on the basic economic principles in which a product's price such as price of a housing unit is affected positively or negatively by the availability of the product. The basic notion of supply and demand is seen as a model for understanding the determination of price of a housing unit available for purchase.

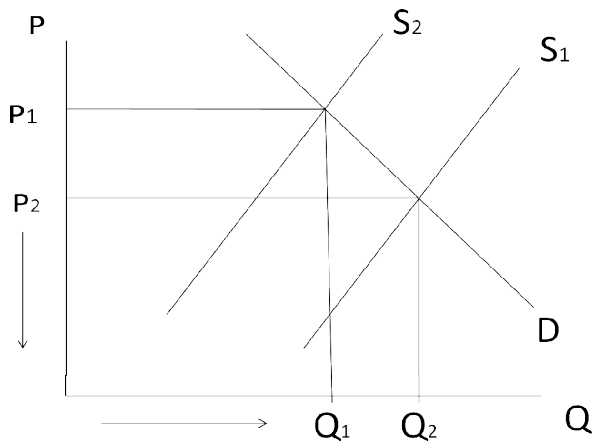


Figure 2.1:- Model of Demand and Supply as it relates to Housing Provision

Source: Agbola and Kassim (2007).

Fig 2.1 above shows the model of demand and supply as it relates to housing provision. It states that as demand for housing increases, housing supplies also increase in response to increase in demand. This relies on a high degree of competition where housing buyers bid against each other and raise the price of a housing unit, while housing suppliers bid housing price against each other until the duo attained equilibrium price of no incentive to the buyers to offer higher prices or accept lower prices.

2.11 Application of Theory of Demand, Supply and Market to Housing Satisfaction:

Housing demand is defined as the type and cost of housing a person or a household is able to and willing to pay for. Grimes (1976) believe that, effective demand for housing is derived from each household's willingness to pay for the housing. In other words, affordability and willingness to pay for the housing goods and services are the major determinants of housing satisfaction. Going by Grime (1976), the level of household income, its distribution, the prices of available housing, prices of other goods and services are important economic factors influencing decisions about how much to spend on housing. Others are socio-economic factors and family constitution that may influence the growth of housing demand over time. Each family must assign a priority to housing, the amount it is willing to pay into housing, the amount it is willing to pay in relation to other items in the household budget.

Ezenagu (1989) observes that, "most housing programmes failed due to the failure to distinguish between the level of housing satisfaction and effective demand". Housing dissatisfaction is often determined from such available statistics as the number of households living in slums, translated into investment required to satisfy the housing need. To determine the demand schedule for housing by various income groups, it would be necessary first to define the

range of housing choices or packages of components available. In practice, these data are not readily available. Conventionally, urban housing satisfaction is determined through the inadequacy of incomes of large numbers of households to pay for the housing that is currently being produced (Ezenagu, 1989). Thus, the income distribution of a city as a whole will affect the affordability and demand of housing to different income groups while non-economic factors such as taste and preference can be important in many cultural and political environments.

There are several actors in the housing market, which include house owners, renters, purchasers, mortgage financiers, contractors. Others include professionals in the building industries namely; Architects, Town Planners, Estate Surveyors, Land Surveyors, and Land Speculators and many others. A market in this context could easily be defined as an institutional set up, comprising of buyers and sellers of goods and services that are demanded and supplied. Housing is not only a good but include services such as good roads, portable water, and electric power supply, quality environment with educational and health facilities, good sewage and drainage systems, communication systems and many others (United Nations, 1973). In the housing market, due to the rationing process of supply, the relatively inelastic supply of housing is allocated to the highest bidder. Low and medium income households only purchase what higher income households do not desire to purchase which usually may be below the user's satisfaction requirements (Ezenagu, 1989). Generally, in a housing market, every dwelling unit within a given locality may be considered a substitute for every other unit. Thus, every dwelling unit may be said to form a single market, characterized by interactions of the intended occupants, the pricing, and the renters.

Housing market however is seen as micro-economic concept that can be utilized to view housing economy in many countries in terms of the various processes within which underline individuals' housing market transactions (Megbolugbe, 1984). The internal processes here refers to the interactions among social entities, individual households or institutions all severally conceived as actors in the course of delivery of housing services to the various actors. Despite any form it takes, the theory of housing market involves a transaction of an item of real property and at least two principal actors, buyers and sellers.

Housing markets in Nigerian geographic space, involves hierarchy of markets beginning in descending order from the national through the state and to the local levels of cities and their internal sub-markets. At the national and state levels, housing markets can be described as existing on a macro-scale; at the city level on a meso level, while at the neighborhood and district levels, exist on a meso or micro-scale. This micro-scale level is considered as sub-markets, a type of mini-markets within markets. The city level is the same as the local level and constitutes essentially the level within the busiest of housing market transactions, where housing supply is by way of construction together with demand, where buying and selling can take place. It is worth to mention that bulk of housing goods and services are provided in Nigerian cities through free market price by both the private and public sector of the economy. This therefore follows the proposition that free markets allocate resources more efficiently than any other allocation device (Gyuse 1984; Grimes 1976; Ezenagu 1989).

On the other hand, housing supply is the functional provision of housing and buildings in any given society within a particular period. It includes the rate of construction or building of new residential houses, conversion, renovation

and rehabilitation of already dilapidated buildings as well as upgrading and the structures of existing accommodation. Like demand, supply is a desired flow that measures how much housing developer would like to sell and not how much they actually sell at a given time. In simple terms, the higher the price of any commodity, the more profitable it will be to produce more housing. An increase in the price of other commodities will make production of more housing, whose price does not rise relatively less attractive than it was previously. Therefore all things being equal, the supply of a unit of housing will fall as the price of one factor of production will cause a larger increase in the cost of making more units that use a great deal of that factor.

Housing supply also consists of a series of components that may be produced in various ways and at different costs, standards, and financing options. None of these aspects of supply operates independently; together they determine the total cost of the dwelling. Thus, in a well-functioning market, properties with different material but identical in other respects, will command different prices to reflect differences in material cost. Therefore these foregoing considerations make it essential for design standards to ensure that housing costs are not necessarily high or supply restricted. In practice, housing standards are typically established by the producers exclusively with physical aspects of the dwelling rather than with wider aspects of their residential satisfaction components. Turner (1972) noted that, ñofficial minimum standard of placement and construction of dwellings are generally higher than households with medium and low incomes can afford or than they deem essential to satisfy their housing requirementsð.

Agbola, (2000) further identified two classes of housing features requirements, where the heterogeneous nature is displayed to include: individual dwelling and site characteristics. The first deals with nature of accommodation

such as number and sizes of rooms, toilets, bathrooms types, and quality of interior and exterior furnishing and structural stability of the building. No two dwellers may have these characteristics equally, because it represents supply to sets of people, class, and status with different income groups, socio-economic and socio-cultural characteristics and generally, different housing locations. This implies that housing supply and demand is localized in supply and demand. Thus according to Balchin and Kieve, (1982) housing supply is relatively fixed and its allocation among users determined primarily by changes in demand.

Thus, the net annual addition to the housing stock is relatively small to the extent that, improvement of old housing is the rule rather than the exception as it is in other consumer goods. This implies that, due to the immobility and durability characteristics of housing, a brake is imposed on the pace of adjustment of housing supply to demand because of the heterogeneous nature of housing features.

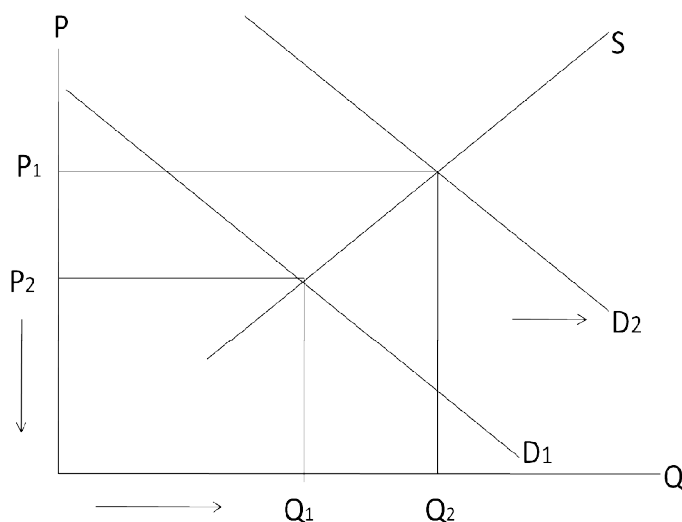


Figure 2.2:- Demand and Supply market mechanism as it relates to Housing Provision

Source: Agbola and Kassim (2007)

Figure 2.2 shows the demand (DD) and the supply (SS) curves. Using housing as a commodity sold on the market, when the price of housing moves from P_1 to P_2 , there is a reduction in price of housing and a corresponding increase in demand from D_2 to D_1 with its associated reduction in supply of housing from S_1 to S_2 . Similarly, if the price of housing increases from P_2 back to P_1 supply will increase while the demand will fall and vice versa.

2.20 Cobweb Theory to Demand, Supply, and Price

The Cobweb Theory is a model used for explaining the dynamics of demand, supply, and price over a long period so that as prices move up and down in cycles, quantities of housing produced also seem to move up and down in a counter-cycle manner (see fig. 2.3).

A Hungarian-born economist, Kaldor who lived from 1908-1986, developed the Cobweb Theory, which he defined as a theory of fluctuating agricultural prices. The idea is that, prices of agricultural products are inherently unstable and move away towards an equilibrium point. Although the theory was first developed in relation to agricultural products, but its importance on other products, in this case, housing production cannot be completely over-looked.

The model is based on the assumptions that; the current year's (c-d) housing supply depends upon the previous year housing demand (a-b). The current period of the year is divided into sub-periods of a week or fortnight; the parameter determining the supply function have constant values over a series of periods; current demand (D_1) for the commodity is a function of current price (P_1). The prices expected to rule in the current period is the actual price in the last year. The commodity under consideration is perishable and can be stored only for one year; both supply and demand functions are linear.

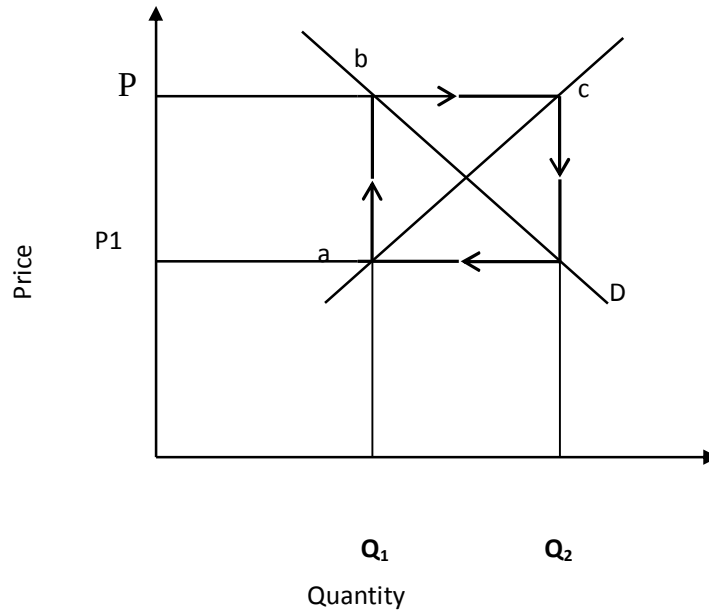


Fig. 2.3: Constant Amplitude Model

Source: Agbola and Kassim (2007)

Under the formulation of the Cobweb Theory as shown in Fig. 2.3, the supply function is $S = S(a-c)$ and demand function is $D = D(b-d)$. The market equilibrium will be attained when the quantity supplied equals the quantity demanded; that is, $S = D$. Agbola and Kassim (2007) identified three types of market equilibriums: the dynamic equilibrium where increase in demand will increase the price of a product and the quantity supplied will increase in response to the increase in price and when the price is reduced, supply will fall. This is dynamic equilibrium with tagged adjustments; whereas if the slope of supply curves and the price will converge towards equilibrium, it is referred to as the stable equilibrium model.

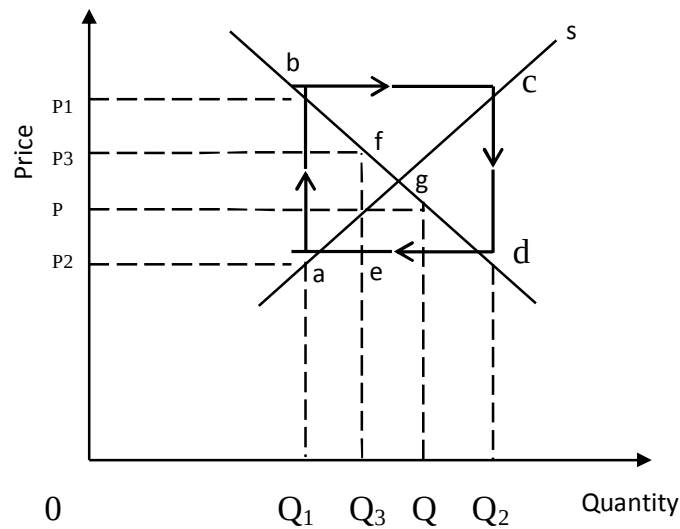


Fig 2.4: Stable Equilibrium Model

Source: Agbola and Kassim (2007)

Thirdly, the unstable equilibrium is when the price and quantity change and moves away from the equilibrium position. This is divergent because the slope of the demand curve is numerically greater than the slope of supply curve and the price diverged from the equilibrium (see Fig 2.4.showing Stable Equilibrium Model)

The cobweb model is an over simplification of real price determination process. However, the model supplies new information to the housing market participants about the market behavior, for incorporation into their decisions in housing productions. Its significance to this study however, lies in the restrictive nature of its assumptions, which makes its applicability to housing demand and supply doubtful. For example, it is not realistic to assume that the demand, supply, and supply conditions of housing will remain unchanged or the same over the previous and current year period. In reality, they are bound to change with considerable divergences between the actual and the expected prices. It is also possible that the expected price will be quite different from the estimated

price. Thus demand, supply and price relations to different cobwebs have little real applicability to housing supply and satisfaction. The theory of cobweb has great implications for housing supply because housing responds slowly to increase in demand. Housing supply in the current year is a response to demand in the previous year, just like the agricultural production that the theory describes. However, Agbola and Kassim (2007) argued that, the theory is partially applicable to the real estate housing production cycles, which have their applications in the housing construction industry in its booms and slumps as manifested in the supply and demand movements.

2.30 Model for Generating Optimal Housing Mechanism:

The conceptual framework within which this study is based is on the theory of demand and supply. However, in order to understand the most effective housing demand, supply, and residential satisfaction mechanisms, the Model for Generating Optimal Housing was developed by the United Nations Economic Commission for Africa (UNECA, 1976) to show the relationship between housing satisfaction demands, financial capacity (capability) and resources. The model mainly outlined a framework, which allows appropriate combinations of multi-strategies towards achieving sustainable housing supply for households.

In Fig. 2.5, the first and second phases of the model are based on the premise that housing satisfaction demands can only be solved if the financial capability, which is household income, satisfaction factors and desire of the intended occupants are in harmony. This implies that cost, quality, and quantity of housing units must be considered simultaneously as indicated in the first two phases of the analysis. The third phase shows that, the financial capacity, housing satisfaction factors and the desires of the users must be viewed in the context of national resources.

Therefore, the model is relevant to this study because housing satisfaction demand can only be achievable if it is backed up by effective demand which is the financial capabilities of various households. In other words, it implies the income capabilities of the low, medium and the high income groups.

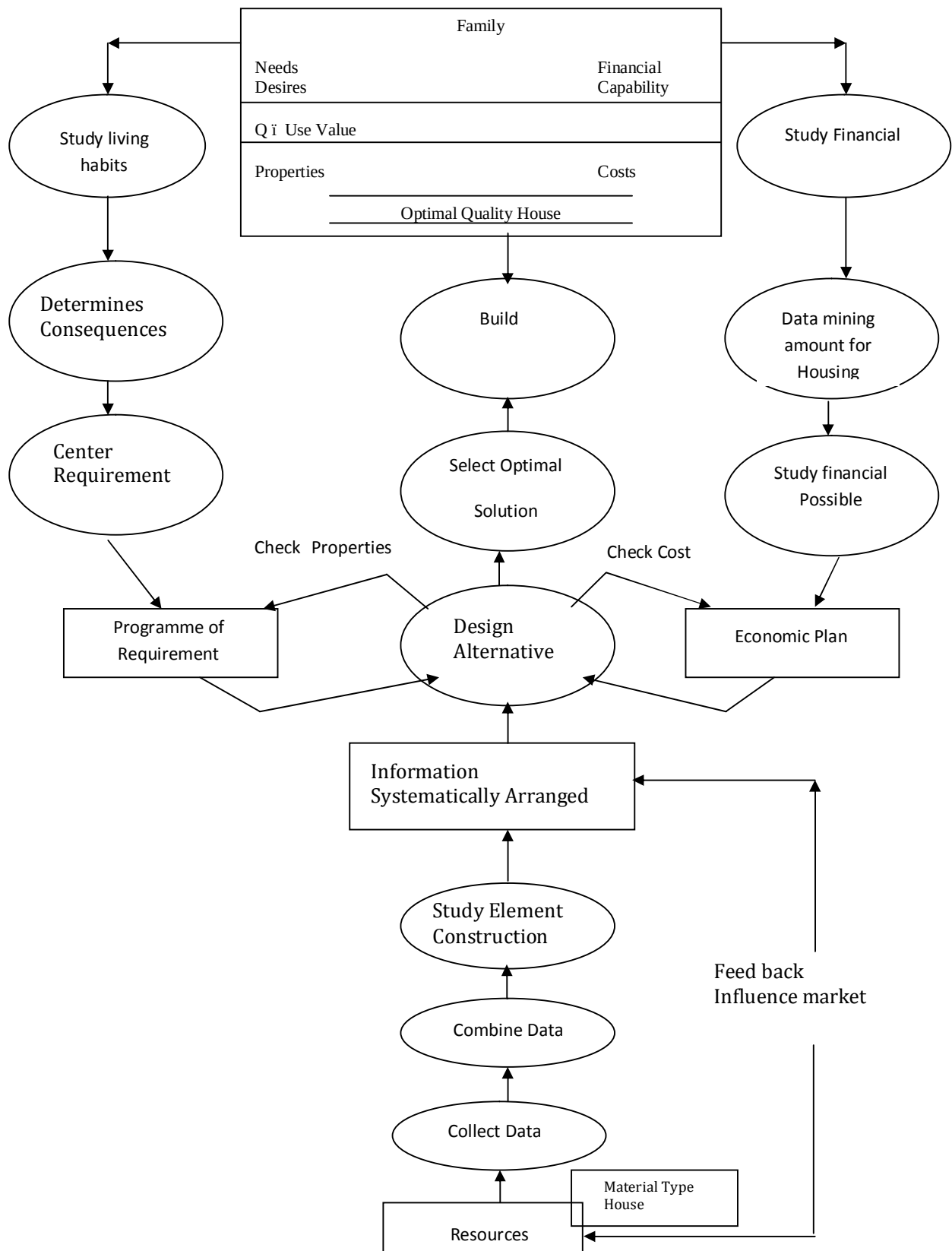


Figure: 2.5 Model for Generating Optimal Housing
Source: UNECA, 1976

2.40 Basic Satisfaction Approaches and Conceptualization

The concept of basic satisfaction propounded by Maslow (1964) is considered in literature as providing the analytical tools for the tackling of problem of basic shelter satisfaction for the various income groups of developing countries. Human satisfaction is defined as that requirement of a person or group of persons of what is short of the full satisfaction required from something. It could be defined in terms of personal, household, or group aspirations. Therefore, a desire, a requirement, or an aspiration is a want but ceases to be a want when it is satisfied, (Maslow 1964). Thus satisfaction requirements as a concept could be located in the discipline of psychology. Satisfaction requirements could be conceptualized in terms of tangible things and non-tangible things. Satisfaction requirement relates to an individual, household as well as a group or a community. In this study, satisfaction requirement is physical, physiological, psychological, socio-economical, and cultural issues relating to household housing basic needs.

Accordingly, to social scholars, human satisfiers are numerous, appearing in different forms, and are differently expressed by people between times and locations. The idea of satisfying social desires and meeting personal aspirations implies that there are some aspects of the people, their values, and their goals that must be taken into consideration in defining satisfaction. Needleman (1980) identified the determining factors of satisfaction to include aesthetics, ethics, psychological, sociological, and economic and poetic licenses. Scholars however observed that given the multi-dimensional nature of satisfaction, a number of conflicting notions surrounds the conceptualization of human satisfaction. Satisfaction is therefore, associated with such adjective as basic to focus on such requirements that are primary to human well-being.

The concept of basic satisfaction has been defined by the International Labour Organization (ILO) as in terms of minimum requirement of a family or household for private consumption. These include adequate food, shelter, and clothing. They also include essential neighbourhood housing services provided for public consumption such as portable water, sanitation, security, public transport and ease of accessibility, health, educational as well as cultural facilities (Richards and Grooneratne, 1980).

Stewart (1985) has subscribed the notion that basic satisfaction mean certain minimum requirements and that, there are controversies on the justification for selecting a particular satisfaction bundle of what constitute basic requirements or in other words, what items make up the minimum human requirements. One approach according to Stewart towards determining a satisfaction bundle is the societal value approach. This approach views the content of bundle of satisfaction base on what the society considers as the minimum standard.

However, the difficulty lies not in what satisfiers are but in defining the content of each of these components of standard of living, and on how to draw up the order of priority. Furthermore, some satisfiers are not always the same in different localities and that it differs with time. Thus, considerable differences exist in the basic satisfaction requirements of the people and cultures over time and at different levels or stages of development.

Relating this concept of basic satisfiers to housing satisfaction, invariably 'housing satisfaction' could be regarded as the notion or 'idea of housing requirements' within a given locality. The concept then lies in what constitutes satisfaction requirements whether normative, quantitative, or qualitative aspects. Housing satisfaction however is defined as the extent to which adequate housing components fall short of the requirements of households in terms of their physical, psychological and physiological wants. This implies that, housing

satisfaction is something more than numerical quantities of dwelling but include household size, household income, their peculiar requirements, and even their traditions.

Implicitly from the foregoing definition, the theory of basic satisfaction is a social, as well as a normative theory. Thus, housing is a social good that should attract a social rent and not an economic rent so that all men regardless of their economic or financial status may be able to gain easy access to a minimum standard housing for their families (Aribigbola, 2000). The specific minimum standard in this context connotes that the concept of 'standard' is relative in meaning and is only meaningful within the context of the society to which it refers. Whereas, the idea of satisfying social wants and meeting personal aspirations imply that, there are some aspects of the culture of the people, where values and goals must be taken into consideration when deciding housing programmes. In these respects, to determine housing satisfaction may involve aesthetics, physiology, psychology, sociology, poetics, economics, and many others.

Aribigbola (2000) noted that, 'in theory, housing satisfaction does not take cognizance of price or market performances or household's income ability or inability to pay for housing, rather it connotes dwelling unit with components required, which satisfies household's quest for accommodation'. Whereas, Mbina (2000) also observes that, housing satisfaction is not one's ability or willingness to pay for or purchase a house; rather it is the satisfaction of the consumer's fundamental, physical, physiological, and psychological needs. Such satisfaction might include provision of adequate spaces for living, good ventilation, good lighting, recreation, maintenance of cleanliness of dwelling and its environments.

Dwelling in this context could be described as a place of domicile or residence, a house, or even a flat. It can be a residential building with all necessary and basic facilities, which make a dwelling functional. A residential dwelling normally has some facilities such as baths, water closets, kitchen, and sitting room and dining areas, bedrooms, water and power supply systems and so on. The sitting and living room, bedrooms and other conveniences are necessary for good habitation and dwelling purposes.

The Nigerian Urban and Regional Planning Law (Decree No 88 of 1992) describes a dwelling house as a building erected or converted for use primarily to provide living accommodation for one or more persons. The one or more persons sited by the law refer to a family or a household. Thus, a dwelling essentially means a house except that the focus is on residential habitation. Invariably, houses utilized for commercial, industrial, and such like purposes cannot be regarded as dwelling since they do not perform residential or dwelling functions. Aribigbola (2000) contends that, ñdwellingò may be described to connote a reasonable degree of privacy, usually defined by structural separation, specifically used for living and not as an office, workshop, church and many others.

The concept of basic satisfaction has therefore developed as an approach or tool to influence the socio-economic development of a country, aimed at meeting the basic housing satisfaction of the people. Applying this approach to basic housing satisfaction requirements, anchors on housing policies, which dictates certain measures and priorities in housing investment that should be met to enhance the provision of standard housing for the various income groups, especially of the Uyo Capital City Territory. The approach is necessitated by the high level of poverty in the study area and for the fact that the low-income group is left with little prospect to ameliorate their housing conditions despite

the millennium development strategy of providing standard satisfactory housing for all households by the year 2015.

The American Public Health Association Committee on the Hygiene of Housing (1946) analyzed the concept of basic satisfaction as applicable to the physical housing environment. According to the committee, human basic satisfactions within the area of the living environment are identified in the following forms: fundamental physiological satisfaction, fundamental psychological satisfaction, protection against contagion and protection against accidents. Fundamental physiological satisfaction consists of adequate space for indoor and outdoor living, quite, fresh and pure air, and light proper temperature. Fundamental psychological satisfaction include adequate privacy opportunities for normal family and communal life, access and ease of household operations, clean environment and aesthetic satisfaction. Protection against contagion covers the requirement for good sanitary environment, toilet facilities, portable and clean water. While protection against accidents include, protection against injuries at home, traffic hazards and fire damages.

The concept of satisfaction focuses on prioritization and therefore is conventionally ordered in hierarchy. The hierarchical concept of needs was developed by Maslow to understand more the behaviour and motivations of individuals. He observes that human requirements are numerous and interrelated, not existing in isolation as single need. Need, according to Maslow (1946), range from basic needs presented in a hierarchy. First are the basic physiological needs. The second level need is the need for security. This is followed by need for special belonging, esteem needs, and finally the need for self-actualization. Therefore, the key point made by Maslow and other need satisfies theorists and totally accepted by other scholars is that, any person or

group of persons move to another level of need only when they have satisfied their needs at the lower level.

Therefore, "basic satisfaction theory" relates to the study for providing understanding into the concept whereby housing conditions fall below the norms considered necessary for good health, privacy, and development of normal household living standards. Housing satisfaction therefore is selective or restricted only to those who can afford it base on effective demand and household income affordability, irrespective of the higher housing quality.

2.50 Expectancy Theory

Expectancy theory propounded by Vroom as a modification of Maslow and Herzberg theory is widely acclaimed for being the most realistic and adaptable to individual peculiarities. Vroom states that what motivates an individual is the value placed on the anticipated outcome with the hope that such an outcome will satisfy his desired wants (Vroom and Deci, 1970). The anticipated outcome is the [valence] while the outcome is the [expectancy]. Vroom evolves an equation to buttress his view:

$$\text{Force} = \text{Valence} \times \text{Expectation}$$

Where:

Force = The strength of a person's motivation,

Valence = The strength of his preference for an outcome and,

Expectancy = The hope that the outcome will satisfy their needs.

The theory of need hierarchy imply that emphasis should be placed on understanding the wants of individuals and the values attached to their wants, how the wants are ordered, and how they can be aggregated to derive composite

satisfaction package for the design and implementation of sustainable housing programmes for households. The underlying assumption that needs satisfiers motivate but ceases to motivate when satisfied and that the knowledge of satisfaction level of people as basis of motivation makes the theory useful to this study that seeks to analyzed housing satisfaction factors of the three income groups in Uyo Capital City Territory, Akwa Ibom State.

2.60 Theory of Basic Satisfaction

Basic satisfaction theory is a trickle-down model, popular in the 1960s, which states that, developmental benefits should be allowed to trickle down to the grassroots from the top where resources are controlled (Trickle-Up, 1998). In this mode, decision for development are centralized and controlled from the top. From this level, the resources are administered and development is allowed to trickle down to the grassroots. The model was criticized in the 1970s for very poor performance in promoting physical and economic development. Basic requirement satisfiers approach was then developed as a better alternative. The idea is to redefine development much deeper to foster distribution of income and resources, encourage local participation and carry out building projects that are people oriented, and socially and environmentally friendly (Richards and Grooneratne, 1980).

It is expected that by starting from the grassroots and initiating housing programmes from below rather than from the up-stream channel, the resources of the people could be gainfully and adequately harnessed and directed towards satisfying their desires. The concept therefore, implies that urban households should be assisted to satisfy their housing requirements for which they can embark on self-help development approach.

International Labour Organization [ILO] (1976) defines basic requirements satisfiers to include; ñFirstly, certain minimum requirements of a family for

private consumption: food, shelter and clothing, as well as certain furniture and equipment. Secondly, they include essential services provided by and for the public at large, such as safe water, sanitation, public transport and health, education and cultural facilities.

ILO (1976) states further that "The concept of requirement satisfiers should be placed within the concept of a nation's overall social and economic development. No circumstance, should it be taken to mean merely the minimum requirements necessary for subsistence, it should be placed within a context of national independence, the dignity of individuals and people, and their freedom to chart their destiny without hindrance"

The term is quite clearly an enlargement of the concept of subsistence. It emphasizes the facilities especially shelter required by a settlement as a whole, and not only individual and household satisfaction, but for physical survival and efficiency. The requirements of a population or a people cannot be defined adequately just by reference to the physical requirements of the individual and the more obvious physical provisions and services required in an urban area. Basic needs satisfiers include the social expectation of a settlement and respective shelters. ILO (1976) outlined basic satisfiers as follows: Minimum requirement of private consumption such as food, shelter and clothing, Essential services of public consumption such as; electricity, sanitation, health-care, education, water and public transport, Participation of people in making the decisions that affect their lives, Satisfaction of basic human rights and Employment.

The above listed components are essential indicators to be employed in fulfilling the housing satisfaction requirements of the various households in the study area. Basic satisfier approach is a unifying theme around which further strategies could be constructed. However, selection of a bundle of what

constitutes basic satisfiers or the items that make up the minimum human requirements are often difficult (Stewart, 1985). The difficulty lies in drawing up order of priorities of the numerous requirements. Housing satisfaction components are not identical in all locations rather they differ from urban area to urban area. They also differ within time even in the same location. In other words, the bundle of satisfaction component is also location and time specific. Some geographical factors underlie the identification of satisfiers. Policy models or measures for defining investment priorities and means for meeting the basic housing satisfaction of urban dwellers must reflect the geographical differences. Therefore, the basic lessons from the basic satisfaction models are as follows: what constitute satisfaction vary relatively to the prevailing circumstances? Hence, urban housing developments in a given location suppose to be relative and not absolute. Satisfiers are numerous and appear in hierarchy. Some are basic while others become motivators when satisfied. Since housing programmes are meant to satisfy the housing desires of the various households, the urban residents, should define their housing satisfaction components and identify housing programmes they consider most suitable to satisfy their housing requirements rather than what the developers identified.

There are relevant interactions among the components of housing satisfactions. Social, cultural, political, and economic elements of society, people daily encounter and perceived opportunities and available resources tend to inform their formation of cognitive image of themselves, their housing satisfaction requirements, and their ambitions. Failure to realize these ambitions due to certain constraints could lead to feelings of frustration.

This theory was relevant to the study of identification and classification of housing satisfaction components and its ordering, which is a prerequisite to policy on housing development. It is therefore essential to examine the housing

satisfaction requirements of households in the study area and to measure the extent to which the requirements were achieved, aspiration met or frustrated, and how the required components differ spatially among the various income groups.

2.70 Theory of House Ownership and Housing Satisfaction

Galster (1987) conceptualizes housing satisfaction as a variable reflecting the gap between household's actual and desired housing situation and that the concept of housing satisfaction is multi layered. He displays similar views on the concept of housing satisfaction based on his observations of past studies. In his opinion, the concept of housing satisfaction has been used for four major objectives. These included; the objective of serving as the key to predict an individual's perception on the overall quality of life and as an indicator of individual's mobility which later changes the demand on housing and influences surrounding area change. Others are as an ad hoc measurement of private sector development success and as an evaluation tool to measuring residents' acceptance of prevailing shortcomings for existing housing neighbourhood development, which acted as a variable in determining the relationship between the household's background and attitude towards his housing environment.

Following this conceptualization, housing satisfaction became a good predictor of housing demands and of changes in demands. The interest in the relationship between housing satisfaction and housing demand can be explained not only by the fact that its variables are crucial in determining housing satisfaction, but also by the conjecture that these variables are capturing dimensions of housing satisfaction situation that cannot be captured by other more objective variables.

In this context, the 'inspirational' conceptualization of housing satisfaction introduced by Galster (1987) leads one not only to consider house ownership

status as the key factor in determining housing satisfaction, but also to expect that house owners and renters behave differently in unsatisfactory housing situations. Moreover, many researchers consider that variables containing information provided by subjective measures, for instance housing satisfaction cannot be used as indicators of individuals' actions. The main critique is that what individuals say is not necessarily, what they do. If it is assumed that housing satisfaction is important for explaining objective individual's economic behavior, then a more accurate analysis of the determinants of housing satisfaction and its importance on housing demand is needed. This is so since house ownership status has been known not only as one of the most important ways of wealth accumulation, but also one of the most important signals of personal success.

Generally, house ownership status is said to provide a high satisfaction level towards housing as compared with a tenant's status. This has been proven through a study carried out on European countries by Elsinga & Hoekstra (2005). The study was conducted to prove whether house ownership status would give more satisfaction to owners or tenants. Findings of their study indicated that house ownership gives more satisfaction to the owners in terms of safety, power, or freedom to make decisions and a symbol of prestige and personality.

Therefore, in analyzing the importance of house ownership for being or not satisfied with one's dwelling circumstances, it is assumed that house ownership status is the desired or aspired housing situation. Hence, it is expected that house renters evaluate the same dwelling or neighborhood characteristics than house owners do.

Galster (1987), carried out separate estimates of the determining factors of housing satisfaction for house owners and renters, and decomposed the

differences in predicting housing satisfaction between house owners and renters into an explained and unexplained components. This decomposition allowed stating of percentage of the gap in housing satisfaction between house owners and renters exclusively base on tenure status and the proportion due to other variables such as household's characteristics and dwelling's conditions. The predicted value of individuals' housing satisfaction as an explanatory variable in a model estimating the determinants of housing requirement was used. Thus, following this strategy, it is crucial to correctly predict housing satisfaction, especially given that, the knowledge of housing satisfaction as a dependent variable is yet to receive adequate econometric treatment in empirical literature.

Balchin and Kieve (1982) identified method of analyzing housing ownership status to the index of building start. This could be obtained from a local planning authority in the area concerned. Agbola (2007) however argued that the building plan inventory might still be unrealistic, as many approved building plans were never translated into completed building. Okpala (1981) sharing in the argument, revealed that:

“on the average, less than 20% of the annual building started each year, get completed within that year (which estimates may in some cases be higher than the actual because some of the completed buildings in a given year might have been carried over from the previous years). Nevertheless, from records, it is clear that far from that, many were being completed though under registration of completed buildings is a possibility. In terms of new housing units, the completions are only drops in the bucket (Okpala, 1981)”

2.80 Theory of Residential Neighbourhood and Eco-Housing

Theoretically, Chi and Griffin, (1980) viewed residential neighbourhood as an entity involving a large number of units displaying aspects such as physical quality, location, standard of services offered by the government and private

owners as well as neighbourhood characteristics. The physical entity of housing ties down a person or family to personal services and relationships. A housing that fulfils one's daily needs provide a high satisfaction level to residents (Rent & Rent, 1987). Satisfaction towards the living conditions means no complaints are made since the housing units has fulfilled the needs and aspirations of the residents (Abdul Ghani, 2008). Satisfaction towards the housing environment reflects residents's reaction towards their living neighbourhood.

In this context, environment does not merely refer to the physical and environmental components of housing but also covers social factors and economic conditions (Kellekci and Berkoz, 2006). Husna and Nurizan (1987) iterated that the cause for prevailing dissatisfaction was unfulfilled needs or the existence of housing deficit among households. This implied that, high dissatisfaction level towards housing would pose a negative impact on the well-being of a family and usual negative impacts are the residents moving away, into poor neighbourhoods and community, and under-achievement in the children's education (James, 2008).

Generally, housing satisfaction study has been accepted as a main component towards a quality life (Ginsberg and Churchman, 1984). It is apparent that Husna and Nurizan's study (1987) supports McCray and Day's (1977) opinion that relates housing satisfaction to Maslow's Theory of needs, where it has been used to evaluate individual needs which states that, when housing needs are fulfilled, the individual will indirectly be satisfied with his or her house.

Furthermore, Harris (2001) searching for an ideal housing satisfaction model, developed the concept of eco-housing that views household waste as a resource instead of regarding it as useless or discarded materials. Waste collected by household members from homes can be used personally to mend other

materials, to feed others living organisms, to fertilize or manure gardens or to generate energy. For instance, the process of generating energy (methane) from organic material for cooking, lighting, and crop drying is expected to form the base of the eco-housing development. The biogas components of eco-house can be an important technical innovation that can solve the problem of fuel unaffordability and greatly alleviate the health risks and the outbreak of epidemics.

Egunjobi (1998) however argued that recreational facilities would enable eco-house dwellers to relax properly especially after work and hence help to promote and improve health. Thus, family recreational areas such as backyard gardening or vegetable growing, fish pond, poultry keeping, rabbit keeping and snail rearing are expected to be built into the house as subsystems. In the area of housing-ecology, Egunjobi (1998) further argued that, the principle of 'ecology' could be used to develop a concept, which describes housing as a bundle of facilities and utility services that were connected or interrelated in some ways. Miller (1990) therefore confirms that the inter-relatedness of packages of bundles of housing facilities and services conform to the second law of ecology known as inter-relatedness. The law states that 'everything is connected and intermingled with everything else' and that it agrees with the system approach in the social science and planning in particular and forms the basis of the concept of eco-housing. The concept sees housing environment as consisting of different sub-systems, which include; water supply sources, a domestic energy set-up, family recreation area, communication outlet, income generation apartment and waste disposal system. This indicates that housing has an inherent capacity to be multi-functional attributes.

The conceptualized eco-house is a means of achieving sustainable housing development and satisfaction from different ramifications. The term 'sustainable development' brings together two strands of thoughts on the

management of human activities. The first deals with development goals, while the second deals with limiting harmful impact of human activities such as in residential development. Sustainable housing or eco-housing does not only generate good quality housing, but rather protects the environment than destroying it. As a strategy, it is pro-environment; it enables the dweller of the theoretical house to relate with his or her environment in such a way as to maintain as much as possible, natural ecological balance.

The major lapse of eco-housing, according to Agbola (2007) relates to the issue of cost. Although it would on the long run, record more gains than cost, there is no gain saying the fact that the cost of such a house will definitely be higher than a house designed ordinarily which an average urban household low and medium income groups could afford.

Although housing ownership status gives a higher satisfaction to owners, not everybody can afford comfortable housing. It is only within the reach of those who can afford it. The rest are relegated to renting in more affordable housing neighbourhoods. Hence, this research has established that there exist strong relationship between housing satisfaction and house ownership statuses of households whether house owner or tenant because satisfied house owners or tenants lead to full occupancy.

In addition, three dimensions of housing quality have been conceptualized to be studied; viewing from the internal aspects of a dwelling unit, its external aspects as well as its surrounding area aspects on the whole (Duncan, 1971). These studied items generally revealed that, a good building structure is an important indicator determining the quality of housing and the value of a dwelling (Kutty, 1999). Thus according to Elsinga and Hoekstra (2005) the higher the quality of a dwelling is, the higher the resident's satisfaction towards it. They reiterated that housing quality must not be assessed based on one

variable only. Various aspects must be studied whether on its objective dimensions or subjective dimensions.

Theoretically, World Bank (1997) divided housing quality into five critical factors; which include basic housing; dwelling unit; surrounding property; non-residential land use factor; and structural average quality factor. Basic housing quality factor refers to the index used to measure the housing surrounding area's external physical quality. Dwelling unit quality factor is from the structural aspects and internal hygiene of the dwelling unit. On the other hand, surrounding property quality factor is assessed from the general cleanliness of the surrounding area, its beauty, and landscaping.

2.90 Differences in Conceptualization of Shelter and Housing

The issues involved in the theory of housing satisfaction for households are more than shelter. The need to satisfy the basic human needs of food, shelter, and protection is the motivating force behind differences in housing satisfaction and informal housing development. Provision of shelter according to Ezenagu (1989) implies a structure that keeps its occupants safe from rain, wind, wild animals, or such like dangers. Thus, shelter is always identified with protection or safety; but goes beyond buildings or houses made of cement or blocks, but include, wooden structures, metallic structures such as kiosks, which have roofs, a hut, bus stops, trees that provides shades from the sun and many others. As long as the object provides any form of protection against the environmental elements, is regarded as a shelter. Dwelling units or housing types of this nature could constitute housing consumption differences and dissatisfaction indicators. Agbola (2005) added that, this remarkable difference in housing provision makes government housing projects always unsuccessful, unaffordable and accounts for too many areas of low quality housing in developing countries.

Aribigbola (2000) contends that, 'shelter' may be described to connote a reasonable degree of privacy, usually defined by structural separation, specifically used for living and not as an office, workshop, church and many others. This implies that a dwelling that is adequate from the engineering or design point of view may not necessarily be adequate or satisfactory from the users' point of view. Therefore, housing satisfaction is something more than numerical quantities of dwelling but include household size, household income, their peculiar requirements, and even their traditions. Relating this concept of shelter to housing satisfaction, invariably 'housing satisfaction' could be regarded as the notion or 'idea of housing attributes' within a given locality.

Otegbulu (1996) differentiated between 'housing' and 'shelter' which are widely used as synonyms. He noted that they are not the same because in addition to shelter or lodging in which housing belongs, encompasses the immediate housing neighbourhood, sanitation, drainage, recreational facilities and all other economic and social activities that make life worth living. Rather, all signify good environment that could cause differences in housing satisfaction of various income groups. In addition, a properly planned housing is characterized by good road network, drainage and refuse disposal system, regular water and electricity supply, recreational grounds (Aregbeyen, 1993). It is therefore essential that housing facilities supplied are adequate; to ensure continuous function of a house and to enhanced satisfaction consistent with the various income groups.

Mbina (2000) then observes that, theoretically, housing satisfaction is not one's ability or willingness to pay for or purchase a house; rather it is the satisfaction of the consumer's fundamental, physical, physiological, and psychological needs. Therefore, housing demand is defined as the type and cost of housing a person or a household is able to and willing to pay for. This is in

line with Grimes (1976) observation that, effective demand for housing should be derived from each household's willingness to pay for the housing. In other words, affordability and willingness to pay for the housing goods and services should be the major determinants of housing satisfaction. Going by Grime (1976) opinion, the level of household income, its distribution, the prices of available housing, prices of other goods and services are important economic factors influencing decisions about how much to spend on housing, thus making demand theory relevant to this study.

However, the house is only one link in a chain of factors which determine household's overall satisfaction level. This corresponds with Herzberg, (1966) hygiene factors or satisfiers-dissatisfies theory that there are factors that, when not present or inadequate in housing environment, the situation tends to create some dissatisfaction to households. These categories of factors belong to Maslow's (1946) first three levels of needs in the housing neighbourhoods, capable of satisfying household's housing wants. Therefore, what constitutes housing satisfaction varies according to numerous related circumstances.

Ezenagu (1989) observes that, 'most housing programmes failed due to the failure to distinguish between the level of households' housing satisfaction attributes, effective demand and the income distribution of different income groups. To determine the demand schedule for housing by various income groups, it would be necessary first to define the range of housing choices or packages of components available. Thus, in practice, these data are not readily available.

Housing satisfaction and demand can be contrasted in the sense that 'housing satisfaction' embraces the total requirement for shelter, without consideration for the households' ability to pay for it, whereas effective housing

demand is derived from the household willingness to pay for the housing at the prevailing market price. Thus, effective housing demand is an economic issue.

The theory of housing as an "economic" or "investment" good is on the premise that an individual should take full responsibility of providing satisfactory housing for his household under normal competition there by meeting his level of housing satisfaction. By normal competition, it means to allow the laissez fair market forces of demand and supply to determine housing consumption (Aribigbola, 2000). In other words, housing consumption should be determined by the individual household's ability to pay regardless of the expected user's satisfaction level.

Whereas the theory of housing as a "social good" or "service", views housing satisfaction as a vehicle for fashioning the nature of our society, rejecting in its entirety the idea that housing is a commodity, which the individual consumer consumes just like clothes or motor cars. This school of thought, according to Acquaye (1985) implies that government should be totally committed and have a responsibility of providing satisfactory housing for members of the community. By this context, housing is given a role as a social good of which satisfactory housing is a necessity of life, which affects productivity and have positive physical and mental impacts on its inhabitants. Thus, the effect of bad housing will be on the reverse, indicating the need for government to intervene in the housing market most especially as the outcome of an unregulated competitive market cannot be in line with the social needs and national political objectives.

Agbola, (2000) identified two classes of housing features that must be considered in housing satisfaction studies to include: individual dwelling and site characteristics. The first deals with nature of accommodation; number and

sizes of rooms, toilets, bathrooms types, and quality of interior and the second deals with the exterior furnishing and structural stability of the building.

2.100 Strength, Weaknesses and Gap of Theoretical Framework

The foregoing theories have measures of strength and weaknesses to the study of household housing satisfaction using Uyo Capital City Territory, Akwa Ibom State, Nigeria as a case study. Demand and Supply theory as propounded by Adam Smith (1776) is fundamental to this study because housing demand is affected positively or negatively by the availability or supply of the product. The fact that income distributions of a city as a whole affects the affordability and demand for housing to different income groups makes this theory very relevant and strong for this study.

Herzberg, (1966) hygiene factors or satisfiers-dissatisfies theory that there are factors that constitutes housing satisfaction and that they varies according to numerous related circumstances, and when not present or inadequate in housing environment, the situation tends to create some dissatisfaction to households and make them inefficient and unfulfilled, makes the theory strong for this study. Also, the Cobweb model has implications for housing supply in the study because housing supply responds slowly to increase in demand of the previous year (Agbola and Kassim, 2007). However, it is not realistic to assume that the demand, supply, and supply conditions of housing will remain unchanged over the preceding year period. In reality, they are bound to change with considerable divergences between the actual and the expected prices thus, portraying the weakness of the theory for this study. Also, the theory did not conceptualized different income groups but lumped up the housing cost categorized income groups, which is misleading and therefore portrays the weakness of the model.

The Model for Generating Optimal Housing postulated by United Nations Economic Commission for Africa (UNECA, 1976) is relevant to this study

because housing satisfaction components requirements can only be achievable if it is backed up by effective demand or financial capabilities of various households supposed income. In other words it implies the income capabilities of the various households, therefore the theory is purely an economic concept and strongly relevant to this study.

Maslow (1946) 'basic satisfaction theory' relates to the study for providing understanding into the situation whereby housing conditions fall below the norms considered necessary for good health, privacy, and development of normal household living standards. The facts that housing satisfaction affordability is restricted only to those who can afford it base on effective demand, back up by household income, makes the theory strong and relevant for the study.

Herzberg (1966) version of satisfaction theory asserted that the satisfaction of some wants reduces discontent and makes people fulfilled doubtlessly makes the theory sufficiently relevant to this study, of identifying and classifying housing satisfaction factors for Uyo capital city territory. Whereas, the Expectancy theory by Vroom and Deci, (1970), provides understanding to the wants of individuals and how the wants are ordered to derive composite satisfaction package for the design and implementation of sustainable housing programmes for the households, makes it useful to this study that identify and classify housing satisfaction factors for the various income groups in Uyo.

The theory of basic satisfaction is relevant to the study because it measures the extent to which the housing satisfaction factors were achieved, aspiration met or frustrated, and how the identified factors differed spatially among the various income groups, (Trickle-Up, 1998). Whereas Galster (1987) theory of house ownership though considers house ownership status as the key factor in determining housing satisfaction but also considers that house owners and

renters behave differently in unsatisfactory housing situation. However, the theory does not explain to what extent homeownership affects housing satisfaction and none of the studies considered household housing satisfaction with the income groups and households' attributes.

The major lapses of eco-housing theory, according to Agbola (2007) relates to the issue of cost. The weakness lies in the cost of such a house definitely being higher than a house designed ordinarily which an average urban household low and medium income groups can afford, therefore its relevance to the study was doubtful.

Generally, the theoretical framework of this study were only based on developers' theoretical design concept, income groups housing cost categorization of income groups and effective demand rather than on households' identified housing satisfaction attributes and the various supposed income groups. The conventional theories of housing satisfaction lumped up all income groups in housing policy programmes, irrespective of differences in income group levels. This created theoretical gap where the supposed household income groups and their peculiar housing satisfaction attributes were neglected which was the gap that has been filled in this study.

3.0 CHAPTER THREE: LITERATURE REVIEW:

3.10 Global Overview of Housing Satisfaction

Some studies have been carried out on household housing satisfaction globally. Few of such studies undertaken in many nations to help inform housing policy decisions, identified overcrowding and low-income as housing dissatisfaction indicators that can cause differences in satisfaction (Wiesinger, 1984; Agyapong, 1990; Tipple, 1994; Twun-Baah Kumekpor and De Graft-Johnson, 1995). Tipple (1994) noted that, houses in Kumasi, Ghana are overcrowded to the rate of 3.5 persons per room on the average, and suggested that factors such as income, presence of children and gender of household heads are related to overcrowding. However, Willington (1993) added that poor housing qualities in Kumasi are a reflection of low income level. Accordingly, the numbers of children present in a household and female-headed households were found relating significantly to quantity. Agyapong, (1990) attributed the provision of basic housing satisfaction to the people of less developed countries to the inadequate data on housing characteristics and lack of consensus regarding appropriate measures on housing satisfaction attributes.

Urban planners have become worried about the possible detrimental effects of crowding. This worry led to Calhoun (1962) interest in crowding and stimulated study of laboratory rat, which he linked to the high and higher rates of illness. His findings led researchers to search for detrimental effects of higher population density in human species. Evidence suggests that crowding within the household, and the number of persons in a room are engenders. Observably detrimental effects include irritability, withdrawal, weariness, and poor physical and mental health (Altman, 1975, Edwards, 1994, Galle and Gove, 1978, Gove, 1979). This effect may represent a primary mechanism by which housing constraints and differences in housing satisfaction exhibit negative effects on the educational attainment of children.

Booth (1976) studied effects of household crowding using aggregate level data to look at such outcome variables as rates of drug use and crime but the study was criticized for the high level of co-linearity between independent variables (Higgins, 1976). Works by Edwards (1992) and (1993) examined the impact of crowding in the international context and found out that crowding in Thailand lead to higher level of chronic stress (Fuller, 1996) and the reluctance to engage in sexual relations or have additional children. However, household crowding was found as not being a good predictor of behavioral problems among South African Children (Liddell, 1994). Hawkins (1976) argued that crowding is particularly salient to the issue of race and housing satisfaction. The implications of all these studies were that household size should be considered an important variable in the measurement of housing satisfaction but the related problem with these studies were the use of a single indicator item for instance, crowding studies

Urban poverty and high level of unemployment has been found associated with rural-urban migration with its attendant urban population explosion. The worst hit is the urban poor. Oxorie (1991) and Adedile (1974) opined that housing producers have not been able to contend with the situation and in an effort for this group to solve their accommodation problems their own way, slums and squatter settlements are the prevailing phenomenon hence differences in satisfaction.

Continentially, wide gap has been identified between housing supply and satisfaction at the second African Ministerial Conference. United Nations Habitat (2006) attributed this gap to lack of finance mechanism for housing production by governments of developing countries. Failure of many African governments to tackle large-scale land reforms make housing problem become even more critical especially as population keeps on expanding with the increased pressure on available land. Shivji (1975) therefore stress an urgent

need for the developing nations to develop land reform policies that will enable massive urban land to be acquired and redistributed to the various income groups at subsidized rates for housing development to enhance attainment of their required housing satisfaction level. Accordingly, the continued acquisition of customary lands and lack of decentralization of land distributive system exposed the masses to violent confrontations between the government and the governed. Thus, governments of developing nations were advised to comply with the United Nations Development Programmes {UND} (Habitat, 1996) directives to ensure that all urban households have access to decent, safe, sanitary, and satisfactory housing at affordable cost.

The symbolic interaction model, first developed by a German Sociologist and Economist, Max Weber and later by an American philosopher, George Mead argued that, men are more likely to perform an activity when they perceived the reward of that activity to be valuable. Thus, all relationships have give and take, although the balance of the exchange is not always equal. Since housing has not just economic but social, cultural, political and technological implications, the meaning attributed to housing varies from one quarter to the other thus the differences in satisfaction. In accordance with this philosophy, housing to a politician may mean just to develop housing units to score some political marks, not minding the cost and who gets what. Moreover, to a poor man, housing may mean having just a place for shelter and security not minding the quality and the basic satisfactions expected, especially in a community where a poor man cannot buy or rent a standard housing at a reasonable price.

Responding to the difficulties of providing affordable housing quantitatively and qualitatively to the urban low-income households, practicing town planners and academicians attempted to develop ways in which the planning system may be used to procure an indirect land-cost subsidy for the provision of 'affordable' satisfactory housing units. The potentiality of linking planning and affordable

housing has been highlighted in a range of studies (Barlow, 1994, Bishop and Hooper, 1991) expanded upon it in government policy statements.

The sum of all these contributions are that, planning has a legitimate, probably limited role to play in providing accommodation opportunities for those excluded from the mainstream housing stock through their inability to meet the market costs. Planning and affordability housing approach are range of housing policies, which either uses the development permission system as a means of encouraging developers to include lower-cost housing units (often for rent) within market housing schemes or create a subsidy for housing development. Practice wise, it involves granting development permissions to social housing providers on sites that would not normally be released for housing and which therefore have a reduced market value (Gallent, 1997).

United States Department of Environment (USDE, 1998) negotiated for the inclusion of affordable units in housing-for-sale schemes as well as advantage of securing local housing requirement on 'exceptional' sites. Barlow (1994) noted that it posed a threat to accountability and a move, which ran the risk of undermining democratic control of planning system. Moreover, the practice of releasing land on unallocated sites, and granting exceptional permissions, seemed to herald the arrival of a more parochial planning system in which arbitrary decision could lead to the abuse of local planning powers. Thus, the strategies adopted by the local planning authorities were viewed with suspicion and therefore the debate surrounding affordable housing and planning system only centered on the issue of legitimacy rather than the extent of unit provision (USDE, 1998).

Other strategies included the granting of exceptional planning permissions. Such 'exceptional' and 'site quotas', extracted an indirect subsidy from total land costs. Also, in the case of 'exceptional policies', the Local Planning Authorities (LPA) were given powers to grant planning permissions on land not

allocated for housing in the local plan-within or adjoining existing communities (Crook, 1996). Owners of such sites were encouraged to release such land, which had limited agricultural value at a negotiated price between agricultural and full development value. Hence, the affordable units were built at a lower cost, as the land price element were reduced and controlled for community use in perpetuity (USDE, 1996).

Gallent (1998) further stated that, 'subsidy' for development were levied from land owners willing to accept a land purchase price below full development value on 'exceptional' sites and in other circumstances, local authorities transferred land to housing associations at reduced or nil cost. Thus, the costs of procuring affordable housing units were met from these various strategies.

However, as further contribution to the housing affordability approach, Healey (1993) tackled the issue of the legitimacy of seeking the developer's contributions. He then argued that in addition to expanding the rationale for planning agreements, it was the responsibilities of the developer and the public housing sector to return some of the profits from housing development to the community via some form of 'betterment'. Thus, affordable units were then procured via a process of negotiated planning gain with the developers who were willing to accept narrower profit margins in return for development permissions.

3.20 Identification of Factors and Measurement of Housing Characteristics

There are scattered accounts of housing satisfaction literature concerning states of Nigeria, particularly Lagos and Ibadan. One of such literature is the work of Olatubara and Fatoye (2007), on residential housing satisfaction in public housing of Lagos State, Nigeria as a case study. The study was based on the Expectancy-Value Model of Attitude as was proposed by Rosenberg (1972) in which evaluations were seen as strongly dependent on people's expectations

that the evaluated object will advanced the attainment of their goals (Francescato 1989). The study conducted a cross-sectional survey of three residential estates managed by Lagos State Development and Property Corporation (LSDPC), having 40 residential estates with well over 20,572 housing units. In the study, 20,572 estates in Lagos were categorized into three, using stratified sampling technique based on the three cost/income level housing estates. One estate with the largest housing units was selected from each of the stratum that included; Abesan Estate (Low-cost), Ijaiye Estate (Medium Income) and Dolphin Estate (High income). The sample size was based on five percent sample frame, using systematic technique. Information on demographic and socio-economic characteristics of the respondents of the various estates were obtained. The level of satisfaction was evaluated using quality performance criteria as were adapted from Western (1979) and cited in instrument of building performance from (Torbica and Strouh, 1999).

In the study, Olatubara (2007) used six housing satisfaction elements namely; physical, environmental, functional, behavioral, economics and timing elements to determine residents' relative housing satisfaction in public housing estates in Lagos, Nigeria. The elements were extracted from seventy housing quality variables, using Principal Components Analysis (PCA). The instruments were examined both objectively and subjectively which covered such areas as housing design, facilities and amenities, estates layouts, site locations and proximity to neighbourhood facilities and services. Each respondent was asked to identify on the scale, his high degree of satisfaction and dissatisfaction with the seventy selected criteria. The study used Relative Satisfaction Indices (RSI) to compute the relative housing satisfaction levels for each of the elements or instruments of performance. The housing performance was based on the principle that residents' scores on all the selected criteria, considered together were the empirically determined indices of relative satisfaction (RS).

The relative satisfaction of the resident in the whole estate is the sum of the residents' potential scores on all the instruments of quality performance criteria. The RSI revealed the distribution of relative satisfaction of housing estates through the proportion of residents that were satisfied. The analysis was carried out using a seven-point scale, categorized into two-point of zero or one degree of satisfaction. A resident who scored one and four was coded as zero meaning 'not satisfied' while the resident who scored between five, six and seven was coded as 'satisfied'. The data were analyzed using both descriptive and inferential statistics showing frequency distribution and percentages of all the respondents. Mean Item Score (MIS) was determined for each of the performance criteria and were ranked in descending order of importance. Index of relative performance (relative importance) were calculated to ascertain specific performance criteria which gave residents satisfaction or were sources of dissatisfaction. The degree of satisfaction or dissatisfaction represents the measure of relative weight attached to a criterion by all the residents taken together. Using this formula;

$$RPI = \frac{\sum_{j=1}^n \sum_{i=1}^N \frac{X_{ij}}{P_{ij}}}{\sum_{j=1}^n \sum_{i=1}^N 1}$$

Where RPI = Relative performance index for criterion j

N = Number of respondents

X_{ij} = Actual score on the seven point quality performance by the i th respondents on the j th criterion.

P_{ij} - The potential score (or maximum score) that respondent i could give to criterion j on the quality performance scale.

The formula item becomes;

$$RPI = \frac{\sum_{j=1}^n \sum_{i=1}^N \frac{X_{ij}}{P_{ij}}}{\sum_{j=1}^n \sum_{i=1}^N 1}$$

Where:

n_1 = Number of respondents for very dissatisfied

n_6 = Number of respondents for satisfied

n_7 = Number of respondents for very satisfied

N = Total number of respondents

The data were recorded on a two-point dichotomous scale of zero and one, where one through four on the seven-point scale were coded as 0 for 'not satisfied' and five through seven was coded as 1 for 'satisfied'. The criteria were ranked according to the decreasing order of their relative performance index (RPI) that is from the highest to the lowest. The maximum index criterion given was 1,000 while the minimum depended on the study area. This implied that the closer the 1,000 to RPI was, the more the contribution of the criterion was to the satisfaction or vice versa.

Result revealed that the building performance of functional element had the highest frequency of satisfaction of 69.0% while timing element had the list frequency of 37.2%. This implied that the criterion that had the least frequency of relative satisfaction index had the highest frequency of relative dissatisfaction index and vice-versa. Moreover, the whole performance criteria irrespective of the element classification, revealed high frequency resident's satisfaction with the numbers of rooms in their dwellings while nearness of dwellings to fire fighter had the lowest frequency of satisfaction. The result further revealed that for satisfaction to be achieved, the housing needs of the residents of various income groups must be considered from the inception of the housing programme. It was also observed that the involvement of various income groups in housing programmes from the design stage lead not only to better-adapted housing but also to more satisfied users. Therefore, housing developers need to address the vital issues of the meaning and associations attached to places by the various income groups, the aesthetic qualities of their housing environments and the way these issues affect their individual and cultural beliefs.

It was further revealed that resident housing satisfaction information enabled housing producers to regulate their activities to increase the value added for the users. Thus before the resident took their final decisions to either rent or purchase a building, their expectations should be built into the performance of their desired housing needs expected to be achieved, which in turn determined their level of satisfaction or dissatisfaction. This implies that housing satisfaction is an evaluation criterion governed by a number of considerations, particularly the viewpoint of all income groups themselves.

In a related study of housing satisfaction accessibility by the various income groups in Nigeria to affordable housing, Adedeji and Olotuah (2012) found out cases of high cost of housing compared to the low wages of public servants. Two-bedroom bungalows at Otedola Estate in Lagos and two-bedroom flat at Ikorodu were sold by the Lagos State Development and Property Corporation (LSDPC) at the rate of N1.7 million per unit, which no paid worker in the public service could afford. Consequently, only the high-income group could afford such buildings while the low-income groups were competed out. The low-income earners according to the Nigerian National Housing Policy (FGN, 2004) is defined as all employees and self-employed persons whose annual income is N100, 000:00 and below (i.e. the equivalent of salary grade level of 01-06 within the civil service). Interestingly, the national minimum wage is fixed at N18,000.00 per month. Adedeji and Olotuah (2012) found out that about fifty-seven percent (57%) of the Nigerian population falls below the United Nation poverty line, which is on the average of US \$1 per day. In reality, most employees in the public sector, outside the organized private sector as well as many self-employed Nigerians earn well below the national minimum wage. This indicates that, about seventy percent (70%) of Nigerians fall into this category, thereby making housing satisfaction for the low and medium income

groups difficult to afford even though these groups form the nucleus of the national economy.

Income level has been found to have positive effect on housing satisfaction only for house owners. These were revealed through studies on housing satisfaction conducted by the following researchers: Chin-Chun (1985) studied urban dwellers in Taiwan; Amerigo and Aragonese (1990) as reported by Natham, (1995), investigated housing satisfaction of the participants in the World Bank sponsored projects in India. These studies revealed that positive effect of cultural traits for renters in the Southern European countries were responsible for the housing dissatisfaction they experienced. Amole (1989) studied 1124 Nigerian universities students and observed that morphological setting was an important predictor of housing satisfaction.

Francescato (1989), in his study found out that housing and neighborhood characteristics could be measured through objective and subjective attributes of housing characteristics. Objective measures here refer to the evaluation of the physical characteristics, facilities, services and environment, whereas subjective measures refer to perception, emotions, attitudes, and intention towards the housing attributes (Mohit, Ibrahim and Rashid, 2009). In separate study of the formation of housing satisfaction of 1100 households in Bangkok, Francescato (1989) found out that neighbourhood social interaction, friendliness, recreational facilities and parking space, environmental conditions such as cleanliness, and housing location characteristics were important determinants of housing satisfaction. Lu (1999) used data from the 1989 American Housing Survey to reveal that housing and location variables have significant effects on housing satisfaction. Elsinga and Hoekstra (2005) used eight European Union countries data from the European Community Household and Panel (ECHP) to find out that housing quality plays an important role in determining housing satisfaction.

Duncan (1971) from Ramdane and Abdullah (2000) viewed three dimensions of housing characteristics from the internal aspects of a dwelling unit, its external aspects as well as its surrounding area aspects overall. Basic housing quality factor refers to the index used to measure the housing surrounding area's external physical quality, (Duncan, 1971). Dwelling unit quality factor is assessed from the structural aspects and internal hygiene of the dwelling unit. The surrounding property quality factor is assessed from the general cleanliness of the surrounding area, its ambience, and landscaping. The effects are assessed based on the level of discernible noise, air quality and traffic flow in the area. The structural average quality factor is assessed base on the structural quality on the building facade.

There are general assumptions that the physical and structural adequacy of a dwelling alone is a good measure of its suitability in providing satisfactory housing to its occupants. This generalization is nevertheless not enough to explain what is considered as satisfactory or adequate housing. Onibokun (1976) observed that a dwelling that is adequate from the engineering or design point of view might not be adequate or satisfactory from the tenants' point of view. The Ghanaian Statistical Service in collaboration with the World Bank, UNDP, UNICEF, and ILO, developed Core Welfare Indicators Questionnaire (CWIQ). This designed was used for housing quality index and evaluation of measurement of properties for validity and reliability in codifying housing attributes and their relationship with the public housing satisfaction.

Study structure to analyze housing satisfaction has been formulated by Ukoha & Beamish (1997). The structure was divided into four main categories amongst: i) Satisfaction towards the dwelling unit, ii) Satisfaction towards neighbourhood qualities, iii) Satisfaction towards the management and satisfaction towards the services provided by the housing management whether

by the developer or by the land owner, vi) Satisfaction towards the facilities and amenities available in the dwelling unit and its surrounding area. Satisfaction towards housing relates to dwelling units, which was apparent from the building conditions and the features manifesting in the buildings (Ukoha & Beamish, 1997). Onibokun (1976) identified and classified building conditions and features as dwelling subsystems to the human habitat that could influence the level of household housing satisfaction. This view was further supported by McCray and Day (1977) who shared the same view that housing construction rarely refer to the needs and types of households who are going to inhabit the houses whereas these criteria are critical in the establishment of human habitats. Therefore, due to lack of sufficient housing data for housing analysis in developing countries, the United Nations has recommended the development of approaches using a scale from just six items to create an index of housing quality. The items and scaling measures so typical of developing countries are wall materials, types and durability of floor materials; type of roof materials; availability of electricity, types of sewage system and types of water supply facilities (Arias and Devas, 1996).

Studies related to neighbourhood qualities area were empirically conducted by Bjorklund and Klingborg (2005) in eight municipalities in Sweden using 6,000 respondents. The study revealed that top ten neighbourhood qualities that were given priority included: security and surrounding area control; good public transport; proximity to commercial areas; building exteriors with high aesthetic values; proximity to open spaces; not noisy and no traffic congestion; good reputation; building surrounding; proximity to town centers and a conducive environment.

Salleh (2008) found that the dwelling unit factor which included area of the dining, kitchen and living room; the neighborhood factors relating to educational facilities, infrastructures, security such as police, parking lot, fire

station, and central facilities including telephone, market, public transport and many others; are major determinants of housing satisfaction among residents in private low cost housing in Malaysia. These results showed that the housing quality index and the subjective perception of the dwelling size and the housing neighbourhoods have the largest influence on housing satisfaction.

Vera-Toscano and Alteca-Amestoy (2008) in Spain used four surveyed factors, namely: living conditions and poverty, housing quality, space available in the house and location and neighborhood characteristics to confirm that there exists significant relationship between these factors and housing satisfaction. These studies indicated that neighbourhood factors are the most dominant factors in determining the level of housing satisfaction while factors contributing to a low level of housing satisfaction were related to neighbourhood facilities and surrounding area such as poor public transport; lack of children's playgrounds, multi-purpose hall, parking areas and safety.

Savasdisara (1989) on the other hand, looked into items such as trust in neighbours; friendliness; helpfulness; trustworthiness; neighbours with mutual interests, socio-economic status; level of education attained and types of occupation as indices to measure the level of housing satisfaction towards the neighbourhood. While Abdul Ghani, (2008) studied the level of housing satisfaction in low cost housing areas built by the private sector. He looked into two important aspects influencing individual quality of life namely; satisfaction towards housing and its surrounding area.

Ramdane and Abdullah (2000) found in their study that there are three factors affecting housing satisfaction namely: dwelling unit, neighbourhood, and community service factors. Neighbourhood factors impacts highly on overall satisfaction on housing. Factors studied under

aspects of neighbourhood were the level of privacy achieved by the residents, distance to the workplace, and location of schools, infrastructural services and amenities.

Kearney (2006) studied the effect of form of housing development on neighbourhood satisfaction from the viewpoints of effects of density and the surrounding environment. The study revealed that negative feelings towards high density were not caused by the existence of high density developments but by the existence of unattractive cityscape and obstruction of view due to the high density development. This means that neighbourhood satisfaction depends critically on the actual lot size; residents who cannot see their neighbours' houses and have a better natural view, feel that their lots are not so small and do not face privacy problems or feel that the neighbours were too close to their housing infrastructures. Hence, they feel that high-density developments need natural view to increase satisfaction towards the neighbourhood (Kearney, 2006).

Thus, according to Gallant (2004), "nothing else gives house dwellers more sense of security, comfort, satisfaction and pleasure than the availability of electricity or the regular supply of electricity". Thus, electricity supply is included as a basic housing satisfaction indicator. The impact of inadequate electric supply to housing on urban environment could be lessened by using its vast roof area for solar panels or wild vegetation. Solar energy is necessary because it is renewable, perpetual, sustainable, and non-polluting. This could be made possible by using the available technology; the energy, which can be used for heating water, generate electricity or pump water from the boreholes, Egunjobi (1998). Alternatively, regular supply of portable water, through the conceptualized eco-housing is conceived as coming from building reservoirs to catch and store rainwater or tapping from under-ground water. This is not only

an insurance against water-borne disease, but is also essential for the maintenance of healthy hygiene habits in the house.

These studies generally revealed that, a good building structure is important indicator which determines the quality of housing and the value of a dwelling (Kutty, 1999). Thus as Elsinga and Hoekstra (2005) argue, the higher the quality of a dwelling, the higher the household's satisfaction towards it. They reiterated that housing quality must not be evaluated based on one variable only. Various aspects must be studied whether on its objective dimensions or subjective dimensions.

Theoretically, World Bank (1997) divided housing quality into five critical factors; which include basic housing; dwelling unit; surrounding property; non-residential land use factor; and structural average quality factor. Basic housing quality factor refers to the index used to measure the housing surrounding area's external physical quality. Dwelling unit quality factor is assessed from the structural aspects and internal hygiene of the dwelling unit. On the other hand, surrounding property quality factor is assessed from the general cleanliness of the surrounding area, its beauty, and landscaping.

Therefore, from the contributions of Ramdane and Abdullah (2000), Kearney (2006), Rent and Rent (1978), it could be concluded that, the concept of an ideal home takes into account not only the physical, architectural and engineering components of the home but also the social, behavioral, cultural and personal characteristics of the occupants and the arrangements under which the dwelling is managed. Neighbourhood qualities such as accessibility to the workplace, schools, and shops are also considered as factors contributing to housing satisfaction. Families with low-income status choose dwellings that satisfy these social conditions. When a household lives in an area that fits their social status, their level of satisfaction towards their housing and social surrounding will also increase.

This re-affirm the fact that, housing satisfaction must not be assessed based on one variable only rather, various aspects must be studied whether on its objective or subjective dimensions. Lack of comprehensive literature on the subject housing satisfaction revealed that housing satisfaction requirements, wants, or desires have been isolated from housing production characteristics from the colonial housing intervention in the study area, until the post-independence era.

Olayiwola (2003), corroborating Onibokun (1974), noted that satisfaction is largely dependent on dwelling - environment - management interactions. Therefore, the concept of habitable and satisfactory housing is related to the physical, architectural and engineering components of the house, as well as to the social, behavioral, cultural and personal characteristics of the inhabitants, the components of the environment of which the house is a part; and the nature of the institutional arrangements under which the house is managed.

Accurate occupant satisfaction assessment can only be performed through an evaluation of the dynamics arising from a particular housing unit located within a particular environment that is managed under a certain type of institutional management or administration (Oladapo, 2006).

Various researchers have highlighted some factors considered as important in determining housing satisfaction. They include safety (Bruin and Cook (1997), dwelling size (Mohit,2010), integrity of building structure and neighbourhood sanitation (Liu, 1999) social interaction (Blair and Larsen (2010), and culture (Rapaport (2000), Other factors include family size (Theodori, 2001), socio-economic status and income, education and employment (Varady *et al.*, 2001), satisfaction with housing physical condition and management services (Varady and Corozza, 2000), past living conditions as well as residential mobility and future intention to move (Varadi and Corrozza, 2000).

Evaluating housing satisfaction according to Djebani and Al Abed (2000) should be done using criteria related to the dwelling, environment and management components grouped in a manner to suit the peculiarities of the case study. A summary of criteria identified in the studies by Onibokun (1974) and Oladapo (2006) shows that occupants satisfaction could be measured by housing attributes such as the function and physical adequacy of the dwelling, quality and adequacy of social and community facilities, the nature and effectiveness of official policies and personnel attitudes, convenience for living, the condition and maintenance of the home environment, maintenance of the dwelling facilities, privacy, territoriality and neighbourhood security among many others. When a household lives in an area that fits their social status, their level of satisfaction towards their social surrounding will also increase (Frank and Enkawa, 2009).

The statutory standard of fitness was first introduced as a concept in the UK around 1919 and remains in use as the key legal standard for the assessment of housing conditions. Stewart (2002) identified the main defect of fitness standard as merely providing for a pass or fail checklist for some housing parameters. Part 1 of the UK Housing Act 2004 now provides for the Housing Health and Safety Rating System (HHSRS), a health and safety based system for local authorities to adopt as the basis for enforcement against poor housing conditions (ODPM, 2004).

3.30 Differences in Housing Satisfaction among various Income Groups

The inherited differences in spatial planning of housing segregation into low-medium-high income neighbourhoods is associated with differences in facilities, hence affect the satisfaction level (Waziri, 2013). More so, Awotona (1990) found those living in single family housing residents in Nigeria to be more satisfied than those in apartment's buildings. Residents of public housing in Maiduguri, Nigeria are found to be generally dissatisfied with their housing

based on the dwelling type provided which is characterized with too few bed rooms (Ozo, 1990).

Salleh (2008) found that the dwelling unit factors which included area of the dining, kitchen and living room; the neighborhood factors relating to educational facilities, infrastructures, security such as police, parking lot, fire station, and central facilities including telephone, market, public transport and many others; are major determinants of housing satisfaction among residents in private low cost housing in Malaysia. These results showed that the housing quality index and the subjective perception of the dwelling size and the housing neighbourhoods have the largest differences on housing satisfaction.

Eldredge (1967), differentiated between shelter and housing. According to him Shelter, refers to the physical dwelling unit, while housing refers to the interior space, equipment and the finishing, the exterior space and its relationship with the surrounding neighborhood or community. However, in this context, standard housing means satisfaction in terms of functionality of the building in design and use. Wahab (1985) therefore attributed standard housing to the individual's taste backed up with availability of reasonable financial resources which resulted in differences in satisfaction. Pondering on the dwelling adequacy point of view, Wahab (1985) identified the strength and stability of a building as a functional requirement, which offers the occupants a feeling of safety. Thus for housing satisfaction to be achieved, it becomes imperative that architects should produce building designs that would meet the basic functional and physiological satisfaction of the users. Leaning walls, sagging ceilings, crack floors and staircases are all signs of instability and housing dissatisfaction indicators. Therefore, building materials specified in the design should be capable of withstanding stresses and resistance to any deformation to provide the protective satisfaction for the users. Generally, most

housing satisfaction studies attempt to integrate both objective and subjective attributes of housing for the assessment of housing satisfaction.

Study by Rent and Rent (1978) revealed that different types of buildings such as detached house, terrace house and flats give different levels of satisfaction to their residents and that the level of satisfaction towards housing differs according to the type of dwelling occupied by the household. It was found out that housing characteristics, which included the number of bedrooms; sizes of bedrooms, kitchens, bathrooms, study areas, living rooms, the level of privacy, the location of bedrooms, staircases, living rooms, dining areas, kitchens; and the overall size of the house, are critical factors in determining housing satisfaction as compared to the residents' demographics. However, it was concluded that shifting would occur if the residents are not satisfied with the house they are residing in. It was noted that good building structure is an important indicator determining the quality of housing and the value of a dwelling. According to Elsinga and Hoekstra (2005), the higher the quality of a dwelling, the higher the resident's satisfaction is towards it. Whereas Kellekci and Berköz (2006) argued that satisfaction towards the housing surrounding reflects the residents' reaction towards the area inhabited.

Different types of buildings such as detached, terrace and flats give different levels of satisfaction to their residents. The level of housing satisfaction differs according to the type of dwelling occupied by the household. Studies in three local administrative authorities in London in 2001, revealed that tenants living in high-rise flats, often face problem of rent arrears as compared with those in low-rise flats, Rent and Rent (1978). Husna and Nurizan (1987) and Ukoha and Beamish, (1997) revealed that housing characteristics are critical factors in determining differences in housing satisfaction as compared with the residents' demographics, and that shifting would occur if the residents were not satisfied

with the house they are residing in. Duncan (1971) supported the fact that, besides building features, demographic factors also influence the satisfaction level of households. Others are housing characteristics, among them; the number of bedrooms; the sizes of bedrooms, kitchens, bathrooms, study areas, living rooms; the level of privacy; the location of bedrooms, staircases, living rooms, dining areas, kitchens; and the overall size of the house. In addition, three dimensions of housing quality have been conceptualized to be studied; viewing from the internal aspects of a dwelling unit, its external aspects as well as its surrounding area aspects on the whole (Duncan, 1971).

Studies related to neighbourhood qualities area were empirically conducted by Bjorklund and Klingborg (2005) in eight municipalities in Sweden using 6,000 respondents. The study revealed that top ten neighbourhood qualities that were given priority included: security and surrounding area control; good public transport; proximity to commercial areas; building exteriors with high aesthetic values; proximity to open spaces; not noisy and no traffic congestion; good reputation; building surrounding; proximity to town centers and a conducive environment which offer different levels of housing satisfaction.

Vera-Toscano and Alteca-Amestoy (2008) in Spain used four surveyed factors, namely: living conditions and poverty, housing quality, space available in the house and location and neighborhood characteristics to confirm that there exists significant relationship between these factors and differences in housing satisfaction. These studies indicated that neighbourhood factors are the most dominant factors in determining differences in the level of housing satisfaction while factors contributing to a low level of housing satisfaction were related to neighbourhood facilities and surrounding area such as poor public transport; lack of children's playgrounds, multi-purpose hall, parking areas and safety.

Beiden and Wiener (1999) found out that housing and its associated facilities were essential indicators of physical and socio-economic development of any nation and therefore provided a perspective for measuring the quality of life of a household (Okafor and Onokeoraye, 1986). The low-income households have the need to secure decent housing but they face difficulty of mobilizing fund to finance such desires, which contributes to differences in levels of housing satisfaction among households and localities (Ogboi, 1995).

O'Sullivan (1996) asserted that housing is consumed along with residential site. Therefore, housing as a bundle of services includes several site attributes such as; access to different facilities, tax liabilities, public services, environmental quality, and neighbourhood characteristics. Conceptually, housing is viewed as an entity involving a large number of units displaying aspects such as physical quality, location, and standard of services offered by the government and private owners as well as neighbourhood characteristics (Chi & Griffin, 1980). Lord and Rent (1987) postulates that the physical entity of housing is capable of tying down a person or family to personal services and relationships, while a housing that fulfils someone's daily requirements provide a high satisfaction rate to the residents.

Savasdisara (1989) on the other hand, looked into items such as trust in neighbours; friendliness; helpfulness; trustworthiness; neighbours with mutual interests, socio-economic status; level of education attained and types of occupation as indices to measure the level of housing satisfaction towards the neighbourhood quality. While the level of housing satisfaction in low cost housing areas built by the private sector was also researched by Abdul Ghani (2008). He looked into two important aspects influencing individual quality of life namely; satisfaction towards housing and its surrounding area.

Ramdane and Abdullah (2000) found in their study that there are three factors contributing to differences in housing satisfaction: dwelling unit, neighbourhood, and community service factors. Neighbourhood factors impacts highly on overall satisfaction on housing. Factors studied under aspects of neighbourhood were the level of privacy achieved by the residents, distance to the workplace, and location of schools, infrastructural services and amenities.

Kearney (2006) studied the effect of form of housing development on neighbourhood satisfaction from the viewpoints of effects of density and the surrounding environment. The study revealed that negative feelings towards high density were not caused by the existence of high density developments but by the existence of unattractive cityscape and obstruction of view due to the high density development. This means that neighbourhood satisfaction differences depend critically on the actual lot size; residents who cannot see their neighbours' houses and have a better natural view, feel that their lots are not so small and do not face privacy problems or feel that the neighbours were too close to their housing infrastructures. Hence, they feel that high-density developments need natural view to increase satisfaction towards the neighbourhood (Kearney, 2006).

Thus, according to Gallant (2004), "nothing else gives house dwellers more sense of security, comfort, satisfaction and pleasure than the availability of electricity or the regular supply of electricity". Thus, electricity supply is included as a basic housing satisfaction indicator. The impact of inadequate electric supply to housing on urban environment could be lessened by using its vast roof area for solar panels or wild vegetation. Solar energy is necessary because it is renewable, perpetual, sustainable, and non-polluting. This could be made possible by using the available technology; the energy, which can be used

for heating water, generate electricity or pump water from the boreholes, Egunjobi (1998). Alternatively, regular supply of portable water, through the conceptualized eco-housing is conceived as coming from building reservoirs to catch and store rainwater or tapping from under-ground water. This is not only an insurance against water-borne disease, but is also essential for the maintenance of healthy hygiene habits in the house.

Therefore, from the contributions of Ramdane and Abdullah (2000), Kearney (2006), Rent and Rent (1978), it could be concluded that, the concept of an ideal home takes into account not only the physical, architectural and engineering characteristics of the home but also the social, behavioral, cultural and personal characteristics of the occupants and the arrangements under which the dwelling is managed. Neighbourhood qualities such as accessibility to the workplace, schools, and shops are also considered as factors contributing to housing satisfaction. Families with low-income status choose dwellings that satisfy these social conditions. When a household lives in an area that fits their social status, their level of satisfaction towards their housing and social surrounding will also increase. This re-affirm the fact that, housing satisfaction must not be assessed based on one variable only rather, various aspects must be studied whether on its objective or subjective dimensions. Lack of comprehensive literature on the subject housing satisfaction revealed that housing satisfaction requirements, wants, or desires have been isolated from housing production characteristics from the colonial housing intervention in the study area, until the post-independence era.

Other studies on indicator development and measurement, although on community development, include Dumanski (1997), Dumanski, Peltapiece and McGregor (1997); UNCHS (1997); UNDP (1995) and World Bank (1997). The common features in these studies are the framework and methodology for

integrating socio-economic data with physical data and the ways the indicators were scaled, ordered, and aggregated.

3.40 Predictors of Housing Satisfaction Attributes among Income Groups

Research on predictor of housing satisfaction in Nigeria has majorly been targeted at public housing (Aduwo, Ibem and Opoko, 2013), low income housing (Oduwaye, Ilechukwu and Yadua, 2011); and campus housing (Akinjare, Adejoyin and Izobo-Martins, 2012). A particularly neglected cross-section of the society is the middle class who account for 34.5million people or 26.8% of the population. A general profile of the Nigerian middle class by Renaissance Capital (2011) is that 68% live in leased or rented accommodation, with 18% intending to move to self-owned housing (purchased or built) within five years. This analysis has positive implications for the housing development sector; therefore it is imperative that the housing satisfaction indices of the middle class alongside the low and high-income groups be clearly understood in order to provide housing solutions that will be acceptable to the potential clientele. Furthermore, there is no evidence in literature of any study comparing the satisfaction levels of the three income groups in both public and private housing of different income levels.

Housing satisfaction according to Henrietta (1979) was identified to be one of the prime determinants of social status. Rosenbaum (1995) stated; “In addition to providing physical shelter, housing provides the family with privacy and stability, and it serves as an outward sign of social status” Therefore, since underlying conceptions of poverty often rely on the notion of relative housing satisfaction, quality may be one of the most visible ways in which relative wealth (or affluence) manifests in the lives of the children. Bruin and Cook (1997) in their study on matriarchal low-income single families, revealed that personality traits are good indicators towards housing satisfaction and that it differs according to ethnic backgrounds using variables such as income and

level of education of households. In addition, Husna and Nurizan (1987) found out that households who attained a low level of education indicated a high level of satisfaction towards all aspects of their dwellings, except neighbourhood aspects as compared to those with higher level of education. Also, income does not display any relationship with the level of satisfaction for all aspects of housing.

Willington (1993), and Arimah (1996), identified access to indoor plumbing facilities, adequate sewage systems and acceptable cooking and lighting fuel as useful variables to be considered for the measurement of housing satisfaction and the differences among the various income groups. However, a common limitation of these studies is the generation of the housing satisfaction scale. The housing satisfaction scale constructed for these studies were not checked for validity and reliability. Another related problem with most housing satisfaction studies is the use of a single indicator item. For instance, crowding studies by Tipple (1994) as a measure of housing satisfaction used a single indicator which is reflection of narrow concept of housing satisfaction analysis. These studies by Tipple, (1994), Agyapong, (1990) and Willington (1993) however lacked adequate data on housing. For instance, measurement of location attributes and access to facilities were lacking. Also, the type of sampling plan used was not clear but appeared to be misleading. Declining physical housing quality and lack of access to social services remain the characteristics of much of the current housing stock contributing to differences in satisfaction among the various income groups in many developing countries.

Other studies on housing satisfaction indicators include; housing supply attribute, which significantly affect supply, accessibility, site characteristics and neighbourhood identity. The neighbourhood identity here is a function of neighbourhood facilities and services such as water supply, electricity, primary, and secondary schools, fire services among others. Other issues to be considered

in choice of housing are environmental qualities such as air quality, noise level, visual appearances of the environment and waste management.

Arimah (1992) used a two-step approach to estimate the demand for housing attributes in Ibadan, Nigeria. In the first step, annual housing value (imputed price of housing for house owners) and the annual rent for owners and renters were regressed on structural, neighbourhood and location attributes of the housing units. In the second stage, socio-economic and demographic variables such as income, age of the head of household, household size, education were significant indicators of housing satisfactions. Therefore, the relevance of socio-economic profiles of households in those reviewed studies; establish the need for its inclusion in the similar study in Uyo since households with different socio-economic backgrounds have different levels of aspiration, tolerance, and psychology on satisfaction towards housing they occupied.

3.50 Development of Socio-economic Indicators for Measurement of Housing Satisfaction

Socio-economic indicators have been developed in their respective sectors. World Health Organization (WHO, 1988) developed indicators of community health care. Food and Agriculture Organization (FAO, 1996) and Organization of Environmental Data Compendium (OEDC, 1997) developed Land Quality Indicators (LQI), including land use, land sustainability and land quality development indicators (Pieri, 1997). Some other sectoral index of indicators includes Food Energy Intake (FEI). Aigbokhan (1999) developed Cost of Basic Needs (CBN), (Sen, 1993). Each of these indices has been criticized for peculiar shortcomings (Lipton and Ravallion, 1993).

Socio-economically, the study of the level of satisfaction towards housing also looks into the socio-economic profile of residents (Ukoha and Beamish, 1997). Researches on the profile of residents were considered because

households with different socio-economic backgrounds have different levels of aspiration, tolerance and psychology on satisfaction towards housing (Galster, 1987). This opinion is in line with the findings of Bruin and Cook (1997) on matriarchal low-income single families, which indicated that personality traits are good precursors to satisfaction towards housing.

The level of satisfaction towards housing also differs according to ethnic house ownership status and housing satisfaction backgrounds. Study by Husna and Nurizan (1987) on low-income residents at Kuala Lumpur public housing, found out that difference occurred in satisfaction towards housing among different ethnic backgrounds. They found that the Malays have the lowest level of satisfaction towards housing as compared to the Chinese and Indians. Some of the items studied under this variable were income and the level of education attained by occupants. This study corresponds with Husna and Nurizan (1987) study where residents with low level of education indicated a high level of satisfaction towards all aspects of their dwellings as compared with higher level of education. Their studies also found that income do not display any relationship to the level of satisfaction for all aspects of housing.

UNDP (1995) developed the Human Development Index (HDI) to bring together all components into a composite index. The index contains an extensive list of indicators of quality of life including population, economy, natural resources, governance, housing qualities, and the environment. Similarly, UNCHS (1998) developed Urban Indicators Data Base (UIDB). It employed over thousand pieces of data from 237 cities to produce the indicators of the state of the cities and City Development Index (CDI). The beautiful thing about CDI is the disaggregation at the sub-regional and city levels. The most remarkable contribution of the HDI and CDI is the inclusion of social variables of governance and public participation that are undermined in other studies.

Literature shows a promising application of requirement indicators in community development in Nigeria (Okafor 1983; 1985; Odemerho and Chokor 1991; World Bank 1991; Adebayo 1986; Omofonwan 1995). The recognition of indicators in the measurement of development in Nigeria emerged in the Second National Development Plan, 1970-74. In the guideline of the Fourth National Development Plan (1998), the Federal Ministry of National planning (1981) states that: “The common man is more interested in such things as the availability of drinking water, satisfactory housing units, medical facilities, educational facilities, good roads, life expectancy, calorie intake and so on. From this viewpoint, it is significant to know how far these facilities have improved in the plan period. Such information provides good criteria for measuring development”

Consequently, improvement of database for socio-economic indicators, feature prominently in the researches by the Nigerian Institute for Social and Economic Research (NISER) and Institute for Development Studies (IDS). Other works on indicator development in Nigeria include Oyebanji (1982; 1984), and Okafor and Onokerhoraye (1986). Oyebanji (1982) developed five socio-economic indicators disaggregated into twenty measurable variables and used them to measure the variation in the quality of life in Kwara State. Oyebanji (1984) employed fourteen socio-economic indicators to assess multiple deprivations in Ilorin. Okafor and Onokehoraye (1986) constructed twenty social indicators in the study of pattern of development in the old Bendel State. The indicators were disaggregated into forty-seven using local government area data.

Ndubueze (1995) also investigated indicators of housing satisfaction and their differences among socio-economic groups, while Adeokun (1990) attempted a projection of housing satisfaction of the country to the year 2000 AD. Sule (1993) attempted to establish the influence of housing facilities on

urban residential and environmental quality, although his study was not quantitative. Muoghalu (1991) also made some valid contributions in asserting that housing and environmental qualities are indicators of life by attempting a quantitative determination of housing quality. This remarkable study concentrated mainly on the quantitative housing satisfaction as distinct from the qualitative satisfaction. This also is a reflection of narrow concept of housing satisfaction by academics and housing researchers generally.

Oyebanji (1986) employed and developed six indicators in the study of deprivation in a rural region. Omonfonwa (1995) conducted a more sophisticated quantitative analysis. He employed Principal Component Analysis (PCA) to condense some twenty indicators of quality of life into five major components in the analysis of spatial variation among some rural communities in Edo State.

Meanwhile, these independent studies presented above show that the scope of indicator development and requirement in Nigeria is recently expanding. They also reveal that the use of indicators in development for either community or housing development is highly promising. More information for effective policy conduct could be gained by integrating environmental and socio-cultural variables along with economic variables (Ogboi, 2003). UNDP (1997) habitability model has become the universal reference standard for application of indicators in shelter development analysis. It requires every settlement to have all necessary facilities, amenities and services, and good environment to ensure satisfactory habitation. While UNDP (1995) Human Development Index (HDI) brings together in a composite index all relevant indicators, to build in a comprehensive assessment of housing satisfaction development. With it, key areas of housing satisfaction and priority areas could be determined and emphasized in administering programmes for housing development in the study area. Relating the community needs indicators studies to housing satisfaction

requirements, it provides veritable evidence to the realization of housing satisfaction programme objectives that could be translated into measurable indicators of satisfactory performance. The indicators are sectorial in their own right but they complement each other to provide a comprehensive measurement.

UNDP (1997) identifies the attributes of any development indicators requirements as follows: (i) Indicators requirements should relate to and specify the benefit to the intended users. (ii) They should be factual, veritable and linked to the objectives concerned. (iii) They should be specific in magnitude and in time. (iv) When taken together they should describe all the important aspects of the objective to be achieved and (v) the source of information on them should be reliable. Indicators are more reliable when a strong theoretical base has been established on them, data are sufficient and appropriately collected, and the analytical procedure has been tested and considered fit. Moreover, National Population Report (1999) states that:

“Indicators must provide reliable objectives and relevant information about important issues, they must be sensitive to changes in performance and they must be easy to calculate with reliable data.” An efficient housing satisfaction assessment should provide a good programme design and with the people perspective of the assessment, which can provide the most proper definition and articulation of the urban housing satisfaction factors.

Housing development programmes are multi-dimensional in terms of both methodological focus and content. The key dimensions are urban dwellers dimension, distributive dimension and environmental dimension. The urban dimension involves the extent to which programmes reflect urban housing basic satisfaction requirements and how they were prioritized. It measures the participation of the households of various income groups in housing programmes, decision-making, and design, including housing satisfaction factors identification and prioritization. The distributive dimension involves the

extent the housing programmes reflect the housing satisfaction priorities of various income groups while environmental dimension focuses on the environmental ramifications of housing satisfaction notably the cultural, social, and political environment.

In this study, variables that measure housing satisfaction requirements of the three income groups were identified and assessed by the people themselves. Qualitative indicators were treated along with quantitative indicators. Qualitative indicators were hard to measure, but they were very relevant in urban housing studies because of the social orientation. According to UNDP (1997): “Qualitative indicator is about people’s subjective perception. It is about how people perceive their needs, which can be measured and how people perceive the differences that programmes (for instance housing) make in their lives. This can be equally as important as the quantitative benefits”

The main idea in such urban households’ participatory survey is to ensure the identification of the actual housing satisfaction attributes clarification of relevant values and gathering of appropriate information for policy conducts and programmes. An understanding of the urban housing satisfaction perception could enhance our knowledge of the bases for attitude towards housing projects. There is an impression that public perception of housing satisfaction appears to be in line with the evidence supplied by scientific assessment using such theories as supply and demand, and cobweb theories. However, public perception of housing satisfaction could be out of proportion with the theories. The gradient of public perceived housing satisfaction also varies by social income groups, demographic characteristics, and location. Moreover, perception of housing satisfaction is assumed to relate to self-interest motivation and this influence attitude towards housing development. A self-interest attitude is the one that is instrumental to the individual attainment of valued goals where such

goals are restricted to those which bear directly on the material well-being of individual's private lives (Sears, Tyler and Allen, 1980).

Other studies show that, individual's policy opinion do not tend to correlate highly with his own narrowly defined personal interest, rather it correlates with the defined group interest (Green and Cowden, 1992). Assessment by the individual household therefore, reflects the housing satisfaction of the entire households of the area under study, (Ogboi, 2003).

Public assessment method often involves ranking. Ranking has been successfully employed in past studies, such as community development in Nigeria. Anozie (1990) employed it in the study of village infrastructure. Onwuagha (1995) employed rating scale to measure the attitudinal disposition of women to rural development survey. Ogboi (2003) employed it in the study of community development needs in the Niger Delta, a case study of Isoko Land. NDES (1997), infill Niger Delta Environmental Survey, used ranking method in public assessment of environmental and development problems and priorities. The World Bank (1995) employed ranking to identify and measure environmental problems in the Niger Delta. These studies show that ranking remains a useful survey method. It presents a considerable premise for identification and prioritization of housing satisfaction and a foundation for policy programme design.

Lu (1999) and Amole (1989) also identified numbers of important households' socio-economic determinants of housing satisfaction, which include age, educational attainment, income, and life cycle changes. Result revealed that, among these demographic housing determinants, age showed the most positive effect showing that households' socio-demographic factors should be considered when evaluating housing satisfaction. However, a study by Mohit (2009) indicated that older people tend to be more satisfied with their dwelling than younger people and that older age of the households is negatively related to

housing satisfaction. These studies revealed that higher income households are generally satisfied with their housing conditions and neighborhoods while the higher the educational level of the household heads, the more satisfied they are with their housing when compared with household heads with lower educational attainment. These therefore confirm that, morphological setting, socio-economic characteristics, income, educational level all have influence on housing satisfaction.

Galster (1987) and Golan and Lagreca (1994) found that older residents have a lower level of aspiration but a higher level of tolerance towards any shortcomings as compared to the younger residents there by contributing to differences in satisfaction (Galster, 1987). Model developed by Conley (2001) explore housing conditions; household crowding, physical quality and house ownership as a dependent variable, using status attainment models, Blau and Duncan, (1976); Featherman and Hauser (1978). The impacts of housing conditions on the educational attainment of offspring, were examined through two fold approaches, which allows for the understanding of the way in which housing as a mediating factor, transmit social status across generations. However, Rent and Rent (1978) however argued differently from Galster (1987), whereby it was contended that the level of aspiration, self respect and seclusion have no bearing on the residents' level of satisfaction towards their housing rather, current living satisfaction influences the level of housing satisfaction.

Whereas, World Bank (1997), revealed that, characteristics of housing is a critical factor in determining housing satisfaction as compared to the residents' demographics but on the contrary, argued that besides building features, demographic factors also influence the satisfaction level of residents. Therefore, these studies collectively proved that there are multi-dimensional socio-economic variables that influence housing satisfaction

or dissatisfaction but the weaknesses of these studies, is that the studies attempt to integrate both objective and subjective attributes of housing for the assessment of housing satisfaction.

Ibem & Amole (2012) investigates residential satisfaction in public core housing in Abeokuta, Ogun state, Nigeria. Their findings reveal that respondents'socio-economic statuses such as occupation, education background among others are strong predictors of housing satisfaction. Examples of similar studies are: income (Galster 1987), marital status, income, education background (Jaafar et al. 2006; Salleh 2008), and length of stay in the residence as well as tenure (Ogu 2002).

Perception of what constitutes housing satisfaction cut across various disciplines and profession. For example, urban planners and designers have touched on the social issues and quality of life (Lu, 1999). Architects conceived housing satisfaction by defining it as the feeling of happiness when one gets what he or she needs in a residence (Mohit, 2010). Environmental psychologists on the other hand emphasized on environmental quality and quality of life as well as people behavior while policymakers focused on the relationship between the extents of fulfillment of individuals's housing desires and needs without touching on the details of residential users satisfaction (Salleh, 2008). There seems to be different interpretations and definitions of housing satisfaction driven from opinion of diverse profession which makes it difficult to be addressed properly and logically. Nevertheless, most of these definitions cover aspects of physical, environmental and sociological well being of the inhabitants. Similarly, the concept of housing satisfaction relates to how a user of housing product reacts to the overall components of housing as predicated by their taste as a ratio to their expectations. That is the degree to which a user feels that his housing is helping him to achieve his goals (Jiboye, 2012). It also refers to individual's evaluation of his housing environment, subject to his needs,

expectations and achievements (Hui & Yu, 2009). The concept of housing satisfaction was developed therefore developed as a means to measure housing facilities based on the premise that the gap in between the desired housing and the exact neighbourhoods conditions is determined (Galster & Hesser, 1981; Mohit, 2010). Housing decisions is an outcome desired and acquired. Once a balance is reached at equilibrium point between housing situation and housing aspired, household becomes satisfied (Salleh, 2008).

However, housing satisfaction is influenced by both objective and subjective measures of housing attributes which includes physical, social, and psychological and management attributes and the demographic characteristics of the residents (Amole, 2009). This study focused on the influence of socio-economic aspect of housing satisfaction; a social boundary of a particular person (s) in the society at point in time.

The studies of Adriaanes (2007), Lu (1999) found that higher income households are generally satisfied with their housing. This is because higher income earners could improve the housing situation by way of alterations, renovations to suit their housing norms. Frank & Enkwa (2009) argue that higher income enables one to move to a better location or neighbourhood of their choice which could give greater level of satisfaction. Bruin & Cook (1997) explored measures of psycho-social characteristics of residents and compared the contributions of the measures to predict housing and neighbourhood satisfaction. The research is to better understand the factors that contribute to housing and neighbourhood satisfaction among low-income single-parent women. The results suggested that personality characteristics are powerful predictors of housing satisfaction.

In Nigeria the housing types and facilities are discovered to have direct relationship with the occupants's socio-economic status (Onokerhoraye, 1977). This may be as a result of the antecedent with colonialization which

characterizes the system and style of public housing based on socio-economic status.

Uwadiogwu (2013) examined an insider's perception of the structural profile of the socio economic and housing problems of the slum areas in Enugu city, Nigeria. The study aims at the identification of the structural profile of the socio-economic and housing problems of the slum areas. Five slum areas in Enugu City were chosen for the study consisting of three core and two peripheral spontaneous slum areas, namely Coal Camp, Obiagu, and Ogui Urban (core slum areas), Ngenevu and Jamboree (peripheral slum areas). 412 slum dwellers randomly selected from the chosen areas participated in the study. Principal Component Analysis (PCA) version of Factor Analysis (FA) statistical technique was employed for the data analysis. The technique reduced the 17 variables used for the study to 7 components or factors. The PCA also produced the structural profile of the variables with lack of housing amenities being the paramount. This is followed in descending order by household size, lack of job and low income, accommodation, tenancy and lastly security problems. It is therefore recommended that programme for the improvement of the slum areas in Nigeria should be phased in accordance with this structure.

3.60 Assessment of Tenants' and House Ownership Statuses with Housing Satisfaction

Dekker. (2011) argued that housing tenure-ship and education have strong influence on housing satisfaction as house owners have a higher level of satisfaction compared to tenants, and the residents who attained a low level of education indicated a high level of satisfaction towards all aspects of their dwellings (except neighbourhood aspects) as compared to those with higher level of education. In addition, housing tenure and status have been found to have an important impact on educational attainment of a family.

Studies have shown that over the long term, owning one's house is cheaper than renting, (Galster, 1987). Thus, house owners will free up more funds to finance their children's educational expenses. This therefore justifies why the analysis of types of house ownership statuses of households among the various income groups of Uyo was necessary.

Zey-Ferrel (1977) constructed housing satisfaction attributes index for north and south Louisiana from a set of indicators including interior and exterior housing conditions, heating and cooling, indoor plumbing, and persons per bedroom. Factor Analysis revealed that households living in rented housing, had lower housing satisfaction than those households who had their own dwellings and that, households with higher levels of education occupied better housing than those with lower levels.

Barcus (2004) used United States data to investigate the determinants of changes in housing satisfaction of urban-rural migrants where the dichotomous logit model was used to reveal that the transition from owning a house to renting had a negative effect on housing satisfaction while individual's characteristics were confirmed as poor predictors of housing satisfaction. Lu (2002) however, in his analysis of the residential consequences of migration in the United States of America had similar results that individuals who experience residential migration also tended to experience an improvement in their perceived residential satisfaction.

Gayle (2001) established a family life model that every family evolves through a life-cycle sequence, which has important impact on the housing market and satisfaction. He went further to identify six stages of life-cycle sequence to include pre-family or unattached young adult, coupling and child bearing, post family and later life. Relating Gayle's model to housing satisfaction, at a pre-family stage, the type of dwelling required could be a single room apartment or relatively cheap flat, whereas at the child bearing

stage, the family is full and consists of about three or more persons of which the house requirement could be at least two to three bed rooms flat. Therefore, his study reveals that as the family life cycle changes, demand for house ownership, housing requirements and satisfaction also changes.

Levy and Micheal (1991) observed that, satisfied tenants lead to fulfilled occupancy, low cost of tenant procurement, reduction in complaints filed against the estate management and a decrease in rent arrears and owning a house is the primary mechanism of equity accumulation for most families in the United States.

Toyobo, (2011), in the study of the correlates of socio-economic characteristics of housing quality in Ogbomosho Township, Oyo State, Nigeria; examined the socio-economic characteristics of residents types of houses, facilities and condition of buildings. A total of 204 questionnaires were administered using systematic random sampling techniques. Data were further analyzed with the aid of simple descriptive analytical technique. The hypothesis was tested using ANOVA. The study showed inadequate provision of facilities such as pipe-borne water, erratic power supply, poor solid waste management and presence of substandard houses in the study area. The study concludes however that, there is urgent need for enforcement of planning regulations to improve the housing quality and facilities in the study area.

Homeownership or housing tenure has been found to exert a profound influence on residential evaluation. Many studies reveal that housing satisfaction is much higher among homeowners compared to renters (Galster and Hesser 1981; Morris and Winter 1975; Roger and Nikkel 1979; Loo 1986; Rohe and Stegman 1994; Rossi and Weber 1996; Rohe and Basolo 1997; Lu 1999; Lu 2002; Barcus 2004; Elsinga and Hockstra 2005; Vera-Toscana and Alteca-Amestoy 2008). The most likely explanation for this is that homeownership gives homeowners a greater sense of control over their housing

units. For example, homeowners have more control over who enters their units, and renovate their units they wanted (Kaitilla 1993; Lu 2002).

Homeownership also provides a feeling of security and personal identity, and therefore higher self-esteem (Rohe and Stegman 1994). Housing can act as means of establishing and communicating social status and this, in turn, impacts self-esteem. Self-esteem is an important factor in portraying individual wellbeing and is largely determined by how a person believes others see him. Homeownership may then have a feeling of achievement (Rohe, Van Zandt and McCarthy 2001).

Previous housing studies focused on the relationship between homeownership and housing satisfaction and test whether homeowners are satisfied with their housing and neighborhood conditions. Majority of the studies show that homeowners generally are satisfied with their housing. However, these studies do not explain to what extent homeownership affects housing satisfaction. It is reasonable to believe that the degree of housing satisfaction may depend on types of externalities of homeownership that homeowners are expected to receive.

There is much evidence that homeownership is associated with externalities. Households choose how to behave from among alternative courses of action based on their expectations of what there is to gain from each action. In this case, households choose to be homeowners because they see a favorable combination of what is important to them and what they expect as a reward or benefit. Externalities of homeownership can be found in many housing surveys, ranging from social to economic benefits. There is little empirical evidence to explain to what extent expected externalities of homeownership influence housing satisfaction. Therefore, this study intends to fill the gap that currently exists in housing satisfaction literature by developing an understanding on

which expected externalities of homeownership contribute to overall satisfaction of home owners in Nigeria using Uyo as a case study.

3.70 Other Related Studies on Housing Satisfaction:

3.71 Methods of Assessing Household Housing Satisfaction

Literature revealed that, the Ghanaian Statistical Service in collaboration with the World Bank, UNDP, UNICEF, and ILO, developed Core Welfare Indicators Questionnaire (CWIQ), designed and developed a housing quality index and evaluated its measurement properties for validity and reliability in codifying housing attributes and their relationship with the public housing satisfaction.

UNDP (1997) acknowledged that ñincome and its distribution are important money metric housing quality measurements for poverty head count ratio, poverty gap ratio and income inequality; but poverty reflects poor health and education, deprivation in knowledge and communication, inability to exercise human and political rights, absence of dignity, confidence and self-respectò. CWIQ has been used to collect housing satisfaction indicators that measured access, utilization, and satisfaction for a selected number of key social and economic services. For instance, in educational sector, Marchant (1998) identified three housing satisfaction indicators indices, which included: access indicators; distance to primary and secondary school, usage indicators; enrollment rates into primary and secondary schools and satisfaction indicators; opinion questions to indicate household ratings of the housing services.

Attempts to measure housing satisfaction began in the United States in 1930s around the great depression era, through the Real Property Inventories (RPI) survey to combat the depression, (Baer, 1976). According to Goedent and Goodman (1977) three traditional housing dissatisfaction indices popularly used included overcrowding, physical deficiencies, and excessive shelter cost expenditures. According to World Bank (1997), this represented a poor

approach to measure housing satisfaction, indicating that physical housing attributes are very difficult to measure and had undergone considerable changes in search of better indicators. Such physical housing attributes in the 1930s included; lack of bath, toilet, and running water; which hot running water was not added to the physical condition indicators until the housing census of 1950.

Traditional Hedonic models of housing satisfaction was identified by Linneman (1981) to include distance to Central Business District (CBD) or location and access to basic life-style amenities. For instance, Palmquist, (1984) indicated that access to CBD is important for housing characteristic studies.

Daniere (1994) used a bid-rent approach to estimate the willingness-to-pay for housing attributes in Cairo and Manila. His work indicates that, low-income households value the closeness to their place of employment and the CBD more highly than other housing characteristics; and were willing to pay a premium for such access and some type of toilet.

Spain (1990) used overcrowding; usually gauged in terms of number of persons per room, as an indicator of housing satisfaction against which to evaluate the importance of race, residential mobility, household composition, gender, and other determinants. Spain found out that, factors such as marital status, household composition, income and race influence housing satisfaction significantly. However, another question explored by Arias and Devas is the construction of a more reliable scale for housing satisfaction using the items listed. They recommended the use of the Cronbach's Coefficient Alpha because classical measurement theory suggests that, if the items of a scale have a strong relationship to their latent variable, they will have a strong relationship to each other (Arias and Devas (1996), De Vellis, 1991). In the case of housing satisfaction, the items of the scale are related to their latent variable as revealed by Lancaster (1966) and that consumers do not want market goods itself, but rather the characteristics embodied in the goods.

United Nations (1976) defined household used for the data collection to include: (i) a one-person household refers to a person who makes provision for his own food or other essentials for living without combining with any other person and (ii) a multi-person household; that is, a group of persons who make common provisions for food or other essentials for living. The persons in the group may be related or unrelated persons or a combination of both, (Ghana Statistical Service, 1995).

In addition, four main housing types have been identified to include: (i) Single family homes (ii) Flats or apartments (iii) Single room occupancy in compound housing and (iv)thatch buildings made up of earthen materials. However Marchant (1998); and Fofack (2000) observed that, doubt have been expressed on the reliability of scaled-down versions of household surveys; signaling the need to collect sufficient relevant information on housing satisfaction, to monitor the effects of poverty alleviation policies and programmes and the extent to which the urban poor can benefit immensely from the urban housing programmes.

Satisfaction towards the housing environment reflects residents's reaction towards their living environment. In this context, Kellekci & Berkoz, (2006) opined that environment does not merely refer to the physical and environmental components of housing but also covers social and economic well-being of the residents. The high dissatisfaction rate towards housing was found to pose a negative impact on the social-economic well-being of a family (Husna & Nurizan, 1987). The cause for the prevailing dissatisfaction was unfulfilled needs or the existence of housing deficit among households. The deficit of satisfied housing in this regard, has some negative impact on the residential mobility, poor neighbourhood and under-achievement in the children's education (James, 2008).Thus, Abdul Ghani (2008) contends that when no

complaints are made towards satisfaction and the living conditions of housing units, it means such housing has fulfilled the satisfaction and aspirations of the residents.

McCray and Day's (1977) study, found out that when housing needs are satisfied, the individual would indirectly be satisfied with his dwelling. He used Maslow's theory to evaluate individual needs towards housing. Thus, the philosophy of housing satisfaction is multi layered. Ramdane and Abdullah (2000) display similar views on this philosophy of housing satisfaction based on four major objectives, which include the predictor of an individual's perception on the overall quality of life as an indicator of individual mobility, which turn around to change the demand on housing and influences surrounding area change. Others are the used of ad hoc measurement of private sector development success as well as an evaluation tool to measure residents' acceptance of prevailing inadequacy of the existing housing neighbourhood; and finally as a variable in determining the relationship between the resident's background and his level of housing satisfaction.

3.72 Socio-Cultural, Land Use Policy and Housing Satisfaction

Accessibility to urban land by households for housing development is a serious problem to most residents of Uyo. Odiete (1993) argued that the promulgation of the Land Use Act of 1978 recognized land acquisition as first step towards house ownership. Ownership of a house, which has influence on housing satisfaction, starts from the acquisition of a piece of land (Udo, 1990). The intending house owner must first have access to land because it has not been easy for everyone to gain access thus the reason why the 1978 Land Use Act (1978), was promulgated to arrest the problem. One now wonders how effective the instrument had been because access to urban land for house ownership seems to be provided in theory but not in practice.

Abodunrin (1973) identified land tenure system as a factor, which controls people on the use of land. The system embodied those legal contractual or customary arrangements on which individual housing developers or real estate organizations gain access to economic or social opportunities through land, but calls for effective land management through the formulation of land policy, preparation, and implementation of development plan.

Omuta and Onokerhoreye (1985) confirmed the relationship between population and land accessibility for house ownership as a major factor in land use development. Their assertion implied that, an increase in population growth results in an increase in land use activities and invariably a pressure on land requirements for residential housing development. The political goal of the 1978 Land Use Act was to make land accessible to the government and every Nigerian for purpose of social, commercial, residential, industrial, and other economic activities. The government desires, appeared to be politically understandable, but it is vital to examine the implications of the Land Use Act policy in the study area.

Land reform policy had been accepted as a revolutionary step. Adegboye (1981) argued that a land reform programme such as the Land Use Act (1978) requires more than mere declared policy objectives. The translation of those objectives into reality is what matters and then one wonders how the land Use Act policy objectives could work successfully in a country with a capitalist economy. Mean while, the Act has been included in the exclusive legislative list so that it might be free from the public focus, but Wolf (1981) argued that, the physical environment and especially access to land deserves more attention for the benefit of the masses. Connections between land, power and wealth need to be dragged out of the closet, carefully examined and used to forge more direct and effective national, state and local government development efforts.

Power in all societies especially a capitalist state such as Nigeria, has been found to have foundation in the house ownership statuses and the control of land. Galbraith (1967) observed that military positions, authority and positions of eminence in the state were found to be associated with land ownership. In this regards, Omotola (1982) concluded that the Land Use Act policy was inspired to make land available to the bourgeoisie in any part of the country irrespective of the state of origin at the expense of the masses. However, Uko (1990) argued differently that before the Act came into existence, it was a common practice for men of affluence in Uyo, Akwa Ibom State to buy large areas of undeveloped urban land, at very cheap prices, only to resell at exorbitant prices. This practice made it virtually impossible for individuals as well as estate developers, agencies, corporate bodies to acquire land at reasonable cost for housing development in the state.

Ihebereme (1992) identified the traditional land elites continued resistance to the land reforms statute as a direct reflection of the inadequacy of the Act in the matter of land accessibility for housing development. Thus in Nigeria, history has shown that the factor, which creates mass revolution, is the perception of a critical sense of deprivation to the necessities of life; of which easy accessibility to land for house ownership should be a priority.

Accordingly, the general scarcity and high cost of urban land in Uyo, and other Nigerian cities in general made the Act to come into effect to give a legal backing to the lands right of all Nigerians to use and enjoy land for all purposes especially house ownership. The Act, as identified by Omotola (1982), has not been able to cure the defect of easy access to land for house ownership that could enhance housing satisfaction in the country. For instance, the Act is defective as regards land speculation. Abiodun (1985) observes that the Act does not place a ceiling on how many developed properties an individual could own in the urban area and that the sale and re-sale of partially developed

properties are still going on. Comparing the speculator's profit with the land market, it could be concluded that the urban dwellers make their decisions (to purchase land) to maximize profit after operating costs and land costs have been deducted.

The state governors, who holds land in trust for the citizens; still allocate land to the few privileged to the detriment of the masses actually in need of the land for housing. Therefore, the Act has not been able to ensure easy access to land for housing. Adeniyi (1980) concluding queried whether our knowledge of land use management in Nigeria is sufficient for the formulation of the land use policy such as the 1978 Land Use Act and therefore suggested a review to ensure easy access to land for housing development.

Urban land is used variously for different purposes such as residential (low, medium, and high densities housing), commercial, central areas, industrial, public, semi-public, and circulation and recreational. Urban land use is the physical manifestation of socio-economic, cultural, political, and environmental forces shaping the use of land in urban areas. Among the various competing urban land uses, residential land use is the largest consumer of land in urban areas. Agbola (2007) reported that, residential land use is usually of the largest proportion of between 50-60% of urban land area coverage.

Agbola and Kassim (2007) observe that in a modern residential estate, adequate services and standard facilities should be provided to make the estate function efficiently to enhance user's satisfaction. In addition, the population varies from 2000 to 8000 people requiring land area of 20 to 100 hectares, the density of development being the primary determining factor. Thus in allocating land for residential estate provision, the plot size, plot ratio, occupancy ratio, and residential densities are fundamental factors that if not considered will subsequently lead to housing dissatisfaction. Where such adequate provisions

are not properly made with projections for the unforeseen future, illegal change of use to cater for more residential plot always, occur.

Ajanlekoko (2001) noted that distortion to Abuja master plan have caused some profound negative effect on facilities and infrastructures already provided and on the overall development of the Federal Capital Territory. In some cases, expansion and replacement of facilities are obstructed by illegal structures indiscriminately erected. In addition, other areas earlier designed by the master plan as green spaces were redesigned for residential houses, while in some cases, residential plots were converted to commercial plots and plots reserved for schools were allocated for development of housing estates. Daramola (2000), observes that several governments have attempted to resolve all errors committed on the Abuja master plan using several approaches, but the latest being revocation of every certificate of occupancy, which is not the best option of solution. Ajanlekoko (2001) again argued, though it was agreed that some damages was done to the plan but an outright revocation of all the awarded titles of all lands in Abuja amounted to declaring a state of emergency on the housing sector of Nigerian Economy. As Daramola (2000) rightly observes, the future implication of toying with the certificate of occupancy is the gradual depreciation of values attached to fix asset in the investment market economy and its attendant effect on the housing development in Nigeria. Thus according to Agbola and Kassim (2007), the way urban land is managed, affects the entire urban environment, housing development and satisfaction. It is important therefore, to monitor changes in land uses, especially residential land uses in view of the rapid urbanization and urban sprawl. There is also a continual need to reconcile the requirements for additional land for important uses such as housing development as provided by the existing land use policy to ensure housing satisfaction.

The housing policy in Uyo, Akwa Ibom State, is essentially elitist in nature, involving housing provisions for various categories of people. The approach is through direct housing construction, though an indirect one of facilitating the strategy of site and services schemes. The state government housing policies and programmes has consistently failed to address the housing satisfaction of the three income groups in the state. Consequently, the medium and high-income groups subsequently afford the high standard housing services while the low-income group resorts to the informal housing. Therefore, housing delivery universally according to Adeniyi (1980) is viewed from two broad philosophical perspectives; housing as an ñeconomicò or ñinvestmentò good and housing as a ñsocialò good or ñserviceò. The argument is on the fact that, the poor and under-privileged must be taken care of by the state government by meeting their housing satisfaction needs. As opined by Adeniyi (1980), three motives should be considered particularly relevant in the formulation of any housing policy. These should include social, political, and economic factors because housing serves both economic and social good even in a pure capitalist economy as in Uyo. It is however, the level of state government participation that varies based on the political philosophies and party ideologies.

Housing economics therefore, is about supply, demand, and price. Economics of housing is essentially about how the various actors in the housing sector, mostly all the income groups gained access to housing resources and how these have been modulated by socio-political and especially economic factors to ensure access to housing by all individuals. Nevertheless, the allocation of housing units produced in Uyo are left entirely to the price system working through the interaction of demand and supply, allocating housing among the three competing income groups. In effect, housing produced by public sector, even when subsidized is equally unaffordable to the low-income group in the study area. Balchin and Kieve (1982) therefore argued that, due to

the inability or the failure of the price system to effectively allocate housing to all the income groups, government interventions at the state or national levels are still imperative despite the distortion it introduces to the price mechanism.

Research by Mabogunje (2002) revealed that direct government construction even when subsidized, results in the product being priced beyond the purchasing capacity of the various income groups. Similar study by the World Bank in some countries revealed the failure of such government intervention. Grimes (1976) however acknowledged limited success stories of direct public housing delivery in countries like China, Saudi Arabia, Singapore, Hong Kong, Cote d'Ivoire and India. However, according to Agbola (2007) the contemporary development that encourages greater role being allocated to the private sector in housing production globally makes direct housing delivery no longer a fashionable policy option. In addition, the inefficiency in allocation of public housing due to non-transparency in the allocation process makes public and private sector-driven housing provision policy option more plausible in the emerging democracies of the world. This therefore confirms the emerging role of government serving as facilitators for the private sector to deliver decent affordable and satisfactory housing to the people.

Two crucial issues relevant to the formation of effective housing policies in the developing countries were identified by Agyapong (1990) to include economic collection of data on physical, social, and economic environment in which the housing policy has to be formulated while the other is information measure to be used to indicate housing satisfaction for private and social needs, and the public interests. Policy, according to Gyuse (1984) no matter how laudable, cannot achieve the desired results unless there is a commitment as well as instruments to achieve its goals. Rather, the prevailing rule had been the attempt by those in authorities to impose a kind of uniform structure of housing programmes on the people, differences in income groupings notwithstanding.

This action on its own negates the housing satisfaction and the socio-cultural characteristics of the households.

However, housing dissatisfaction for households in Uyo manifested in overcrowding and mounting pressures on infrastructural facilities, which resulted in poor quality of the built environment, particularly sector one of the existing residential areas of the Capital Territory. Squatter camps and settlements feature prominently due to rapid population growth with its attendant social vices.

Ogunsemi and Falemu (2006) observed increase demand for shelter in Nigeria since independence due to rapid urbanization and population growth. Sharing this view, Gyuse (1984) explained that due to unprecedented rate of urbanization, housing is extremely scarce and in a rush to make housing available, adequate attention is not apportioned to the socio-cultural requirement aspects of the resultant built housing environment, form and design. In effect, housing satisfaction elements are grossly ignored.

The exclusion of these satisfaction elements, makes housing planning and design in the study area a sterile cityscape typified of western cities developing. Accordingly, Conley (2001) explored housing conditions; household crowding, physical quality and house ownership as a dependent variable, using status attainment models (Blau and Duncan, 1976). Featherman and Hauser (1978) studied the impacts of housing conditions on the educational attainment of offspring through two fold approaches. These approaches allowed for the understanding of the way in which housing as a mediating factor transmits social status across generations. The modern cities housing in the study area, Uyo mirrors the European rather than the resident's cultural and traditional needs. This implies that, less regards is given to the housing form, cultural and logical satisfaction of the users. Consequently, ignoring these relationships lead

to undesirable results where despite huge financial expenditure on housing in the study area, housing dissatisfaction problem continue to persist.

Housing has been linked to the material and physical aspect of human culture that includes walls, roofs, windows, spacing, and other architectural designs as well as personally and culturally shared experiences and ideas of the people (Olatayo, 2002). This implies that housing types in Uyo are culturally specific to the environment in which they are found. Housing satisfaction in the study area has also been found to relate to the religious, political and the social status of individuals. Olatayo (2002), Sjoberg (1960) and Mabogunje (1962) investigated the social inequality of housing in the Yoruba land between the kings' palaces and the houses of the ordinary members of the society in terms of land area, building types and designs. Ojo (1968) aptly summarizes that Yoruba houses have architectural peculiarities, which vary in importance depending on the rank or status of the occupants. Similarly, houses in Uyo have architectural peculiarities that reflect the traditional values of the people.

Onibokun (1985) noted that, there exist both empirically and intuitively substantive major socio-cultural differences, economic disparities and technological gaps between the emerging nations and the highly industrialized countries, and even among the emerging nations themselves. The implication is that, it has resulted in the situation where housing and town planning experts from the industrialized nations operating as consultants rarely take into consideration such socio-cultural differences when framing national and state housing policies programmes. Thus, there is the importation of housing project programmes into the study area, where the decisions to embark on housing projects are often based on intuitive judgments. Where researches were conducted, emphases were usually on architectural 'undesirability', engineering economy, and marginal analysis and location feasibilities but not on the households' satisfaction factors as detected by the various income groups. The

socio-cultural implications of housing policies and actions, public acceptability of the project, and the long-term benefits were neglected or marginally considered. Consequently, many housing programmes in the Capital Territory have been failing, leading to abandonment of projects and wastage of scarce resources.

In an effort to overcome this failure, Freeman and Weaver (1979) argued that, the application of ethnic space would produce housing and settlement form that would help to reduce housing dissatisfaction of the users. According to them, there was need for better workable solutions to housing planning and indigenous design problems identification that can lead the way to most effective housing policy for urban residents, by stating thus:

“If one opts to adopt the concept of ethnic space, it does not imply a return to primitive housing or a blind maintenance of existing traditional housing design, rather it implies going beyond the artifact to its essence to ensure sustainability in housing delivery in the country”

Achi (2004) added that, before a space should be committed to human use, certain factors or forces should combine to trigger the process, the combination of which are dictated by the culture, norms, and political color of the policy makers under the platform of avoidable and affordable technology. Thus, housing producers in Uyo need to focus more on what constitutes ideal housing design, local environmental elements, and the user’s satisfaction. Consequently, the supposed users have virtually abandoned most housing schemes undertaken by government in the study area because the design, site location, culture, and customs of the people were scarcely considered during the conception of the programmes. This signaled the need as argued by Agbola (2007) that for integrationists, humans are pragmatic actors who must continually adjust their behaviors to the actions of other actors and that the adjustment is aided by the

ability of the actor to imaginatively adopt alternative lines of actions before acting.

Dependent, intervening and independent variables have been established to study group behavior and group attitude of social grouping and its influence on housing satisfaction. As Tuan (1972) argued, each class or group has its own set of values, attitudes, and behavioral routines. For instance, under the assumption of the Chicago School of Human Ecology, new public houses were constructed to replace those designated to be in the slums with the highest rate of crime. Rent and Rent (1978) stated: "Even before the complete execution of the programmes came, the realization that the underlying assumption of a relationship between the social and physical environment was not as strong as first suspected, the common occurrence was the return of a new housing development to a condition not too unlike the one of a replaced neighbourhood, characterized by social disorganization and physical disorientation"

The lessons gathered from these studies take cognizance of the following: Perception of types, nature and adequacy of housing by different income and socio-economic groups in the study area is a structural and existential phenomenon; Caution must be taken in residential segregation in Uyo, in terms of generalization base on income groupings.

Housing standards in the territory just as in any other Nigerian city have been identified to be imposed from outside, therefore denying the households significant and cultural absorptive share in the satisfaction of their immediate housing requirements. Turner (1976) observed that housing is not an abstraction to be reified, wherein the people for whom it is meant for are alienated, while others (a minority) impose their values, which become institutionalized on them. Implicationally, housing is a reality and an essential need for the people and should be conceived and implemented by the people it was meant for because as Ward (1976) succinctly puts it: "when dwellers control the major

decisions and are forced to make their own contributions to the design, construction, and management of their housing, both the process and the environment produce, stimulate individual and social well-being. When people neither take control over nor responsibility for key decisions in the housing process, on the other hand, dwelling environment may become a barrier to personal fulfillment, dissatisfaction and a burden to the economy.

Housing production in the study area had been the business of extraordinary professionals who have carried a niche for themselves as the repository of all knowledge about housing. Turner (1976) describes the phenomenon as imperialism and slavery and that colonialism is its foundation up to the level of neo-colonialism in its globalization garb, its infrastructures, and its roofing. The implication of Turner's claim is that, the middle class professionals and higher income earners in the study area, as the beneficiaries and perpetrators of the new structures spend most of their income on housing in order to be societal relevant. Housing thus, becomes to them a luxury not a necessity. Yet they are the ones planning for the low income earners. Turner (1976) again criticizes the problems thus:

“To treat housing as commodity is silly enough, but to assume that it must or should be produced by ever-large pyramidal structures and centralizing technologies is suicidal. Yet this is the basis of all modern housing policies in Nigerian cities as well as Uyo while housing production base on various household's income levels have been misinterpreted by heterogeneous system, impervious and blind to the plentiful resources available.”

Equally problematic is the operation of housing policies that are obsolete. Indeed. For instance, the Nigerian Town and Country Planning Act (1946) is currently in operation in the state despite the enactment of the Nigerian Urban and Regional Planning Law of 1992 (FRN, 1992). In view of this development, housing legislation remained inappropriate and less useful to the housing

satisfaction requirements of most households in the capital territory, exception of the very few higher income groups.

To remedy this situation, the identification and classification of housing satisfaction factors base on various households's income groups for use as policy in future housing planning and development in the study area was imperative. Therefore, as a way forward, it is necessary to adapt these lessons of international research and experience to local conditions, and in the collaborative efforts of cities, states and local authorities, the international development community, and informal housing sector workers themselves. The overall goal should be to build better functioning modern state economy for the urban residents, more inclusive, healthier, and socially sustainable settlements for our urban communities. Thus, as the Danish International Development Agency has stated:

“A modern state economy can be made up of sectors and activities with very different sizes, types of technology, styles of organization and degrees of integration into local, national, regional and international markets... The fundamental *raison d'être* of any economic system is the well-being of the individuals, their families, and communities. Economic power, the growth of city, state and national incomes, the increase of profit, the enlargement of a firm is only instruments. Deified, they become obstacles to the welfare of the population”

To modernize the state economy is to use the best techniques available to allow the individual to work, to create, to earn an income, and to enforce the rights of employees and workers, including the right to decent and satisfactory housing. Housing satisfaction is recognized as an important component of house owners's general quality of life (Adams, 1984). The degree to which house owners's satisfaction and aspirations are met by their housing conditions should be a concern for housing developers in any locality. Thus, according to Preiser

(1995) and Natham (1995), a measure of housing satisfaction provides necessary information to evaluate the performance and success of the current and future housing projects in any given locality.

3.73 Review of Households' Participation in Housing Programmes

The word 'participation' means open, popular, and broad involvement of the citizens in project developments that affect their lives. To participate means to share in decision about what should be done, how, and by whom. Housing development through citizens' participation is a strategy used to refer to the need for local involvement in the sustainable urban housing and management process. It is a means and a process employed by people to effect changes, increase control over resources and regulate instructions through sharing and transferring of power as social groups to control their own lives and improve their living conditions.

A sustainable provision of housing through public participation therefore requires a genuine alliance and collaboration between the government agencies and the housing developers, based on consensus, partnership, accountability, transparency, and active involvement. In order to bring all income groups in Uyo into home ownership slum improvement instead of slum clearance that worsens the accommodation shortage if immediate provision for re-housing is not affected was suggested. Such improvements may include building renovations, providing some facilities such as water closet, tap water, kitchen spaces, and bathroom at subsidized rates. Other suggestions include sites and services, where state government provides infrastructural serviced plots for individuals, partial housing construction for the occupiers to complete when their economic resources improve. Aided self-help initiators scheme could all be used to provide cheap houses for a range of income groups. Presently, the most advance housing scheme in the Uyo capital territory, is the housing co-operatives formed to house the participants on a permanent basis. Therefore, the

capacity of the housing co-operatives to provide housing through prospective owner-occupiers participation in the development of their homes as successfully practiced elsewhere in the world has been emphasized, (Wahab (1985), and Agbola and Kassim, 2007). They noted that, "The role of the developing country government is to create a framework in which people do things for themselves on a continuing basis according to their own needs and priorities and in such a way that the local resources are mobilized for local needs".

It is argued that, the advantages associated with housing co-operatives can be divided into personal advantages tenants, members and advantages to housing corporations or society generally. Therefore, the adoption of any of the above remedies will reduce the cost of housing and enable government assistance to reach a greater percentage of the income groups. However, it should be noted that, since state government has to tackle housing, education, health, and food programmes, housing might never get its adequate share from the competing claims where satisfaction could be guaranteed. Thus, citizen's participation in the initial construction of their homes and their subsequent gradual improvements without direct government intervention should be encouraged. Onibokun (1985) opined that, for sustainability to be achieved, attention should be given to social factors such as, the culture and tradition of the people, standard of living, and moral value. Sustainability therefore, has been accepted to produce cities where social, economic, and environmental achievements are made to last for the benefits of the present and the future generations.

The World Health Organization, (1988) reckons that it is the home, not the clinic that is the key to a better health delivery system. Presently, in the study area Uyo, only the high income group could afford decent quality housing. World Health Organization (WHO) therefore, called for the re-examination of the present role of government's strategy as enabler and facilitator, aimed at

creating the right environment and incentives for the formal and informal housing developers and civil society organizations to contribute to the housing satisfaction process of our emerging cities. The organization stressed the need for government to intervene where necessary to enable markets to operate effectively, to ensure social equity, and protect both the high and the low-income groups.

New emphasis on a more collaborative approach to housing satisfaction, expected to integrate and mutually support housing development objectives of various stakeholders and the various income groups, has been advocated. The United Nations; Habitat Agenda (1996), urges that: “Partnerships among countries and among all actors within countries from public, private, voluntary, and community-based organizations, the cooperative sector, non-governmental organizations, and individuals are essential to the achievement of sustainable human settlements development and the provision of adequate shelter for all and basic services”

Nwaka (1999) prescribed the principles of partnership through enablement and decentralization as essential for sustainable housing development and the improvement of human settlement. Decentralization is considered essential because government is more effective when power is shared, and when the level of government nearest to the people is given sufficient authority and resources to respond effectively to local needs.

One of the enablement could be through housing subsidies currently in use in the study area Uyo, in the form of site and services. The scheme appears to be the most popular since the introduction of the New National Housing Policy Decree No. 3 of 1992, but in practice, only few privileged income groups are the beneficiaries. However, adjoining the site and services scheme layouts and the crown or communal lands are the let-able housing areas constructed by individuals for owners or tenants occupiers. Thus, the rental housing in the

study area has increased the housing stock in the Capital Territory although as argued by Obialo (2005), these houses lacked basic amenities like water closets, water and electricity supply, internal and external inputs.

However, Nwaka (1999) argued that, decision-making and resources allocation in the case of Nigeria is highly centralized. Local government and municipalities remain under the legal and political influence of the higher levels of government whose leaders appear to have different political interests and priorities towards housing programmes for the various income groups. Accordingly, there is an urgent need for genuine decentralization of governance at the national level aimed at opening up more political space. This will encourage more broad-based community housing participation, accountability, inclusiveness, and social sustainability at the local level. In this manner, sustainability in housing satisfaction in Uyo Capital City Territory would be achieved, when public and private housing operators have to regulate their activities to suit households' supposed income and attributes.

3.74 Existing Housing Situation in the Southern Nigeria

There is no empirical literature on housing satisfaction study based on household income in Uyo. However, there is an in-comprehensive socio-economic study conducted by Unity Planning Associates (UPA, 2006) for the South-South Region of Nigeria, which highlighted the background study of housing dissatisfaction in the region including Uyo Capital Territory. The study revealed that household sizes, income groups, and educational attainment are the reflection of the socio-economic level of the region. The study further revealed that, about 35 percent of the urban population in the region live in poor housing neighbourhoods with the occupancy ratio as high as eight persons in a room due to inadequate housing in the region. In addition, about 33 percent of the total housing stock in the region lacked basic infrastructural facilities such

as electricity and water supply. Allen (1996) observed that, "the situation with the urban housing infrastructure in Nigeria is highly deplorable and that services like water supply, roads and drainage, sanitation and health facilities are very low compared with the developed nations". However, the South-south housing study lacked empirical data as the situation remains the same for Uyo.

Local participation plays a crucial role in the provision of basic needs such as housing, not only to increase self-reliance but also to ensure efficiency. Participation in this context is the involvement of the civil society and the private professionals in the process of identifying the non-governmental organizations (NGOs) involved in housing development. The magnitude of housing satisfaction problems, which affects them such as regards accessibility to urban land and affordable building materials has been, prioritize aimed at satisfying felt housing wants.

Wahab (1998) and Wahab (1996) observed that, in most developing countries, citizens especially those in urban areas, look to their governments to provide for their basic wants. Nevertheless, in Uyo presently, government has become incapable of meeting socio-economic needs of the citizens especially urban housing provision because of the huge capital outlay involved. Balchin and Kieve (1982) therefore observe that, housing involves a huge capital outlay, which rarely can be financed out of individual's income, and that it represents the largest single fraction of most households' budgets. Accordingly, borrowing is necessary and the availability of long-term credit is of critical importance in making demand for owner-occupier housing effective and strong enough to stimulate supply and increase satisfaction. However, where formal housing supply is inadequate, households resort to informal housing as an alternative. Unregulated housing development has created negative impacts on the Uyo capital territory urban environment; the impact of which has adverse effect on

both the quality of buildings and the living environment. Ede and Ebakpa (2007) identified high demand for accommodation as a major factor contributing to the un-regulated housing environment. Despite priority accorded housing development in Uyo, shanty structures built from scrap materials are still noticeable in the city landscape. Okeke (2002) described the extensive use of temporary structures in the high-density neighborhoods of our urban centers as the forerunner of squatter settlement development.

Thus, Nwaka (1999) noted that, in post-colonial Nigeria, analysts have identified a new process of urbanization unleashed by the masses of relatively low-income migrants, flocked into the cities since independence, seeking to solve their problems of accommodation and employment informally, and on their own terms. The worst hit group is the low income who are now dominant, transforming the city to meet their housing desires, often in conflict with official laws and plans; thus confirming why the informal housing sector had since the early days of independence been the dominant provider of urban land uses, especially housing in Nigerian cities as well as Uyo the study area.

Agbola (2007) then contends that, housing is a highly valuable activity and tasking process in any human society, therefore every human being always attempts to get involved in the process of house building by all means and at all cost. The effect is that, households who cannot afford quality urban housing in choice residential estates due to low income, in the process flout all known rules of housing development process and end up erecting low quality houses in the most insalubrious environments, proliferating slums, and squatter settlements.

Housing standard is a major problem in Uyo as it is in other Nigerian cities. Danson (2008) observes that, the problem of most cities in Nigeria emanated from the fact that, cities were not planned by experts. They sprang and developed from villages and trade posts, retaining their old, obsolete and semi

permanent structures. Therefore, in Uyo the situation is not different. Poverty level and low technological approach to housing reflects in the standard of existing conditions of residential neighborhoods especially in sector one where most traditional residential settlements are located. Houses constructed with wattle and dab walls as well as low height, made it difficult for water related facilities like bathing and water closet to be carried out (Danson, 2008). The unsanitary housing situations in Uyo made most houses unsafe and in dilapidating conditions. Others include; increase poor environmental quality and the risk of environmental health. The sub-standard buildings deface the capital cityscape. Buildings are constructed too close to each other and to the roads; thus, destroying the urban fabric and beauty. Some are constructed under high-tension lines and water channels; thus contributing to housing dissatisfaction in terms of quantity and quality.

Onibokun (1982) however noted that, since housing as a shelter has to pass the criteria of habitability by meeting a specified minimum standard, every state must set a standard the inhabitants should attained; income and educational level, religion, ethnicity and political affiliation notwithstanding. The said minimum standard is relative, used only in the context of individual city or nation.

CHAPTER FOUR

4.00 THE STUDY AREA:

4.10 Geographical Location of Uyo Capital City Territory

Uyo Capital City Territory is located within longitude 7° 54" and 8°00" East of the Greenwich and 4° 59" and 5° 14" North of the Equator. The study covers an area of 15 kilometres radius.

The Capital Territory is bounded by Nsit Ibom, Etinan, and Ibesikpo Asutan local government areas on the South, Uruan, and Nsit Atai on the East, Itu, and Ibiono on the North and, Abak and Ibiono Ibom on the West. The territory is centrally located as the administrative center of Akwa Ibom State, which cuts across six other local government areas administrative boundaries, namely: Etinan, Uruan, Itu, Ibiono, Nsit Ibom, Nsit Atai, Nsit Ubium and Ibesikpo Asutan. It is easily accessible from other cities like Abak, Itu, Ikot Ekpene, Oron, Eket, and Etinan. The territory can be reached under one hour driving from any part of the state and with improved roads, the time will considerably be reduced. The road from Aba to Calabar on the northwestern flank of the capital territory further promotes the accessibility along the western regional axis of the capital territory.

The creation of Akwa Ibom State on the 23rd of September 1987, gave Uyo a new status of becoming a capital city territory as it was the most centralized in relation to other local government headquarters of the new state. The territory is located at the extreme south-south position in the national context, with a major southeast road from Uyo to Oron beach, which provides waterway to Calabar and Republic of Cameroon. The city serves as a major border town harboring security personnel's defending Nigerian and the Cameroonian's waterfronts. The territory harbors top management personnel's of Exxon Mobil Nigeria

Unlimited, and foreigners due to the security provisions provided at the state capital. As a result, Uyo Capital Territory has expanded after ten years of its creation from the previous 10 kilometers radius area coverage to the presently 15 kilometers radius area coverage from Uyo Plaza, originally known as ñlbom Connectionò.

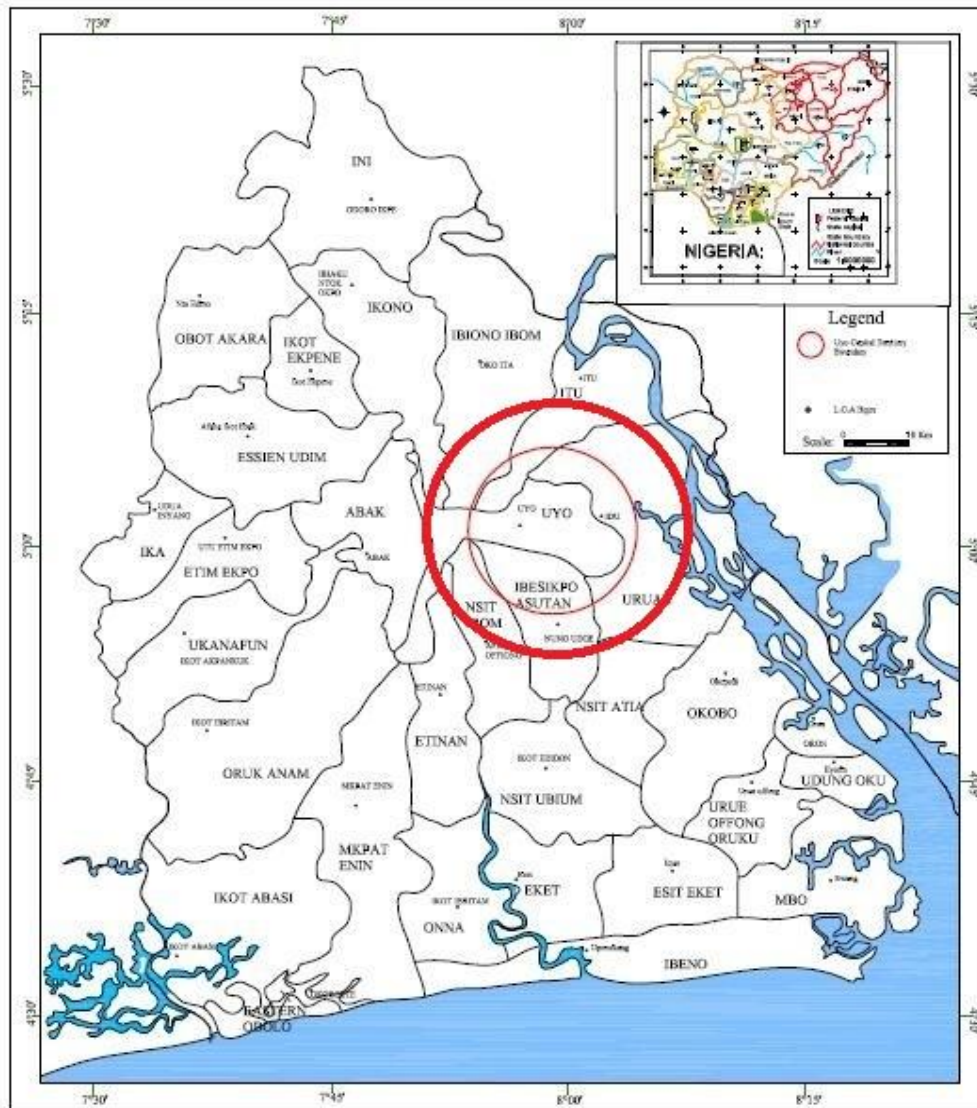


Fig: 4.1 Map of Akwa Ibom showing (15km) limit of Uyo Capital Territory

Source: Ministry of Lands, Surveys and Town Planning 2007

Source: Uyo Master Plan 2007

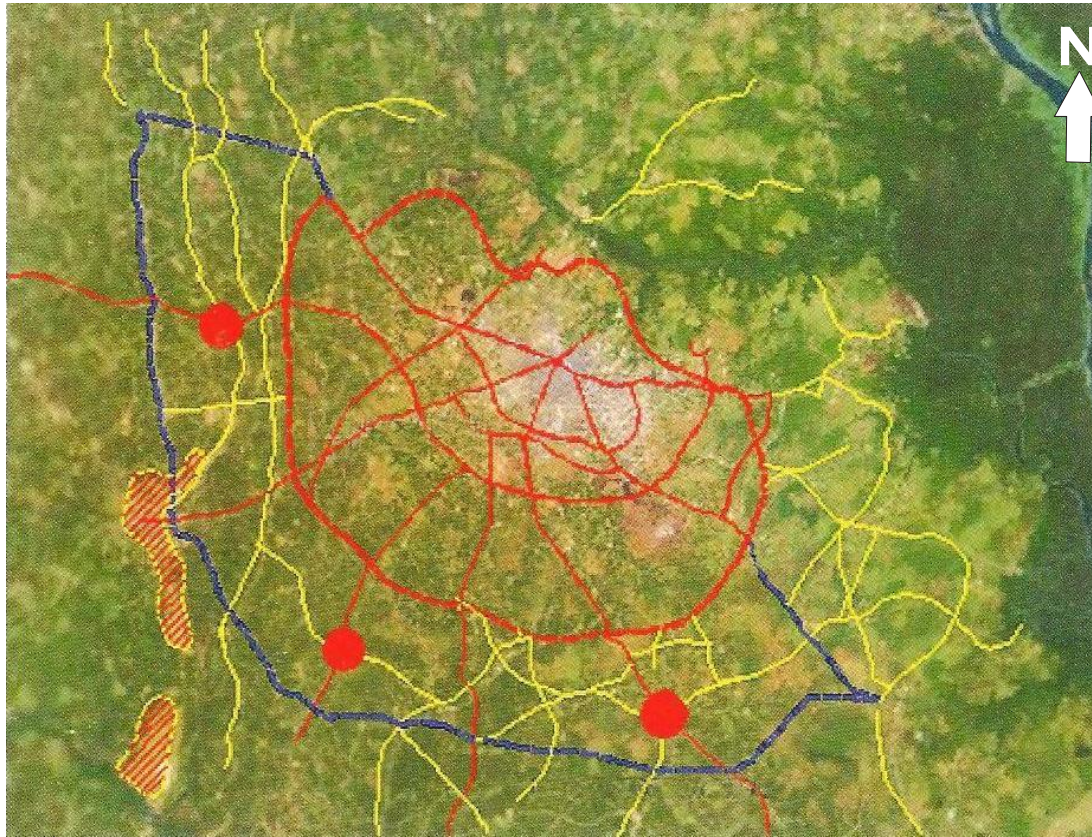


Fig. 4.3 Aerial Map Showing Extent of Uyo Capital Territory

Source: Uyo Master Plan 2007

4.20 Historical Background of Uyo Capital Territory

The Uyo Capital Territory originally was a village in Offot clan as typical of many small villages in the eastern region of Nigeria. With the establishment of colonial rule in Nigeria, in 1914, Uyo village gradually developed into a commercial town as well as a district administrative headquarter of the former Calabar Province in the former Eastern Region. Due to its strategic location, a network of roads developed to link Uyo to other commercial towns like Oron, Abak, Ikot Ekpene, Eket, and Calabar. This situation attracted movement of

large population of people from neighbouring villages and towns to the area, thereby causing its rapid development into an urban centre. This growth led to the expansion of Uyo urban to include, Oku Uyo, Iboko Offot, Effiat Offot, Four-Towns, Aka, Ewet Offot, Anua Offot, Okopedi Itiam, Etoi, Eniong Offot, and Use Offot.

During state creation of the former South Eastern State in 1967, Uyo became one of the fourteen administrative divisions as well as Divisional Head Quarters of that state. In 1976, during the re-introduction of civilian rule in Nigeria, Uyo became a Local Government Area with head quarters at Uyo. Thus, in 1987 during the creation of Akwa Ibom State, Uyo with its record of accomplishment as a leading local Government in commercial activities and urban development captured the status of a state capital.

Akwa Ibom State is very compact in land mass and consequently the various towns and villages are contiguous. Uyo traditionally has always been the centre of economic activities in what is now Akwa Ibom State, therefore early road network concentrated around linking the capital territory with other local government areas like Itu, Ikot Ekpene, Abak, Eket, Etinan, Ikot Abasi, Ikono, Okobo and Oron. Upon all these routes, Uyo/Ikot Ekpene road serves as the major link to other states. The internal roads within the capital territory have undergone considerable expansion for the private cars. The predominant transport system is the tricycle, commercial taxis and motor cars used by people to transport passengers and light goods within the territory and nearby villages.

There are however, inter-urban bus services operating between Uyo and other local government headquarters like, Eket, Oron, Abak, Ikot Ekpene, Ikot Abasi, Etinan and many others. There is also Akwa Ibom Transport Company operating intra and interstate mass transit buses and taxis.

Traffic flow is always very heavy around Uyo Plaza, as most traffic coming into the town center on private or government business has to pass through it. However, the situation has vastly improved in recent years due to the creation of a bypass known as ñlbom by Passò. The recent construction of two fly-overs from Ikot Ekpene Road to Ring Road one now Atiku Abubakar Anenue and Idoro roads at the western flanks of the gate entrance into the capital territory otherwise known as òItam Peace Columnò has further improved the intra-city movement in Uyo. Others are; the removal of motor parks from the city centre to the fringe and recently, the removal of Uyo main market to Akpan Andem Market at Udo Umana Street.

The completion of Ring road one; two and three provided links for heavy traffic to by-pass the town center. However, past and present administrations have succeeded in providing major entry into the city from Calabar/Itu Highway through Wellington Bassey way and Uyo/Ikot Ekpene Highways respectively. These link roads are called Uyo Village Road and Uyo/Ikot Ekpene Highways respectively. Presently, there are intra-urban bus and taxi car services within the capital territory. This mode of transport however complements the tricycle used commercially as taxis to transport passengers within the territory. The private cars are the predominant transport system. There are however, inter-urban bus services operating between Uyo capital territory and other local government headquarters of the state such as Eket, Oron, Abak, Ikot Ekpene, Ikot Abasi, Etinan, Itu, Ibiono, Nung Udoe, and many others. There is also Akwa Ibom Transport Company operating intra and interstate mass transit buses and taxis.

4.30 Physical Features of Uyo Capital City Territory:

4.31 Topography and Drainage

The Uyo Capital Territory is flat and gentle sloping. The main watercourse within the territory is the Ikpa River, which flows in the ravine in the northern part of the territory. This river is used to drain the northern part of the city. For the southern part, drainage receptacles are currently being constructed with outfalls and catch pits, Uyo Capital City Territory Master Plan, Merrigan (2007).

As mentioned earlier, the capital territory has a flat land surface. Rainwater easily collects on the surface to depths of over 20cm in several parts of the city thus rendering those areas impassable. The rainwater percolates through soil; some evaporates while some drains through watercourses in form of run-off, causing street erosion mostly in the north and northeastern parts of the city. However, improvement to some of the roads, have now prevented further erosion.

The ravine contains small perennial streams that are subject to seasonal fluctuations in level. Ema (1989) reported that, in the past, the stream formed the major source of water supply to the capital territory whenever the tap dries up. The ravine lies to the north of the capital territory, located between Cornelia Connelly collage, Afaha Oku and Government Lodge along Wellington Bassey Way Uyo. Its southern terminus starts from the north of the present site of the University of Uyo, and extends through Anua Offot behind Saint Luke's General Hospital and to Ifayong Creek where it joins the main valley of Ikpa River.



Fig. 4.4 Aerial Map Showing Hydrology and Drainage of Uyo Capital Territory
Source: Uyo Master Plan 2007

4.32 Climate

The climatic features of Uyo are within the hot equatorial forest of the humid tropical zone. The duration of rainfall lasts between nine months (March to November). The various types of human activities within the study area are farming and trading. However, population pressure in the coastal territory has altered the ecological equilibrium resulting in climatic change. The dry spell tagged harmattan, is most felt between December and January each year.

The average temperature ranges from 28°C-33°C but increases northwards, while the least could assume 21°C-23°C range. The prevalence of the southwest winds from the ocean in the summer months bring rainfall, while the North East trade winds between November and March, bring dust and dry harmattan.

The climate of Uyo, like any other parts of Nigeria or indeed West Africa, depends upon the movement of the Inter Tropical Discontinuity (ITD). This zone separates the warm humid Maritime Tropical (MT) air mass with its associated southwesterly winds, from the dry continental Tropical (CT) air mass with its associated northeasterly wind (Peters 1989). The ITD moves northwards when the sun is located in the northern hemisphere between March and September at approximately latitude 18°N and to the southern hemisphere between October and March at approximately 6°N, along the coast of West Africa.

The location of Akwa Ibom State between approximately latitudes 4°N and 6°N, results in the impact of the Maritime Tropical (MT) air and its accompanying southwesterly wind felt in all areas of the state including Uyo, during most months of the year. Because of the effects of the humid MT and the dry CT air masses, the climate of the territory is characterized by two seasons: namely, the wet or rainy season and the dry season. The wet season lasts for about 10-11 months. It begins in February and last until mid-November, the period which usually is characterized by the "little dry season" within the rainy season, sometimes referred to as the "August break", which last for about two to four weeks.

The rainfall in Uyo is convectional, particularly at the beginning and at the end of the rainy season. Atmospheric disturbances are usually characterized by thunderstorm and squally winds with heavy cloud cover. Its intensity in Uyo

and the state is usually high and rainfall is torrential with heavy down pour. It is of short duration at the beginning and the end of the rainy season. The rainfall usually destroys crops, houses and causes soil erosion and floods particularly in the low-lying areas of the Uyo ravine.

The dry season begins in the mid-November and ends in February and sometimes March. During this period, the entire state, particularly the central part where Uyo capital territory is located, comes under the influence of the Continental Trade (CT) air masses with its associated dry and dusty conditions usually known as hamattan haze (locally called within the State as Ekarika). Peters (1989) observes that the hamattan is not only severe by causing dryness of the skin due to the drying effects of the wind but is advantageous to the farmers because this period is used for harvesting and storage of food crops.

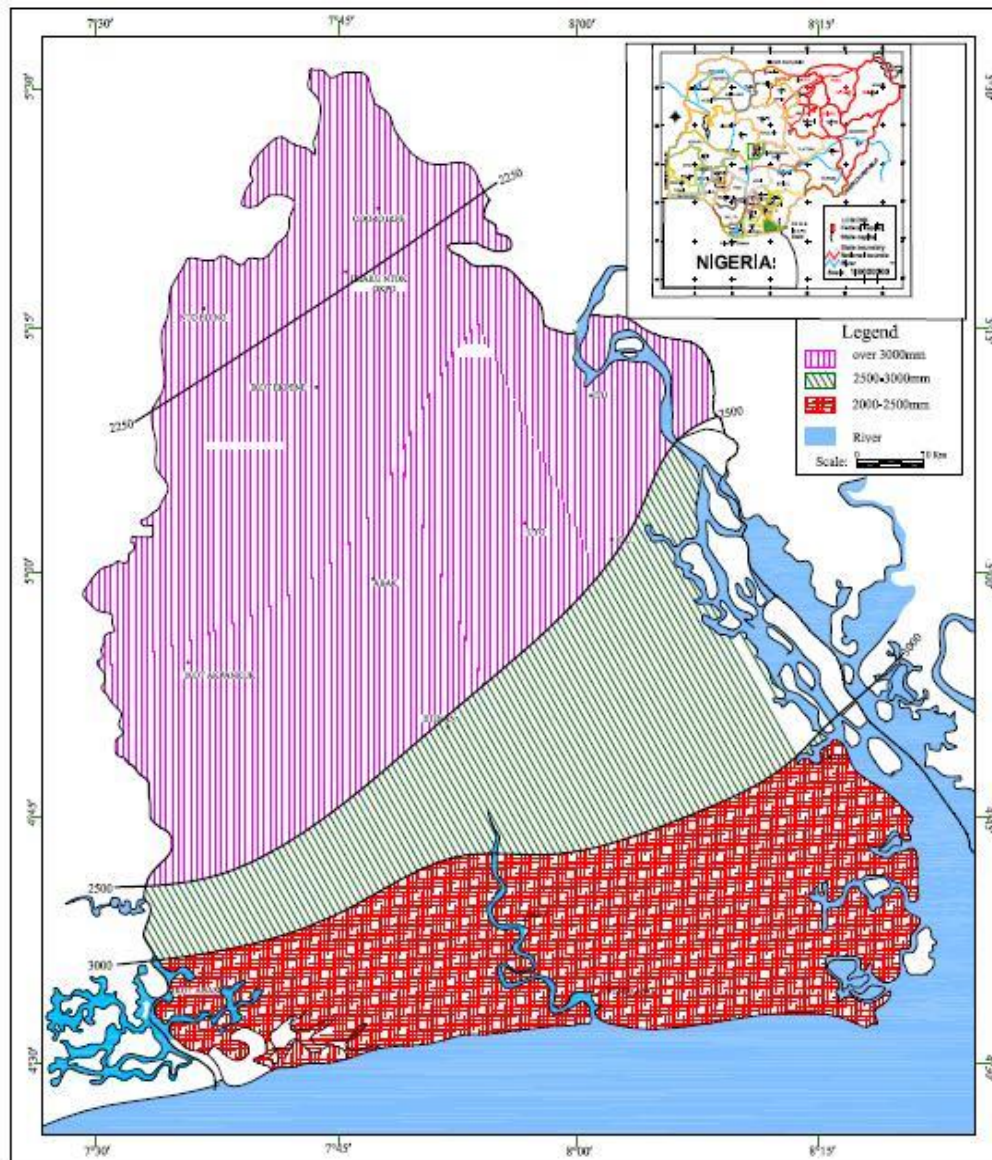


Fig. 4.5 Map of Akwa Ibom Showing Rain Distribution

Source: Ministry of Lands, Surveys and Town Planning 2007

In general, the wet season is characterized by relatively heavy rainfall; high relative humidity (usually more than 60%) and heavy cloud cover which significantly reduces insulation and sunshine. The dry season is characterized by less rainfall; low relative humidity (usually less than 60%), less cloud cover and increase solar radiation because of the low cloud cover.

4.33 Vegetation

Uyo has an ecological vegetal equatorial rain forest having passed through various stages of human interference in form of farming population pressure, increase urbanization, industrial development, and intensive lumbering. The original forest cover has been depleted because of uncontrolled tree falling for planks, firewood, electricity poles, and other activities. There are other forest resources such as oil palm which grow wild in the forest and plantations while raffia palms, various fruits, species root barks and variety of leaves are valuable for their medicinal values. The forest is also the natural habitats for giant snails and wild games.

The location of Uyo is of a particular interest in biogeography. The location of a major Lyto-geographical boundary in the area has placed it at the Niger and Cross River basin. This places Uyo Capital Territory within the western limit rainforest vegetation distinct from that of the Nigerian forest block to the west.

The city shares features in common with others coastally situated cities in West Africa. Notably, at the inland area where Uyo is located, fresh water swamp and riparian forest exist. One drier soils agro ecosystem have largely replaced the original rainforest climax vegetation. This has led to a type of vegetation typical of the densely populated areas of West Africa, in which the oil palm is prevalent. Therefore, because of these changes in the vegetation of the Uyo, economists, agriculturalist, engineers, and other environmental developers should take the ecological factors fully into account.

Generally, the vegetation zone of the Uyo displays typical ecological characteristics of low land rainforest of small and big trees providing natural habitat to innumerable small flora and fauna.

4.34 Temperature

Temperature values are relatively high in Uyo because of the latitudinal location of the State between 40°N and 60°N, which makes the amount of insolation received relatively very high throughout the year. The mean maximum temperature in Uyo is usually higher than 300°K while the mean minimum temperature is usually less than 240°K, with a monthly temperature range of about 60°K or more.

The months with the highest temperature include; February and March which are just before the period of the heavy rain in March and April. Similarly, the months with the lowest temperature are July, August and September when the heavy rain and cloud cover reduce insulations reaching the surface (Peters, 1989) generally; annual range of temperature is small while daily temperature range is fairly high reaching about 80°K-100°K.

4.35 Soils

Uyo is underlain by a simple pattern of sedimentary geological formation. Over 70% of the territory is on tertiary coastal sands while the rest are on the northern cap of the tertiary coastal plains sands, (Peters, 1989). The southern coastal plain sands are nearly leveled to gently undulating, providing a very stable physiographic environment for a relatively uniformed soil parent materials, except along Ikpa and Nwaniba roads where the undulating punctuations occurs with slopes and ravine, varying from 20-50 in the undulating portion. The northern plains undulating topography of the territory is characterized by moderately deep ravine that were probably sites of deep gully erosion in the past, but have now stabilized as the faces of the ravines and valleys are completely covered with vegetation.

The Uyo Capital Territory forms part of the Cross River State consolidated alluvial sands. The basement lies deep under these coastal plain sands and most probably tertiary formations below the sand covering greater part of the town. The coastal plains have a thickness of about 1.800 meters with clay and gravel particles of which its loose structure is easily eroded. Peters (1989) reported that the clay contents of the sand are reportedly less in the northeastern part of the territory, explaining why erosion is prevailing in this area. These characteristics of the soil type have implications for housing development of the capital territory.

Preliminary investigation by Peters (1989) shows that most of the city has a soil type which can generally be classified as A- 2- 6 or clayed gravel and sand up to depths of approximately five meters. The subsoil is therefore, generally good for structures and as base or base course material for housing development and road construction.

4.40 Existing Housing and Demographic Situation in Uyo

4.41 Population and Population Growth Trend

The population of Nigeria has been increasing tremendously. The Federal Government reported an increase of 63% since the last census in 1991, Uyo Capital City Master Plan (UCCMP, 2007). The population of Uyo also has increased rapidly from 743 in 1931 to 273,000 in 2003, (UCCMP, 2007). The new status of Uyo as a state capital turned that figure into gross under estimation, whilst the prediction of the master plan for Uyo Capital Territory in 1987 correctly assumed that the population would reach 300,000 in the following 20 years. This is because of the tremendous rate of in-migration due to the creation of Akwa Ibom State. Recently the rural to urban drift of population and natural growth have taken over as the greatest dynamics where the capital territory is the first to be hit.

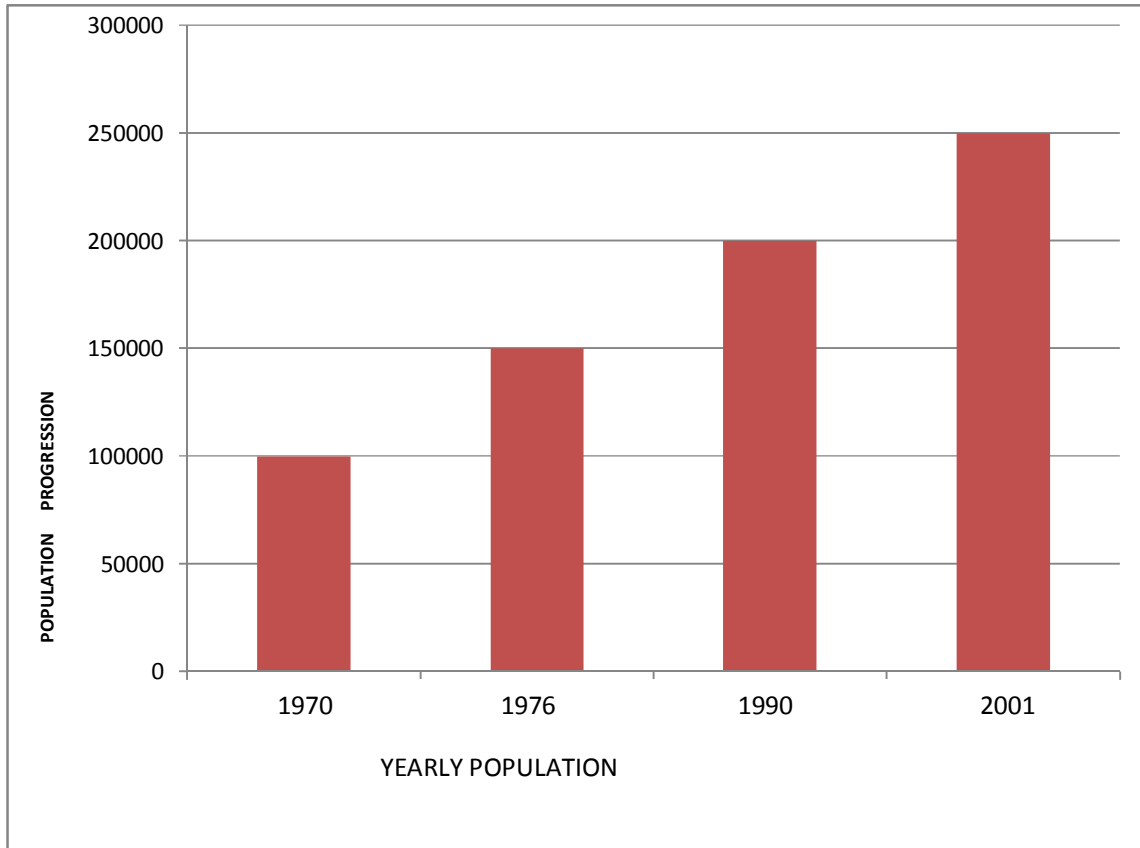


Fig: 4.6 Histogram of Population Growth in Akwa Ibom State

Source: National Population Commission, (NPC, 2006), Uyo

The present population study of Uyo Capital Territory conducted in 2007 by Merrigan, Town Planning Firm revealed that there were 1300 households within the territory. This was derived by splitting the town into thirteen districts and interviewing 100 houses per district. The total numbers of houses within each district was made possible by using satellite imagery. Thus with the estimated numbers of 40,000 residential houses, multiplied with the surveyed average number of six (6) people per household, which is 7.5%, the population figure of 300,000 was derived. If the average estimated number of 2000 to 4000 persons living in dormitories, hostels, and prisons are added, the population will equally amount to approximately, 304,000 persons.

This figure is slightly below the figure published by the National Population Commission (NPC, 2006) Census Final Results for Uyo, which stood at approximately 305,961 persons for the entire of Uyo territory. Therefore, the national figure of 305,961 people is accepted as an ideal population figure for Uyo which was used for this study.

4.42 Existing Housing Situation in Uyo Capital City Territory

There exist few public and private residential estates in Uyo with moderate infrastructural facilities and amenities at the residents' disposal. However, public estates are few within the study area, which include Eniong/Itiam/Ewet Housing Estate, Akwa Ima Estate, Anua and Ifa Ikot Okpon Residential Estate, Mbiabong and Ebiye Heaven Residential Estates. Others are state government constructed low cost housing estates located along Abak road at Uyo Federal, Obio Offot, and Uyo and at Idu Uruan, along Nwaniba Road Uyo. The federal estates include Federal Low Cost Housing at Abak Road, Federal Housing Estate at Idoro and Federal Housing Estate, Aka Itiam Road, Uyo. The private Estate includes Okedo Estate, Confidence Estate, and Abel Damina's Estate at Osong Ama area of the capital territory.

In addition, there exist new estates developed as site and services in line with the New Housing policies of government to acquire land, provide roads, water and electricity, and allocate plots to interested developers to develop houses of their choice. Such residential estates are Anua/Ifa Ikot Okpon Estate, Mbiabong Estate, Akpasima Estate, Ibaku Estate, Ediene Ikot Obio Imo Estate and Obot Idim Ibesikpo Estate. Plots in these estates were allocated to individuals for housing development for the past twenty years but the estates are yet to be fully developed. Investigation reveals that, government on their part failed to provide basic infrastructural facilities to support housing development and subsequent occupation by the allottees. The non-supportive position of the

state government towards house ownership has tremendous effect on housing satisfaction in the Capital Territory which suggested the need for this study to address the situation.

The existing housing conditions in Uyo Capital Territory have the same characteristics with other Nigerian cities such as Umuahia, Yenogua, Asaba and Port Harcourt which due to rapid urban growth has experienced increased housing polarization. The polarization is accompanied by shortage of housing both in quantitative and qualitative terms. The housing structure of the central area (sector i of the study area) of the territory is homogenous with no notable difference in housing characteristics. However, Uyo Capital Master Plan (2007) recorded that, there exist some variations of new housing areas as revealed in occupancy ratios and density upgrading in recent years at the fringe of the territory.

Therefore, Uyo capital city territory has estimated housing units of 34,811, Uyo Capital City Master Plan (2007). The master plan study of 2007 revealed that most residential buildings in Uyo urban are bungalows, which account for 62.8% of the total estimated residential houses. Storey buildings accounts for 13% as against 7.5% in a survey conducted by Inter Designs Company Limited in 1988. This reveals that, the trend towards housing satisfaction through house ownership as revealed by construction of storey buildings is increasing along with improved building methods and techniques. The traditional compound units accounted for about 24.2% of the total housing stock. There also exist many unregulated peripheral housing within the study area. Materials used for the walls are cement blocks and corrugated iron sheets or Asbestos sheets for the roofs. This is because most houses within the capital city territory are new but about 9% of the total buildings in the study area are made up of mud and burnt bricks.

Generally, the housing study of Uyo reveals continuous growth of housing development, which has immense pressure on the existing housing and neighbourhood facilities within the territory. If housing satisfaction aspirations of households must be met, upgrading of the existing housing conditions and development of satellite towns to relieve pressure on the existing housing infrastructure in the Capital Territory is the available option.

4.50 The Case Study of Sectorial Zones:

4.51 The Sectorial Divisions of Uyo Capital Territory

The Uyo Capital City Territory consists of eight sectors or Neighbourhoods as indicated below:

Ata Uyo, Aka, Oku & Iboko districts -	(sector 1)
Anua, Use/Idu Eniong & Nsukara Offots	(sector 2)
Mbiabong Ifa, Itiam and Afaha Ibesikpo	(sector 3)
Nung Oku, Mbiokporo, Mbiorebe & Atan	(sector 4)
Obio Etoi, Afia Nsit, Ikot Oku Ubo & Obio Offot	(sector 5)
Ikono Uyo, Ediene, Idoro & Obio Ibiono	(sector 6)
Ibiaku Itam, West Itam, Odiok & Afaha Oku	(sector 7)
Aka offot, Itiam Etoi, Atan Offot & Afaha Offot	(sector 8)

Source: Author's Field Survey 2012

The eight sectors of the Uyo Capital Territory are the planning units created administratively by Edict No. of 1987, which cuts across six other local government areas administrative boundaries, namely: Etinan, Uruan, Itu, Ibiono, Nsit Ibom, Nsit Atai, nsit Ubium and Ibesikpo Asutan, aggregately highlighted

the determining factors of housing satisfaction within the eight neighbourhoods of Uyo. The study covered a period of 20 years with annual time series from 1992 to 2011.

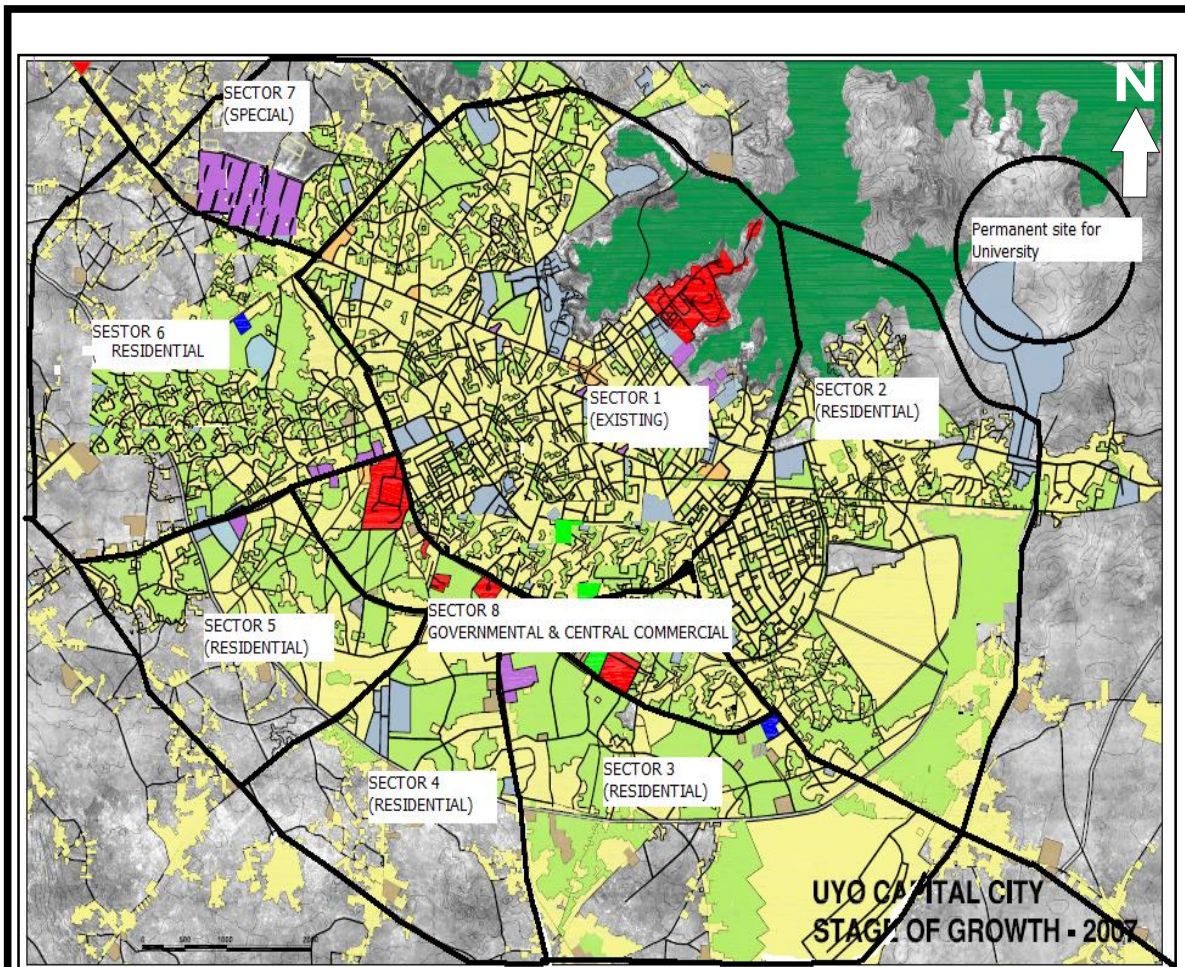


Fig.4.7 Master Plan of Uyo Capital Territory Showing Eight Sectoral Divisions
Source: Uyo Master Plan 2007

The compositions of the sectors are as listed below:

- i. Sector I (Existing built-up Neighbourhood)
- ii. Sector II (Semi-built-up residential Neighbourhood)
- iii. Sector III (Semi-built-up residential Neighbourhood)

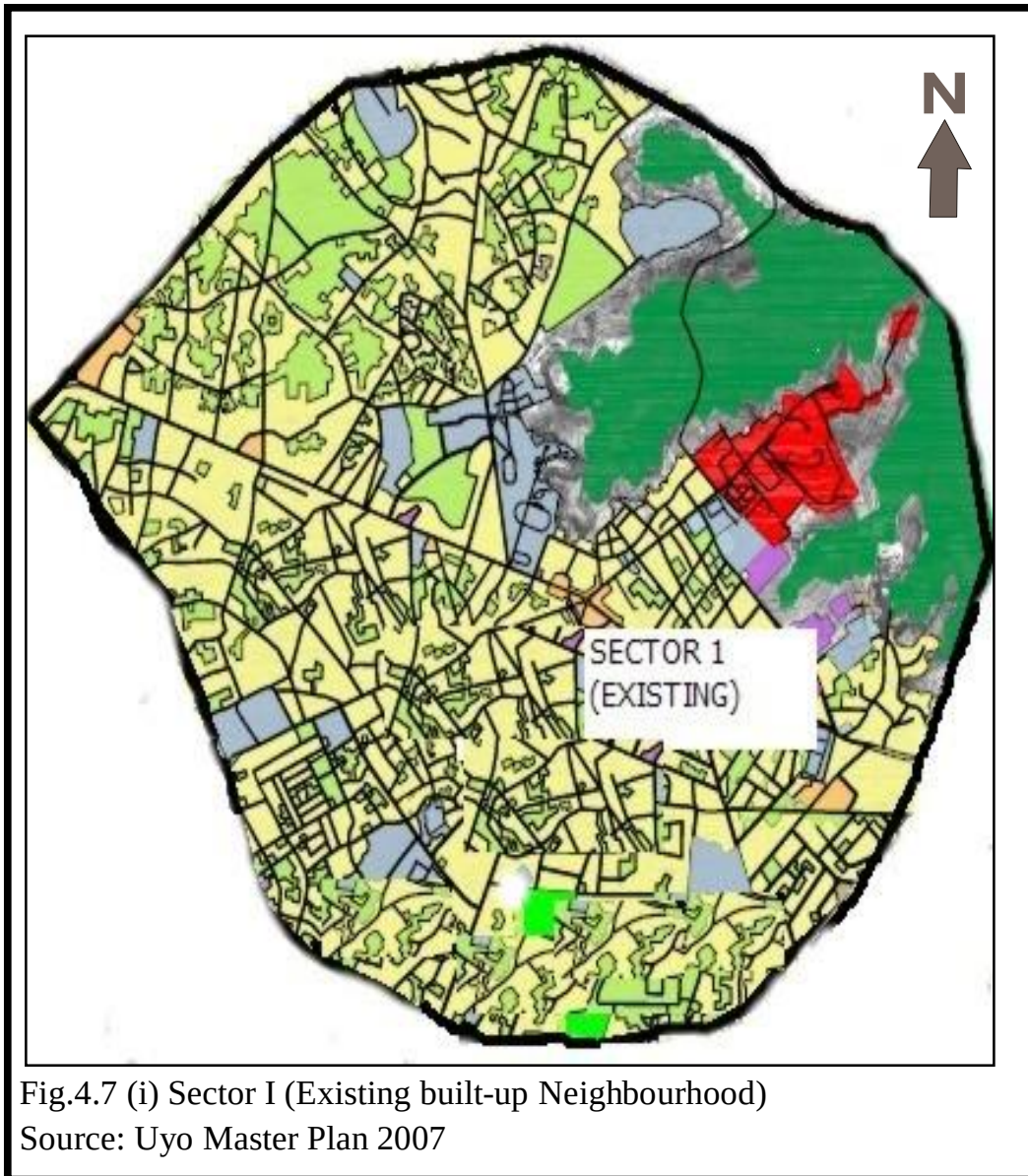
- iv. Sector IV (Semi-built-up residential Neighbourhood)
- v. Sector V (Semi-built-up residential Neighbourhood)
- vi. Sector VI (Semi-built-up residential Neighbourhood)
- vii. Sector VII (Semi-built-up Industrial Neighbourhood)
- viii. Sector VIII (Governmental and Central Commercial Neighbourhood)

(Source: Uyo Master Plan 2007)

i. Sector I (Existing Built-up Neighbourhood)

Sector one of the Uyo capital territories consists of the existing built up area of Uyo urban measuring approximately 3 kilometers radius from the center (Ibom Connection). It is centrally located and has a finite population of 85,889 people. The existing sector was inherited during state creation in 1987 as a designated state capital of Akwa Ibom State. However, due to the influx of population into the city, the territory was expanded to 10 kilometers radius in coverage and later to 15 kilometers radius with ring roads and master plan roads to channel developments.

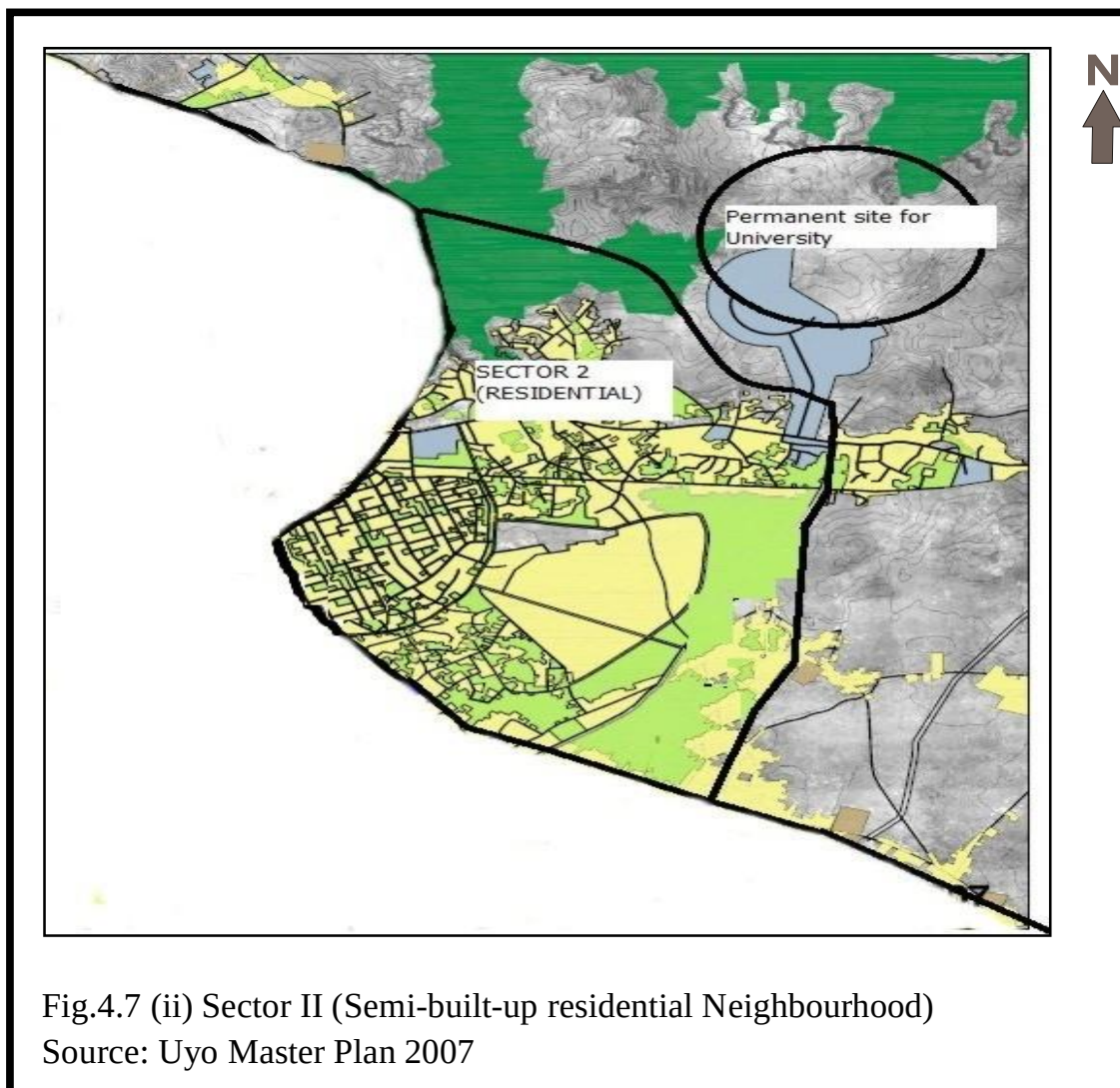
The major roads in sector one of the capital territory converged at Ibom circus. The 'circus' is a confluence of five major arterial radial roads linking the capital territory with other local government of the state; for instance, Oron, Abak and Aka Roads which serve as intra state roads with links to the other local government areas. The presence of the ravine in the northern part of the capital territory has made it impossible to have rings in sector one



ii. Sector II (Semi-Built-up Residential Neighbourhood)

Sector two of the master plan is on the northeastern limit of the capital territory. It is the semi-built up residential area of the territory with a finite population of 48,954 people. The landform in this sector is undulating on the northern area, thus the ring roads characterized of the capital territory is absent due to the continuation of the Uyo ravine to Idu, the satellite town to Uyo and the head-quarters of Uruan Local Government Area.

The Permanent Site of the University of Uyo and the Ibom Gulf Course at Uruan Local Government Area are located in this sector. However, on the southwestern area of the sector, there exist areas of high density and low-density housing estates namely Itam, Eniong and Ewet Residential Estates, which are the first class estates within the capital territory and the Anua/Ifa Ikot Okpon residential estate.



iii. Sector III (Semi-Built-up Residential Neighbourhood)

Sector three of the master plan is on the southern region of the Uyo capital territory. It is a semi-built up residential area of the capital territory with a finite

population of 42,835 people. The sector cuts across Ibesikpo Asutan and Nsit Ibom Local Government Areas. The landform is evenly undulating, thus the ring roads traversed this sector without interruption.

However, public housing estates are few within the sector. These include, Ebiye and Mbiabong Etoi (Shelter Afrique) Residential Estates. The sector is characterized by semi-urban mixed residential land uses. The Bank Layout, Akwa Ibom Tropicana, and Champion Breweries are located in this sector.

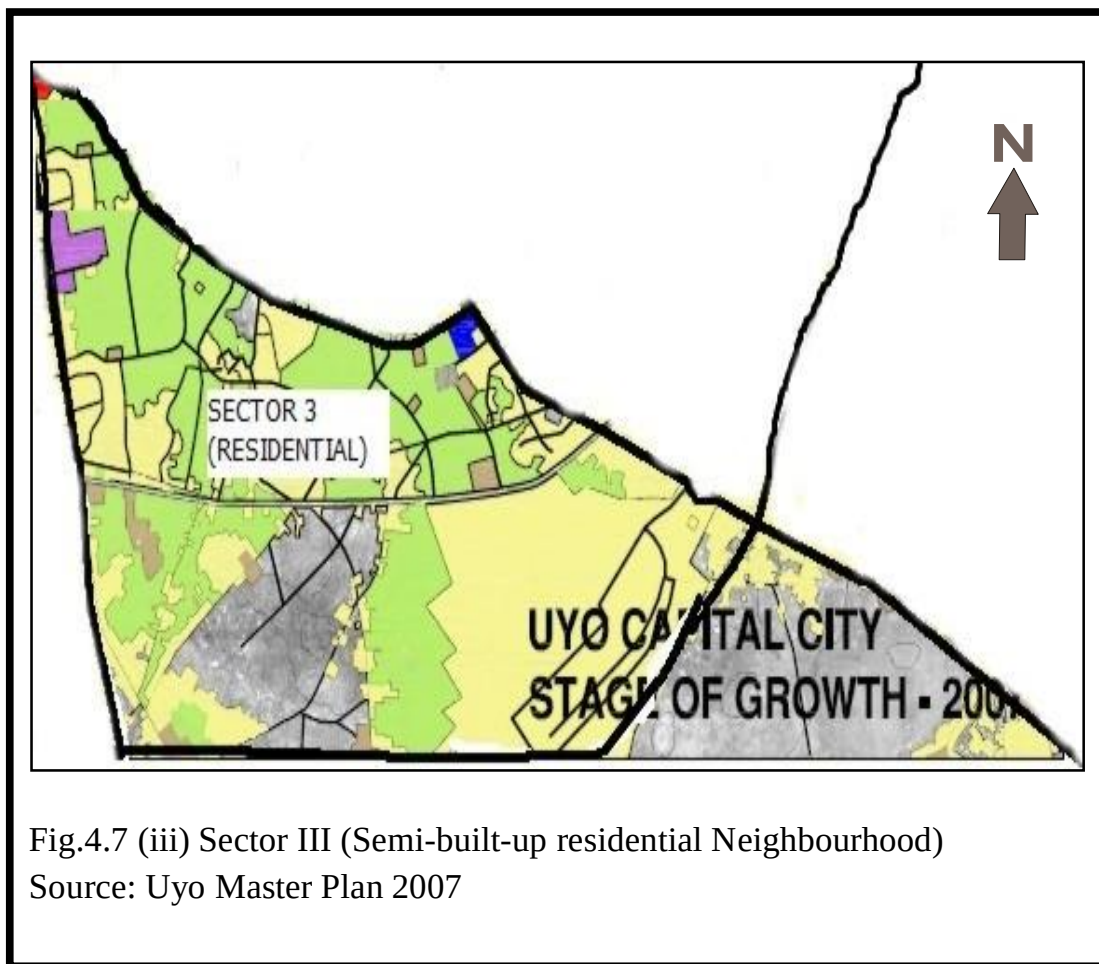


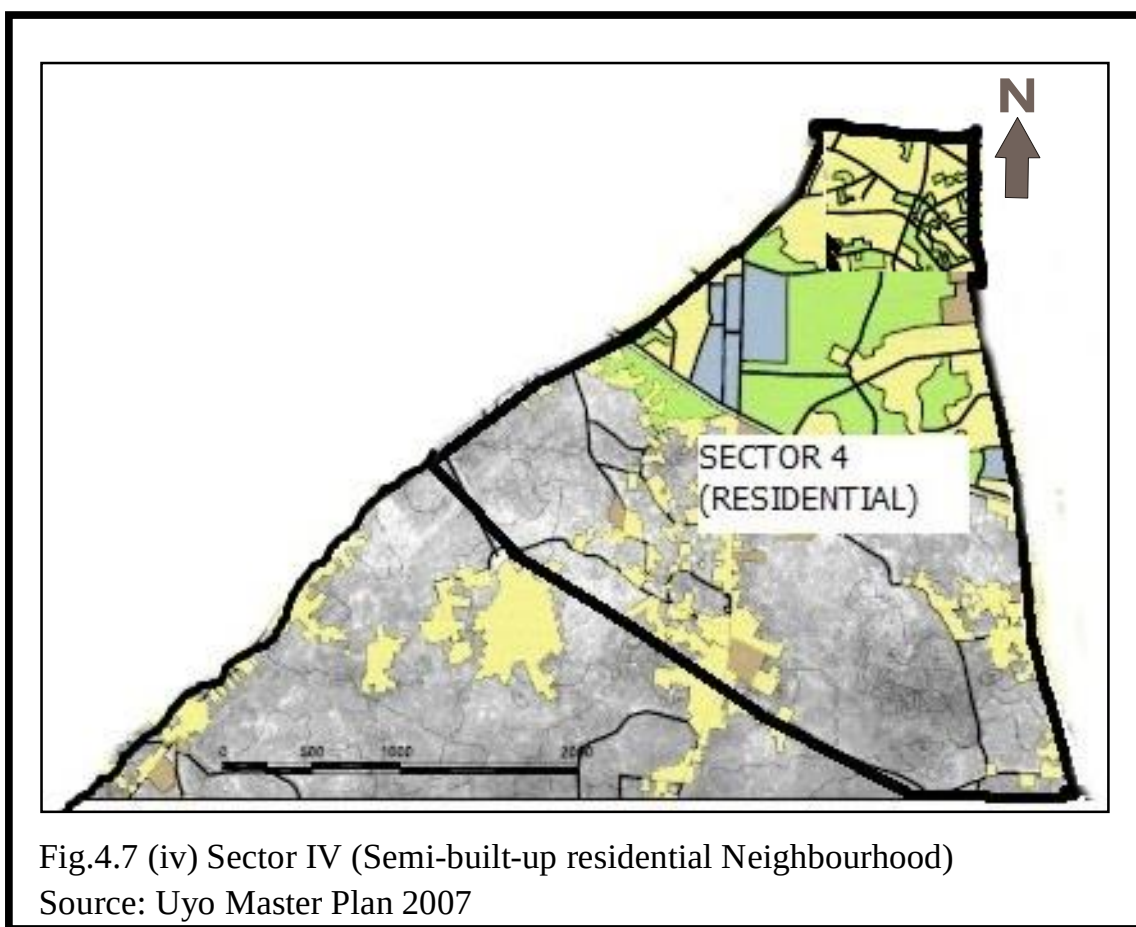
Fig.4.7 (iii) Sector III (Semi-built-up residential Neighbourhood)
Source: Uyo Master Plan 2007

iv. Sector IV (Semi-Built-up Residential Neighbourhood)

Sector four of the master plan is on the southern area of the Uyo capital territory. It is the semi-built up residential area of the territory and has a finite

population of 36,715 people. The sector cuts across Ibesikpo Asutan, Nsit Ibom and Etinan Local Government Areas. The landform is evenly undulating, thus the ring roads traversed this sector without interruption as it does in sector three.

However, public housing estates are few within sector four. These include, Akpasima, Akwa Ima, and Returnees Residential Estates. The sector also has semi-urban mixed residential land uses. The Akwa Ibom Police Area Command and the Nigerian Television Authority (NTA) are located in this sector.



v. Sector V (Semi-Built-up Residential Neighbourhood)

Sector five of the master plan is also on the southern area of the Uyo capital territory. It is the semi-built up residential area of the territory and has a finite

population of 21,417 people. The sector cuts across Nsit Ibom and Etinan Local Government Areas. The landform is evenly undulating, thus the ring roads traversed this sector without interruption as it does in sectors three and four.

However, public housing estates include, Afaha Offot and Use Ikot Ebio residential estates. The sector also is a semi-urban mixed residential private housing area. The Federal Secretariat and Ibom Community Center are located in this sector.

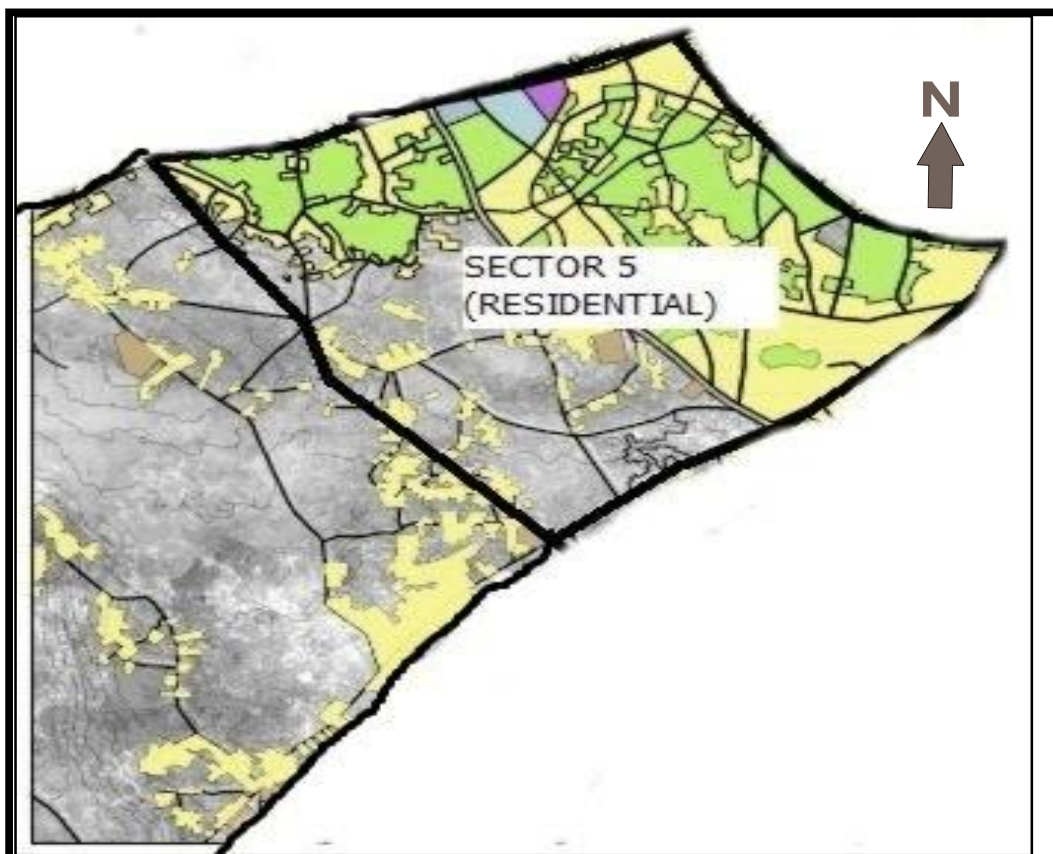


Fig.4.7 (v) Sector IV (Semi-built-up residential Neighbourhood)
Source: Uyo Master Plan 2007

Sector VI (Semi-Built-up Residential Neighbourhood)

Sector six of the master plan is on the western area of the Uyo capital territory. It is the semi-built up residential area of the territory and has a finite

population of 21,417 people. The sector cuts across Nsit Ibom and Ibiono Local Government Areas. The landform is evenly undulating. The ring roads traversed this sector without interruption as it does in sectors three to five. However, public housing estates include, Ediene Ikot Obio Imo and Idoro residential estates. The sector is also a semi-urban mixed residential private housing area. The Military Police Area Command Base and the Federal Medical

Specialist Hospital is located in this sector.

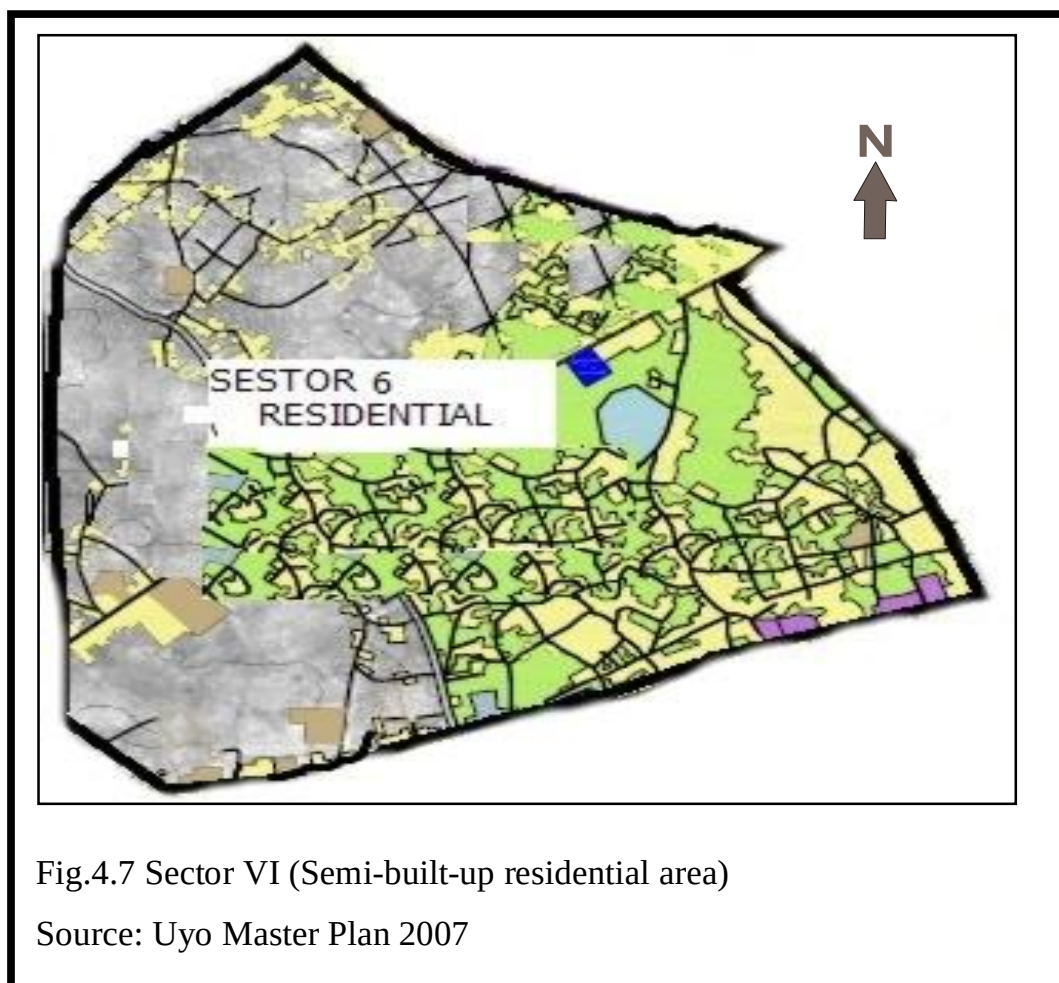


Fig.4.7 Sector VI (Semi-built-up residential area)

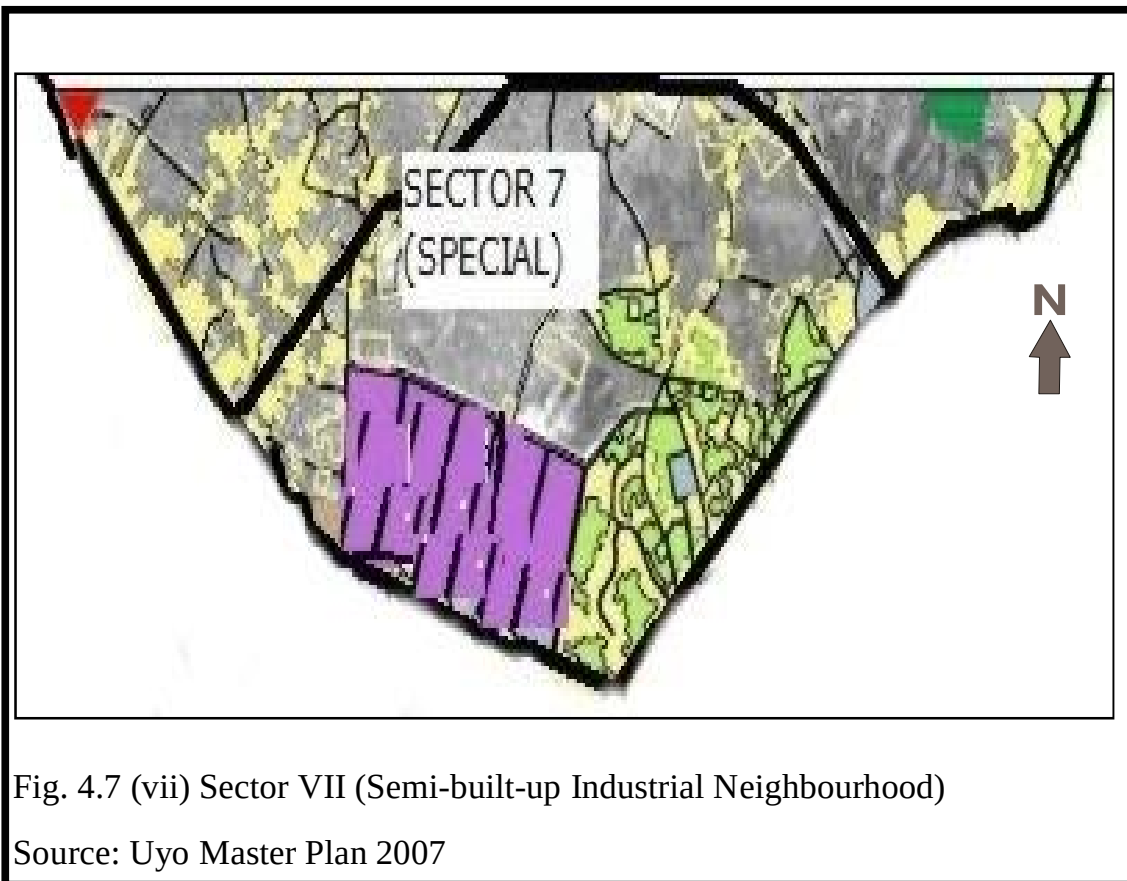
Source: Uyo Master Plan 2007

vi. Sector VII (Semi-Built-up Industrial Neighbourhood)

Sector seven of the master plan is in the northwestern area of the Uyo capital territory. It is the semi-built up industrial area of the territory and has a

finite population of 24,476 people. The sector cuts across Ibiono Ibom and Itu Local Government Areas. The landform is evenly undulating except at Ikot Adaidem and Ikpa River valley along Ntak Inyang area. The ring roads does not traversed this sector as in sectors one and part of sector two because of the ravine at Ikot Adaidem, Afaha Oku, Ntak Inyang and Ndue Otong areas.

However, this sector is designated for industrial estates developments. Quality Ceramic and System Alluminum Factories are located here. There are however semi-urban mixed residential private housing settlements in this sector.



(viii) Sector VIII (Governmental and Central Commercial Neighbourhood)

Sector eight of the master plan is at the center of the Uyo capital territory. It is Governmental and Central Commercial Area of the capital territory and has a finite population of 18,357 people. The sector is located within Aka, Itiam Atan and Afaha Offot districts. The landform is evenly undulating, thus the ring roads one and two traversed this sector without interruption as these roads delineate the sector.

The sector is predominantly governmental land uses with mixed private residential housing areas. The State Secretariat Complex, Akwa Ibom Community Hall, Federal High Court Complex and Ibom Community Center, Pioneer News Paper Co-operation, Akwa Ibom Conference Center and the Akwa Ibom State House of Assembly are located in this sector.



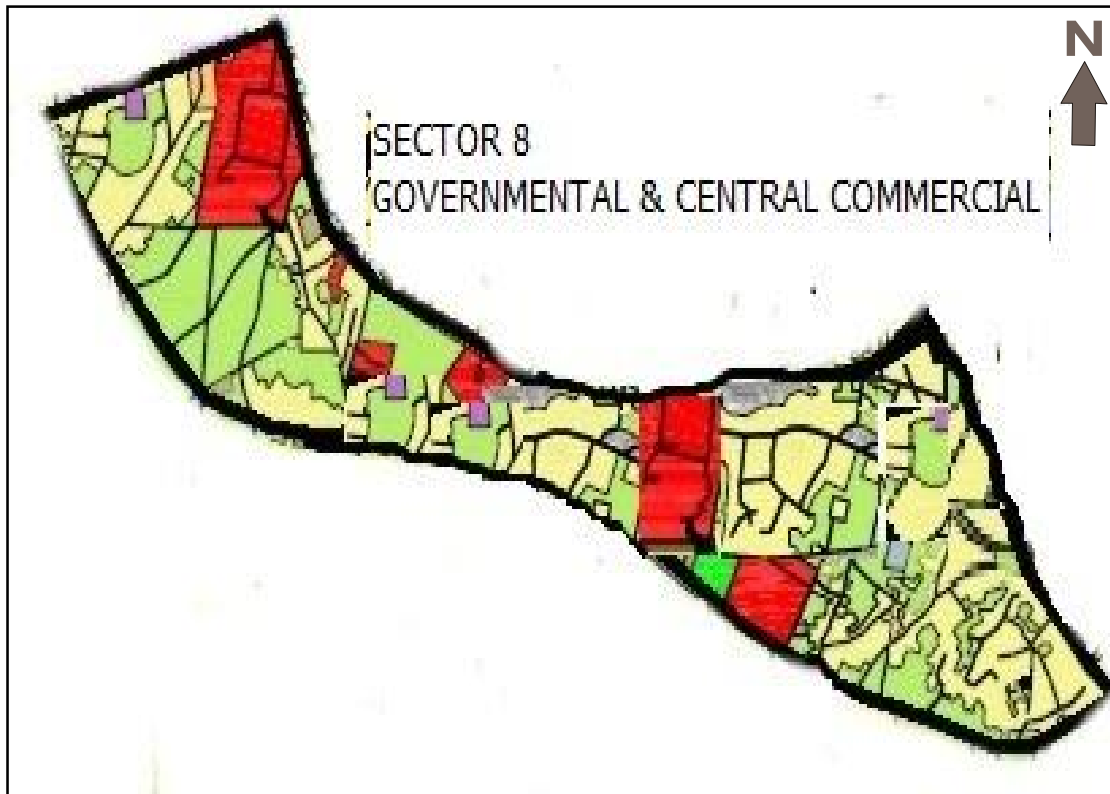


Fig.4.7 (viii) Sector VIII (Governmental and Central Commercial Neighbourhood)

Source: Uyo Master Plan 2007

Generally, the eight sectors were extensively used for this study. Each sector provided an existing stratum for easy administration of questionnaires proportionately within the districts of each sector. Also the dominant land uses in each sector which were different from residential uses were identified. These included industrial sector in sector seven and the governmental sector in sector eight.

5.00 CHAPTER FIVE: METHODS AND PROCEDURES

5.10 Method of Data Collection

The study adopted a survey design approach for the collection of data.

The data used in this study were collected from both secondary and primary sources.

5.11 Secondary Sources

Secondary data were mainly from published sources, which included qualitative and quantitative data from previous work on housing satisfaction and related areas. Others included published and unpublished materials such as textbooks, projects, dissertations, newspaper, seminar papers, internet, etc. centering on the following:

5.111 Published Materials:

Population of the study area from National Population Commission News Letter, (2006) - (Published).

Base Maps from the Office of the Surveyor General, Uyo (2011) - (Published).

Uyo Capital City Territory Master Plan (2007) - Published

5.112 Unpublished Materials:

The unpublished sources are Housing population from the Akwa Ibom State Property Development Company (AISPDC, 2011), and Housing population from the Uyo Capital City Development Authority- Government of Akwa Ibom State (2011).

5.12 Primary Sources

Questionnaires were used for the collection of important information needed to analyze housing satisfaction attributes of the three income groups in the study areas. Twenty-one questions were designed to both the landlords and tenants, which were used to elicit information on the actual satisfaction attributes of the households in the study area. A total of 1,783 copies of questionnaire were administered to respondents in eight neighbourhoods of Uyo Capital City Territory as were officially delineated for planning administration purposes.

5.20 Sample Frame and Sample Size:

5.21 Sample Frame

The sample frame for this study was the tenants and landlords household heads from the eight sectors of Uyo Capital City Territory.

5.22 Sample Size

In order to determine the sample size for this study, two factors were considered: first the margin error which was put at 2.5% while the acceptable range is between 1 to 4 percent and second, 95% confidence interval.

The formula to estimate sample size for a simple random sampling is given as:

$$n = \frac{Z^2 \check{U}^2}{d^2}$$

where

Z^2 = standard score corresponding to the probability of risk

$\check{U}^2$ = the standard deviation of the population

d^2 = specified deviation

The total finite population of the eight sectors (neighbourhoods) for the entire Uyo Capital City Territory base on (NPC, 2006) population result was 305,961 people. The projected population from 2007 to 2012 at an annual growth rate of 3.085% for Uyo as an urban center (NPC, 2006) was 367,152 persons, (See Table 6.21). Thus the total household population used for the study was 61,192 households derived by dividing 6, representing official national average household size in Nigeria by the projected population of 367,152. The sample frame for each neighbourhood was derived by dividing the projected population for each neighbourhood by 6. The sample size was then determined using Williams (1978) formula as was adopted by Kerlinger and Lee (2000). The formula is given as:

$$S = \frac{n}{1 + n/N}$$

Where:

S = Sample size

n = The proportion of households population that will be sampled which is 3 percent.

N = The total number of households

$$\begin{aligned} S &= \frac{1836}{1 + 1836/61,192} \\ &= \frac{1836}{1 + 0.030003922} \\ &= \frac{1836}{1.030003922} \\ &= 1782.52 \end{aligned}$$

A total of 1783 households representing 0.3 percent of the sample frame of 61,192 households drawn from the eight sectors of Uyo Capital Territory were therefore sampled.

This formula was also used to determine the sample sizes of the study area of Jiburum, (2007), Ubani, (2009) and Nwachukwu, (2010). Consequently, in this study, 0.3 percent of the total population of the eight sectors of Uyo Capital Territory (1783) was chosen as an appropriate proportion.

The above formula therefore produced a total sample population of 1783. See appendix 1. This represents the sample size and respondents to the questionnaire.

5.23 Stratified Sampling Technique

The study area, Uyo Capital City Territory was stratified into eight existing neighbourhoods (sectors). Each stratum represented a sector of the entire Capital Territory, which cuts across six other local government areas administrative boundaries, namely: Etinan, Uruan, Itu, Ibiono, Nsit Ibom, Nsit Atai, Nsit Ubium and Ibesikpo Asutan.

The technique of stratification was employed in the process of sample design because it provided increased accuracy in sampling estimates. Stratification did not imply departure from probability sampling. The population was divided into sub-populations called strata (represented by sectors) and questionnaires were administered within these strata (districts) of each sector. The sampled estimate of household population parameters for this study was finally obtained by collating information from each of the stratum (sector) of the Capital Territory.

Proportionately, a sector containing a given percentage of the elements in the population was represented by the same percentage of the number of the

sampled elements. Breakdown of the stratified sampling is shown on the table 5.1 follows:

Table 5.1 Sample Size Distribution per Sector

Sectors	Neighbourhoods /Districts	Population Figure 2006	Percentage	Projected population 2007-2012	Household Population Per Sector	Sample size per Neighbourhood
Sector i	Ata Uyo, Aka, Oku & Iboko	85,669	28	102,803	17,134	499
Sector ii	Anua, Use, Idu Eniong &	48,954	16	58,745	9,790	286
Sector iii	Mbiabong, Ifa, Itiam and Afaha	42,835	14	51,401	8,567	250
Sector iv	Nung Oku, Mbiokporo,	36,715	12	44,058	7343	213
Sector v	Obio Etoi, Afia Nsit, Ikot Oku	27,536	9	33,043	5550	162
Sector vi	Ikono Uyo, Ediene, Idoro &	21,417	7	25,701	4283	124
Sector vii	Ibiaku Itam, West Itam, Odiok &	24,476	8	29,372	4895	143
Sector viii	Aka offot, Itiam Etoi, Atan Offot	18,359	6	22,029	3671	106
Total	32 (Districts)	305,961	100	367,152	61,192	1,783

Source: Researchers's Field Survey 2012

5.24 Stratified Random Sampling Technique Application

Stratified random sampling technique was used to select the respondents within the eight neighbourhoods of Uyo Capital City Territory as presented on table 5.3 above. For clarity, each neighbourhood represented a stratum (sector) of Uyo Capital City Territory, which cuts across six other local government areas administrative boundaries. The stratified random sampling technique was applied in each sector (neighbourhood), from sector one to eight. Questionnaires

were administered proportionately with the finite population of each as sector and districts within each sector as follows:

i) Sector I :- In sector I, households were randomly chosen at points of inter sections of the grid lines. Thus, household number one was followed by household number two and so forth, until the entire sample frame for sector I was exhausted. It followed this order respectively until the 499 households were sampled for sector I. Then applying stratified random sampling technique, 499 households were sampled, drawn from 4 districts of sector I of the Uyo Capital Territory. Details of the application of the stratified random sampling technique in each of the eight sectors of the Capital Territory are shown on figure 5.1 above.

ii) Sector II:- In sector II, households were randomly chosen at points of inter sections of the grid lines. Thus, household number one was followed by household number two and so forth, until the entire sample frame for sector II was exhausted. It followed this order respectively until the 286 households were sampled for sector II. Then applying stratified random sampling technique, 286 households were sampled, drawn from 4 districts of sector II of the Uyo Capital Territory. Details of the application of the stratified random sampling technique in each of the eight sectors of the Capital Territory are shown on figure 5.1 above.

iii) Sector III:- In sector III, households were randomly chosen at points of inter sections of the grid lines. Thus, household number one was followed by household number two and so forth, until the entire sample frame for sector III was exhausted. It followed this order respectively until the 250 households were sampled for sector III. Then applying stratified random sampling technique, 250 households were sampled, drawn from 4 districts of sector III of the Uyo Capital Territory. Details of the application of the stratified random sampling

technique in each of the eight sectors of the Capital Territory are shown on figure 5.1 above.

iv) Sector IV:- In sector IV, households were randomly chosen at points of intersections of the grid lines. Thus, household number one was followed by household number two and so forth, until the entire sample frame for sector IV was exhausted. It followed this order respectively until the 213 households were sampled for sector IV. Then applying stratified random sampling technique, 213 households were sampled, drawn from 4 districts of sector IV of the Uyo Capital Territory. Details of the application of the stratified random sampling technique in each of the eight sectors of the Capital Territory are shown on figure 5.1 above.

v) Sector V:- In sector V, households were randomly chosen at points of intersections of the grid lines. Thus, household number one was followed by household number two and so forth, until the entire sample frame for sector V was exhausted. It followed this order respectively until the 162 households were sampled for sector V. Then applying stratified random sampling technique, 162 households were sampled, drawn from 4 districts of sector V of the Uyo Capital Territory. Details of the application of the stratified random sampling technique in each of the eight sectors of the Capital Territory are shown on figure 5.1 above.

vi) Sector VI:- In sector VI, households were randomly chosen at points of intersections of the grid lines. Thus, household number one was followed by household number two and so forth, until the entire sample frame for sector VI was exhausted. It followed this order respectively until the 124 households were sampled for sector VI. Then applying stratified random sampling technique, 124 households were sampled, drawn from 4 districts of sector VI of the Uyo Capital Territory. Details of the application of the stratified random sampling

technique in each of the eight sectors of the Capital Territory are shown on figure 5.1 above.

Vii) Sector VII:- In sector VII, households were randomly chosen at points of inter sections of the grid lines. Thus, household number one was followed by household number two and so forth, until the entire sample frame for sector VII was exhausted. It followed this order respectively until the 143 households were sampled for sector VII. Then applying stratified random sampling technique, 143 households were sampled, drawn from 4 districts of sector VII of the Uyo Capital Territory. Details of the application of the stratified random sampling technique in each of the eight sectors of the Capital Territory are shown on figure 5.1 above.

viii) Sector VIII:- In sector VIII, households were randomly chosen at points of inter sections of the grid lines. Thus, household number one was followed by household number two and so forth, until the entire sample frame for sector VIII was exhausted. It followed this order respectively until the 106 households were sampled for sector VIII. Then applying stratified random sampling technique, 106 households were sampled, drawn from 4 districts of sector VIII of the Uyo Capital Territory. Details of the application of the stratified random sampling technique in each of the eight sectors of the Capital Territory are shown on figure 5.1 above.

Therefore, in this study, stratified random sampling technique was used to determine the sample frame of the household population of each of the existing eight sectors. Each sector was however stratified into four sub-strata (north, east, south and west) as listed on table 5.1 above. Then applying stratified random sampling technique, 1,783 housing units were sampled in the study, drawn from 32 sub-strata of the eight sectors of the Uyo Capital City Territory.

Details of the application of the stratified random sampling technique in each of the eight sectors of the capital territory are shown on figure 5.1 above.

5.25 Questionnaires Distribution

The table 5.2, figures shows that 1,783 copies of questionnaires were distributed in the eight existing sectors, and 1560 copies representing 87.49 percent of the total were returned. Total copies of questionnaires distributed in sector i was 499, sector ii was 286, sector iii was 250, sector iv was 213, sector v was 162, sector vi was 124, sector vii was 143 and sector viii was 106 respectively. A breakdown of the returned questionnaires in each sector shows that, 439 (90.14%) copies of questionnaires were returned in sector i, 248 (89.20%) returned in sector ii, 218 (89.71%) returned in sector iii and 197 (94.26%) returned in sector iv. Others were; 130 (83.33%) returned in sector v, 105 (86.07%) returned in sector vi, 130 (93.12%) returned in sector vii and 93 (88.57%) copies in sector viii respectively. Therefore, the 87.49 percent of success achieved in sampling is very good for this study.

Table 5.2: Showing Questionnaires Distribution and Rate of Return

S/No	Sectors	Household Population	Sample Size	Copies Returned	Percent
1	Sector i	17,134	499	439	90.14
2	Sector ii	9,790	286	248	89.20
3	Sector iii	8,567	250	218	89.71
4	Sector iv	7343	213	197	94.26
5	Sector v	5550	162	130	83.33
6	Sector vi	4283	124	105	86.07
7	Sector vii	4895	143	130	93.12
8	Sect. viii	3671	106	93	88.57
	Total	61,192	1,783	1560	87.49

Source: Field Survey 2012-2013

5.40 Description of the Questionnaire Format:

In an effort to obtain precise data from the respondents, two methods of investigations were used, namely; pre-coded and open-ended. These pre-coded and open-ended questionnaires guided respondents on how to answer certain questions. Open-ended questions were used to allow the respondents use their initiatives to provide answers to particular questions pertaining to housing satisfaction.

Through this medium, primary data were collected on household income, household savings, and house ownership status of the residents, educational level of the residents, housing types, housing locations, housing design, and

preferences. These data were used extensively in testing the research hypothesis.

The questionnaire contained twenty-one questions, some of which were designed based on a 5-point Likert Scale. Test of reliability of the questionnaire was conducted using Cronbach alpha and the result of 0.80 was obtained while its validation were carried out by three experts: my supervisor, a statistician and a lecturer from my department.

The questions were simple, clear, and direct to the issue and the question was divided into three sections as follows: Section one which addressed the household's personal data such as sex, age, educational level, household size, occupation, income group, expenditure pattern, housing type, housing quality, nature of housing occupied, means of transportation.

Section two, examined housing satisfaction with the rate of house ownership through accessibility to land, allocation of land and cost of building materials in Uyo Capital Territory. It also examined house ownership statuses and the beneficiaries from public housing construction within Uyo Capital Territory. Others were personal savings towards house ownership and factors hindering easy access to urban land for housing development.

Section three of the questionnaire assessed housing amenities, infrastructural and neighbourhood facilities contributing to the individual household housing satisfaction in Uyo. It contained list of 66 housing variables from which the respondents identified those ones applicable to his household and expressed his independent opinion. This section measured the level of housing satisfaction with the households' income of low, medium and high-income groups. The questions in this section involved ranking of satisfaction's attitudes formed by respondents in relation to the selected housing attributes. These included the identification and ranking of the infrastructural services, amenities, and facilities

that contributed to housing satisfaction of households within the study area. It contained the housing satisfaction variables while the responses were ranked according to their perceived housing satisfaction level and in the order of priority.

5.50 Description of Statistics Used in the Analysis

The field results were compiled in a database using the Statistical Package for Social Sciences (SPSS). The data were also analyzed with SPSS. Two types of statistical tools were employed in the study: inferential and descriptive statistics.

5.51 Descriptive Statistics

- i. Frequencies: These were number of times, a particular variable occurred, which were recorded with tally marks. Tables, histograms, bar and pie charts were used to show the differences in variables.
- ii. Percentages: Percentages were used to show the proportional differences in response to a given variable in response to 100%. The percentages were computed using the formula below:

$$\text{Percentage (\%)} = \frac{F}{N} \times \frac{100}{1}$$

Where

F = the number of occurrences or frequency of response to a variable.

N = the number of responses.

5.52 Inferential Statistics

5.521 Principal Component Analysis

Principal Component Analysis (PCA) was used to test hypothesis one that states that; housing satisfaction requirements of households cannot be identified and classified in Uyo Capital City Territory and hypothesis three which states that, housing satisfaction attributes of the low, medium, and high-income groups cannot be significantly determined in Uyo.

The housing satisfaction aggregate average of the sixty-six (66) housing variables responses by the three income groups within the eight neighbourhoods of Uyo Capital Territory was used for the analysis.

The PCA was chosen for the testing of hypotheses one and three because its assumption required that all the variations in a given population were contained in the variables used for defining the population. It was therefore the most deterministic model for the analysis.

In this study, PCA was used to compress 66 housing satisfaction variables listed below:

1. Floor plan of the dwelling
2. Height of ceiling
3. Size of bedroom
4. Performance of foundation
5. Numbers /positions of electrical points
6. Location of bed rooms
7. Street design
8. Toilet design
9. Bathroom design

- 10.Fire wood kitchen design
- 11.Numbers of bathroom
- 12.Gas Kitchen design
- 13.Numbers of Toilets
- 14.Operation of electrical fitting
- 15.Quality of paint
- 16.Quality of materials use on the wall
- 17.Operation of plumbing fitting
- 18.Quality of building materials
- 19.Quality of materials use on the floor
- 20.Location and sizes of balcony
- 21.Day light brightness of the house
- 22.Indoor air quality
- 23.Noise pollution
- 24.Water pollution
- 25.Landscape of street
- 26.Window materials
- 27.Source of water
- 28.Drainage system
- 29.Refuse disposal system
- 30.Street lighting
- 31.Numbers of bedrooms
- 32.Availability of parking space
- 33.Security system in the house
- 34.Open spaces for recreation
- 35.Building setbacks from fence

- 36.level of privacy in the house
- 37.Level of Neighbourhood Security
- 38.Emergency escape routes
- 39.Aesthetics appearance of housing
- 40.Availability of on street bay
- 41.Nearness to Police Station
- 42.Nearness to medical Facility
- 43.Nearness to Fire Service
- 44.Nearness to place worship
- 45.Nearness to children school
- 46.Nearness to market
- 47.Getting value for money spent on housing
- 48.Cost and effort of house upkeep
- 49.Easiness of house maintenance
- 50.Nearness to recreational facilities
- 51.Nearness to place of work
- 52.Rate of housing deterioration
- 53.Neighbourhood reputation
- 54.Condition of roads
- 55.Plumbing conditions in the house
- 56.Availability of play ground
- 57.Erosion effect
- 58.Availability of public transport
- 59.Availability of private space
- 60.Good location of building
- 61.Good site layout

62. Condition of ceiling

63. Storage facility

64. Leaking roof

65. Availability of exit door

66. Visual aesthetics of neighborhood

Source: Researchers's Field Survey 2012

The co-relation matrix (R_{mm}) was obtained by transforming the data matrix (D_{mm}) into a matrix of standard scores (Z), where m was the number of variables and n the number of observations or cases. The formula was given as:

$$R_{nm} = \frac{Z_{nm}^T \cdot Z_{mn}}{N}$$

The factor scores (S_{pm}) for the original n observation, on each of p component were computed from the formula below:

$$S_{np} = (Z_{nm} \cdot L^T)_{pm}$$

PCA was employed to test the first and third hypotheses. PCA is expressed mathematically as:

$$F = W_j X_j = W_1 X_1 + W_2 X_2 + \dots \quad (1)$$

Where:

$W_1 \dots W_n$ = factor weights

$X_1 \dots X_n$ = original variables

Equation (1), PCA formulae was applied in the test of hypothesis one as follows:

$$F = ASS = W_1 ani + W_2 cr + W_3 haa + W_4 pfc + W_5 cfc + W_6 hir + W_7 hd + W_8 fa + W_9 hf + W_{10} faf + W_{11} eml + W_{12} hff + W_{13} ssf + W_{14} cvf \dots \quad (2)$$

The PCA formula for hypotheses 3 (Low, Medium and High-income) though the same as one, were expressed mathematically as:

$$F = W_j X_j = W_1 X_1 + W_2 X_2 + \dots \quad (3)$$

Where:

$W_1 \dots W_n$ = factor weights

$X_1 \dots X_n$ = original variables

Equation (6), PCA formulae was applied in the test of hypothesis 3 (a, b and c) as:

$$\text{Equation 6 (a) HS (Low-income)} = \text{ASS} = W_1 \text{anf} + W_2 \text{cr} + W_3 \text{haa} + W_4 \text{nfs} + W_5 \text{pf} + W_6 \text{nfc} + W_7 \text{hdf} + W_8 \text{fha} + W_9 \text{cf} + W_{10} \text{eml} + W_{11} \text{pah} + W_{12} \text{cfc} + W_{13} \text{pof} + W_{14} \text{iaq} + W_{15} \text{osfr} \quad (4)$$

$$\text{Equation 6 (b) HS (Medium-income)} = \text{ASS} = W_1 \text{bmnf} + W_2 \text{phf} + W_3 \text{pc} + W_4 \text{hca} + W_5 \text{hdm} + W_6 \text{cf} + W_7 \text{cfi} + W_8 \text{ssf} + W_9 \text{fha} + W_{10} \text{emp} + W_{11} \text{lb} + W_{12} \text{chm} + W_{13} \text{ppf} + W_{14} \text{qbm} \quad (5)$$

$$\text{Equation 6 (c) HS (High-income)} = \text{ASS} = W_1 \text{ahf} + W_2 \text{hdpf} + W_3 \text{bdf} + W_4 \text{spf} + W_5 \text{cf} + W_6 \text{ssf} + W_7 \text{hms} + W_8 \text{hca} + W_9 \text{hmp} + W_{10} \text{hc} + W_{11} \text{em} + W_{12} \text{cpf} \quad (6)$$

5.522 Analysis Of Variance (ANOVA)

Analysis of Variance (ANOVA) statistical technique was use to test hypothesis two which stated that; housing satisfaction does not differ significantly among the high, medium and low-income groups in Uyo. For avoidance of any doubt, the Nigerian National Housing Policy (FGN, 1999), (FGN, 2004) and National Salaries, Income and Wages Commission (NSIWC, 2010) defined the low income group as all persons whose monthly income is below the National Minimum Wage of N18,000.00 or does not exceed N26,000.00 per month for salary Great Level 01 to 06, (that is N306,000.00 per annum), all people with income range of N26,001.00 - N87,000.00 per month

for salary Great Level 08 ÷ 14, (that is N1,042,408.00 per annum) as medium-income and all people with income range from N147,000.00 per month and above for salary Great Level 15 and above, (N1,767,816.00 per annum) as high-income group.

The aggregate housing satisfaction of the 66 housing components was measured by aggregating the various scores of the various computed identified housing satisfaction factors into one robust attributes which is now referred to as Housing Satisfaction. The aggregate housing satisfaction was the dependent variable (Y) while the various income groups of low, medium and high became the independent variable (X) being responses from the eight neighbourhoods of Uyo Capital City Territory.

The formula for ANOVA was given below:

$$SST = \frac{\sum x^2}{n} - \frac{(\sum x)^2}{n^2} \quad (7)$$

$$SSb = \frac{(\sum x_1)^2}{n_1} + \frac{(\sum x_2)^2}{n_2} + \frac{(\sum x_3)^2}{n_3} + \frac{(\sum x_4)^2}{n_4} \quad (8)$$

$$SSw = SST - SSb \quad (9)$$

Where

SSt = Total variation (Total sum of squares)

SSb = Variation between groups (Sum of squares between)

SSw = Variation within groups (Sum of squares within).

Analysis of Variance analytical technique was used because it investigates differences between means and allows multivariate comparism of means. It also calculates the significance of the association for more than one predictor variable at a time. Kerlinger and Lee (2000) therefore observed that, ANOVA is

one of the advanced tools, which applies sophisticated experimental design, thus could handle complex statistical situations. Another reason is that it employs variances entirely instead of actual differences and standard error. The two variances were therefore marched against each other as one was said to be presumably due to the experimental variances (independent Variances) and the other presumably was due to error or randomness. Further, ANOVA was used because it employed data that was measured by interval scale for the group variable while the predicting independent variables were also measured in nominal scale. Therefore, hypothesis (H_0) that the sample means are the same was presented as follows: $H_0: M_1=M_2=M_3$

Table 5.3: Showing the Format of ANOVA Output Summary Table

Variable	Degree of freedom	Mean square	F
Between group: SSb	K-1	$MSb=SSb/k-1$	MSb
Within group: SSw	N-K	$NSw=SSw/N-1$	MSw
Total: SS _t	N-1		

Source: Kerlinger and Lee (2000)

The statistic F was employed for the null hypothesis in an ANOVA problem statement i.e. to test significance in difference in means, between and among groups. However, the assumption that, if the variance was large and above the critical level implied that there was a significant difference in means among groups or neighbourhoods, and therefore the null hypothesis was rejected, made it more useful for this study.

5.523 Multiple Linear Regressions (MLR):

Multiple Linear Regression technique (Stepwise Method) was used to test the fourth hypotheses which states that: There is no significant relationship

between housing satisfaction and the socio economic characteristics of age, education and income levels of households in Uyo Capital City Territory.

Multiple Linear Regression (MLR) technique satisfies this test because multi-factorial experiments or several factors were studied at the same time. More than one independent variable was measured simultaneously. Multiple regressions are useful in analyzing data that comes from "natural" rather than experimental situations. This made it very useful for this research, being opinion survey research. Other reasons were that, the units (usually people) observed were randomly sampled from a well defined population and that the dependent variables were measured on an interval, continuous scale while the distributions of all the variables were normal. In addition, the relationship between the dependent variable and the independent variables was linear thus; it made it possible to have drawn a rough straight line through an x-y scatter gram of the observed points.

Furthermore, it was further employed in the study because it provided answers to five main questions about a set of data, in which n independent variables (regressors), x_1 to x_n , in the study (housing satisfaction factors) were being used to explain the variation in a single dependent variable, y , in the study. However, the formula of Multiple Linear Regression is mathematically represented as;

Equation (10) is expressed in the test of fourth hypothesis as:

$$Y = A + B_1X_1 + B_2X_2 + B_3X_3 + E... + b_nx_n \quad (10)$$

Where

Y = Dependent variable (Housing Satisfaction)

A = Constant of the regression

$x_1, x_2, \dots, x_n$ = Independent variable

$b_1, b_2, \dots, b_n$ = The co-efficient of the x_1

Hence:

HS = Housing Satisfaction (Defined as Aggregate Housing Satisfaction) as the dependable variable

a = the constant of the regression equation or the y intercept

b_1, b_3 = coefficient of the corresponding x or slope associated with $x_i - x_n$

EL = Educational level

AR = Age of respondent as independent variables

HI = Household income

e_1 = the residual or standard error

The parameters used were educational level as measured by the dummy variables of the educated (those above primary school education) and the uneducated (those below secondary school education), age as measured by the respondents' calculated age mean and household income as measured by the respondents' calculated monthly mean income.

The formula of MLR as used in this study is given as:

$$HS = a + b_1 EL + b_2 AR + b_3 HI + e_1$$

Where;

HS = Housing Satisfaction (the dependable variable)

a = the constant of the regression equation or the y intercept

b_1, b_3 = the coefficient of the corresponding x or slope associated with $x_i - x_n$

EL = Educational level}

AR = Age of respondent} the independent variables (predictor Variables)

HI = Household income}

e_1 = the residual or standard error

The expression (equation) was the aggregate of the three socio economic variables affecting housing satisfaction namely; age, income and educational characteristics of the respondents across the eight sectors of Uyo.

5.524 Spearman Correlation Analysis (rs):

Spearman Correlation Analysis was used to test the fifth hypothesis which states that; there is no correlation between housing satisfaction and types of house ownership by households in Uyo. It was chosen because it measured the strength of the relationship between variables. According to Udofia 2011, the analysis did not imply that one variable caused an effect on the other; rather it analyzed the existence or absence of a linear or non-linear correlation between two variables, usually expressed by a coefficient known as correlation coefficient.

The Spearman Rank Order Correlation was therefore based on the relative ranking of values and not on the actual values themselves, for establishing association between housing satisfaction and types of house ownership by households as they were arranged in a ranking order having met the condition of sample size being greater than ten. This was tested using the primary data obtained from the field. The formula for Spearman Rank Correlation (rs) is expressed as:

$$rs = 1 - \frac{6 \sum d^2}{n(n^2 - 1)} \quad (11)$$

Where:

rs = Spearman's Rank Correlation

d = differences in the ranks

n = sample size

The above equation is expressed in the test of the fifth hypothesis as:

Where:

r_s = Spearman's Rank Correlation

d = differences between the ranks

N = sample size

5.60 Validation and Reliability of Instruments:

Three experts carried out test of validity; my supervisor, a statistician, and a lecturer from my department who made corrections in order to ensure that it measured what it was designed for. Although some of the variables considered, particularly the personal characteristics such as age, sex, household size and income, had obvious face validity, content validity was carried out using judges. Experts in the field of housing and planning assisted in vetting the measuring instrument objectively, in order to examine and determine the appropriateness of the items and indices for the variables. The instrument having satisfied content validity in terms of adequate coverage of the scope of the survey was tested for reliability, dependability, and predictability by means of a test-re-test method. The content was also compared with other data and variables of classical studies relating to housing satisfaction. Results obtained in the first and second tests for all the variables were subjected to Cronbach alpha test and the result of 0.80 was obtained which determine the reliability of the instrument.

6.0 CHAPTER SIX: DATA PRESENTATION, ANALYSIS AND FINDINGS

6.10 Data Presentation and Analysis

In this section, the respondents' sex, age, marital status, educational status, occupation, income, types and sizes of building, household size and mode of transportation, were analyzed.

6.11 Sex of the Respondents

The sex of the respondents influences the reliability of the answers to the questionnaire. The data on table 6.1 and figure 6.1 respectively below show that among the 1560 respondents, some 80.00 percent of the respondents were male while 20.00 percent of the respondents were female. The male respondents representing 80.00 percent of the respondents establish the fact that men constituted the majority household heads in the study area.

Table 6.1 Sex of the Respondents

		sex of resp			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	1248	80.0	80.0	80.0
	female	312	20.0	20.0	100.0
	Total	1560	100.0	100.0	

Source: Field Survey, 2012 ï 2013

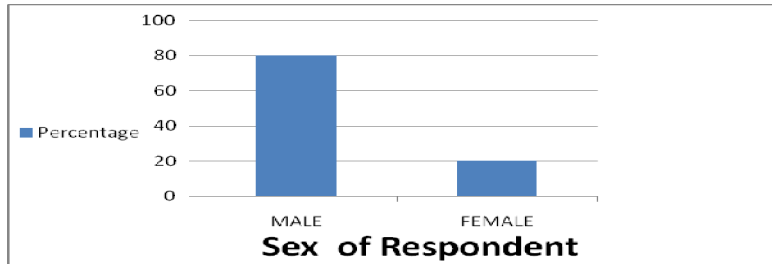


Figure 6.1: Sex of the Respondents

Source: Field Survey, 2012 - 2013

6.12 Age of the Respondents

Table 6.2 and figure 6.2 respectively below show that among the 1560 respondents, some 452 (29.0%) of the respondents fall within the average age bracket of 31 ÷ 45 years. Some 636 (40.8%) fall within the average age brackets, of 46 ÷ 60 years and 472 (30.3%) fall within the age above 60 respectively. The implication of this result is that the answers to the questions are from adults within the study area and therefore reliable.

Table 6.2 Age Group of the Respondents

		Age			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	31-45	452	29.0	29.0	29.0
	46-60	636	40.8	40.8	69.7
	60 above	472	30.3	30.3	100.0
Total		1560	100.0	100.0	

Source: Field Survey 2012 - 2013

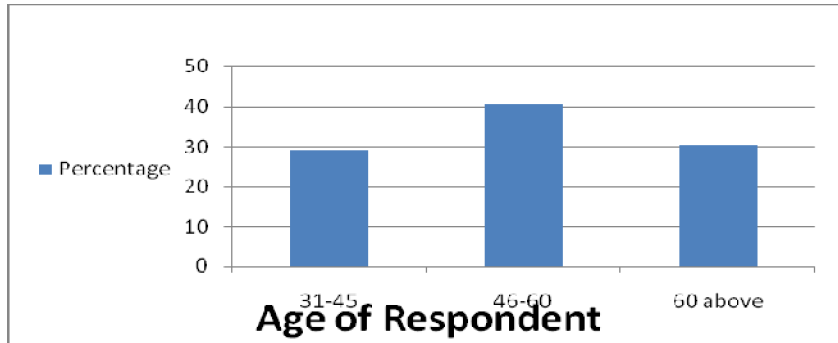


Figure 6.2: Age Group of Respondents

Source: Field Survey 2012 ï 2013

6.13 Marital Status of the Respondents

The data and figure on table 6.3 and figure 6.3 below respectively show that, 17.9 percent of the respondents were single while 82.1 percent were married. The 82.1 percent of the respondents who were married indicated that a relative mature household heads answered the questions and therefore was good for the study.

Table 6.3 Marital Status of the Respondents

marital status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	single	280	17.9	17.9	17.9
	married	1280	82.1	82.1	100.0
	Total	1560	100.0	100.0	

Source: Field Survey, 2012 - 2013

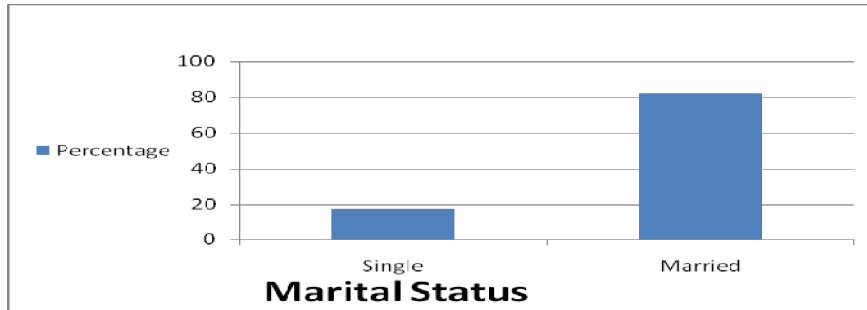


Figure 6.3 Marital Status Respondents

Source: Table 6.3

6.14 Educational Status of the Respondents

Effort was made to determine the educational qualification of the respondents. Table 6.4 and figure 6.4 respectively below show that among the 1560 respondents, some 64 (4.1%) of the respondents have primary school qualification, 1048 (67.2%) of the respondents have secondary school qualification, 340 (21.8%) have University degree qualification, while 108 (6.9%) have National Certificate of Education (NCE)/diploma qualifications. The implication is that the educational qualifications of the respondents with higher qualifications may have helped to establish the reliability of the answers obtained from the questionnaires.

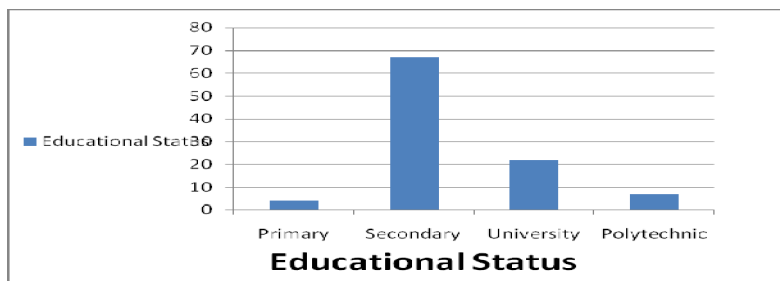


Figure 6.4 Educational Status Respondents

Source: Table 6.4

Table 6.4: Educational Status of the Respondents

Educational					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	primary	64	4.1	4.1	4.1
	secondary	1048	67.2	67.2	71.3
	university	340	21.8	21.8	93.1
	polytechnic	108	6.9	6.9	100.0
	Total	1560	100.0	100.0	

Field Survey, 2012 -2013

6.15 Household Size of the Respondents

Table 6.5 and figure 6.5 respectively below show that among 1560 respondents, 312 (20.0%) of the respondents have household sizes of 2 ÷ 3 persons, 437 (28%) household have 4 ÷ 6 persons and 811 (52%) household have sizes above seven persons per household respectively.

The relationship of household size to this study as reveal in the result, suggests that overcrowding has impact on housing satisfaction level of the residents. The implication of this result is that, 52% percent of households above the national average of six persons per household is an indication of overcrowding which is one of the factors analyzed in this study.

Table 6.5: Household Size of the Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2-3	312	20.0	20.0	20.0
	4-6	437	28.0	28.0	48.0
	Above 7	811	52.0	52.0	100.0
Total		1560	100.0	100.0	

Source: Field Survey, 2012 - 2013

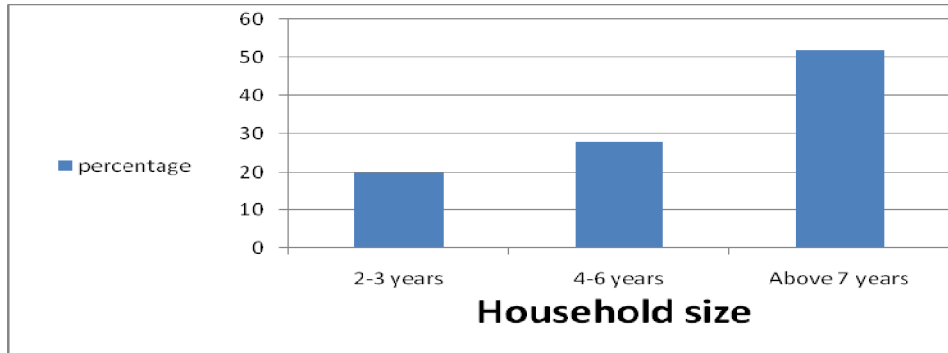


Figure 6.5 Household Sizes of the Respondents

Source: Table 6.5

6.16 Duration of living of the Respondents in the Study Area

Table 6.6 shows that 212 respondents, representing 13.6% percent of the respondents fall within the duration range of living below five years. Some 276 respondents, representing 17.7% percent of the respondents, fall within the duration range of 6 ÷ 10 years. 57 percent of the respondents fall within the duration of living range of 11 ÷ 15 years while 76 respondents, representing 8% of the respondents fall within the duration of living range of 16 ÷ 20 years respectively.

The relevance of this result to housing satisfaction study is that the respondents with long duration of stay within Uyo capital Territory were able to give good evaluation of their housing units, environment, and neighborhood facilities. Furthermore, respondents with 11-15 years of stay representing (56.7%), ensured better assessment of the housing satisfaction components under study and therefore established reliability of answers to the questionnaires

Table 6.6: Duration of living of the Respondents in the area

		Length of living			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	below 5 years	212	13.6	13.6	13.6
	6 - 10 yrs	276	17.7	17.7	31.3
	11 -15	884	56.7	56.7	87.9
	16-20	112	7.2	7.2	95.1
	above 21	76	4.9	4.9	100.0
	Total	1560	100.0	100.0	

Source: Field Survey, 2012 - 2013

6.17 Occupation of the Respondents

Table 6.7 and figure 6.7 respectively show that among the 1560 respondents some 860 of the respondents represented civil servants. This represented 55.1% of the total respondents. Some 68 of the respondents representing 4.4% of the respondents were company workers. Some 316 of the respondents representing 20.3% were self-employed while 300 of the respondents, representing 19.2% were traders and of the respondents, representing 16 of the respondents, representing 0.1% were farmers.

The relationship of respondents' occupation to this study is important. The measurement established the effect that occupational status of the respondent has on housing satisfaction level. The implication of this result is that, 55.1% and 20.3% of households who were civil servant and self-employed had influence on housing satisfaction through rate of house ownership and therefore made the result reliable for the study.

Table 6.7 Occupation of the Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Civil servant	860	55.1	55.1	55.1
Private firm	68	4.4	4.4	59.5
Self employed	316	20.3	20.3	79.8
Trading	300	19.2	19.2	99
Farming	16	1.0	1.0	100
Total	1560	100	100.0	

Source: Field Survey, 2012 - 2013

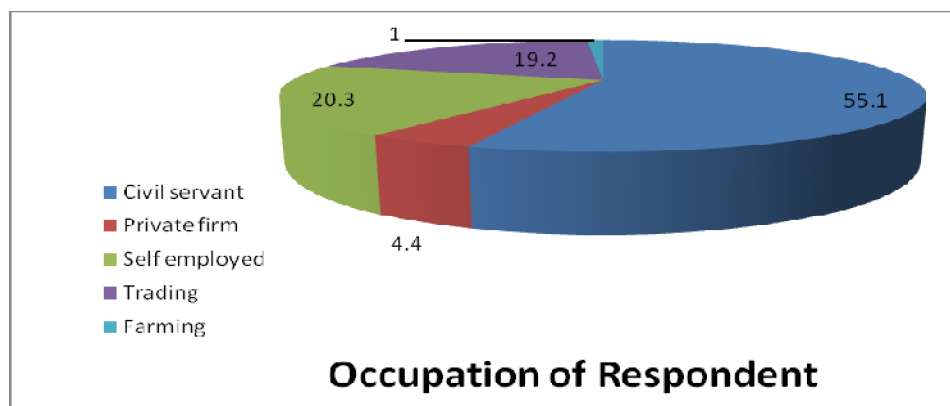


Figure 6.6 Occupations of Respondents

Source: Table 6.7

6.18 Income level of the Respondents

Table 6.8 and figures 6.8 respectively below show that 96(6.2%) of the respondents fall within the very low income brackets of N18,000.00 while 636 (43.3%) fall within the moderately low income range of N18,000.00 ÷ N27,000.00, aggregately referred to as the (low income groups respectively). About; 596 (38.2%) fall within the income group of N26,001.00 ÷ N147,000.00 referred to as the (average income group) and some 192 of the respondents,

representing (12.3%) were within the income of N147,001.00 and above, referred to as the high income group.

The relationship of respondents' income to the study was important. The essence was to establish the effect of the respondents' income on housing satisfaction level in the study area. The result shows that, 6.2% and 43.3% percent respondents, which accounted for 49.5% of households in the study area that fell within the low-income bracket thus, the result was therefore reliable.

Table 6.8 Monthly Income levels of the Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid- Below N18,000	96	6.2	6.2	6.2
N18,001 ÷ N26,000	676	43.3	43.3	49.5
N26,001 -N147,000	596	38.2	38.2	87.7
N147,001 & Above	192	12.3	12.3	100.0
	1560	100.0	100.0	

Source: Field Survey 2012 ÷ 2013

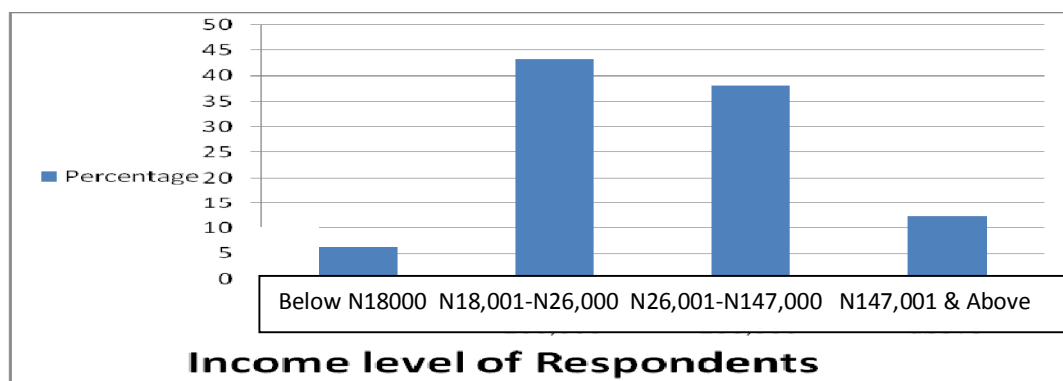


Figure 6.7 Income levels of Respondents

Source: Table 6.8

6.19 Expenditure Pattern of the Respondents

Table 6.9 shows that, 40.5% of household heads spend more on housing accommodation, followed by family health care, which represented 30.9% and children education, which represented 18.8% of the total household income. Transportation occupied 5.6% of the family income while family savings for building is 4.2% of the total household income.

This shows indication that the average savings of household heads in the study area toward house ownership to enhance housing satisfaction was relatively low. This revealed that, over 95.8% of the respondents were unable to make savings for building.

Table 6.9 Expenditure Pattern of the Respondents

	Frequency	Percent	Valid %	Cumulative %
Valid- House rent	632	40.5	40.5	40.5
Chidren Education	293	18.8	18.8	59.3
Family health care	482	30.9	30.9	90.2
Savings for building	66	4.2	4.2	94.4
Transportation	87	5.6	5.6	100
Total	1560	100	100	

Source: Field Survey 2012 - 2013

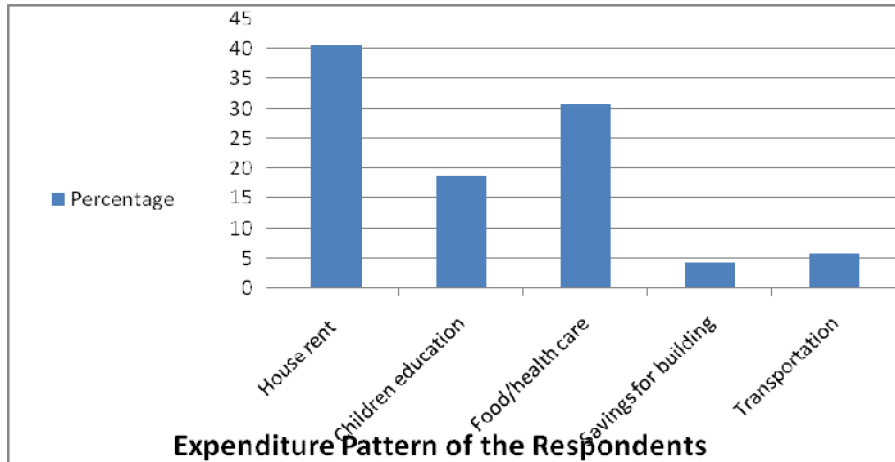


Figure 6.8 Expenditure Patterns of Respondents

Source: Table 6.9

6.20 Types of housing occupied by Respondents

Effort was made to determine the types of housing occupied by the respondents. Table 6.10 and figure 6.10 respectively below show that among the 1560 respondents, 182 of them lived in single room compound. 20.5% lived in two bedrooms flat and 47.9%, lived in three bedrooms flat. In any case, 12.5% lived in four bedrooms flat 10.5%, lived in storey building respectively.

The table further revealed that households occupying two and three bedrooms flat represented only 47.9% and 20.5%, aggregately 68.4%. This further suggests a possible effect of low income and overcrowding on housing satisfaction level. This measurement was a good indicator of housing dissatisfaction in the study area, thus the result was reliable for the study.

Table 6.10 Type of Housing of the Respondents

	Frequency	Percent	Valid %	Cumulative%
Valid Comp/single room	132	8.5	8.5	8.5
2 bedroom flat	320	20.5	20.5	29.0
3 bedroom flat	748	47.9	47.9	76.9
4 bedroom flat	195	12.5	12.5	89.4
Storey/family flats	165	10.6	10.6	100.0
Total	1560	100	100	

Source: Field Survey, 2012 - 2013

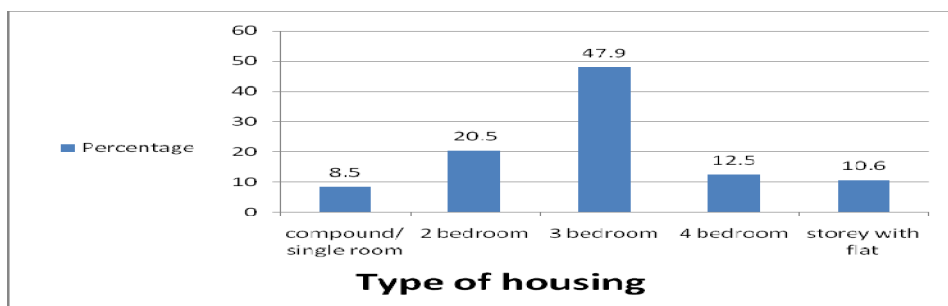


Figure 6.9 Based on table 6.10 - Type of housing of the Respondents

Source: Table 6.10

6.21 Transportation Modes and Options of the Respondents

The data on table 6.11(a) shows that among 1560 respondents, 228(14.6%) of the respondents own motorcycle while 520 (33.3%) use tricycle and 812 (52.1%) which may belong to the medium and high income groups use private cars. Also the data on table 6.11(b) shows that among 1560 respondents, 1344(86.2%) of the respondents use public mode of transportation while 216 (13.8%) use trekking.

The result of respondents' mode of transportation was important to this study because it may have influence on housing satisfaction attributes and affordability thus, the result was therefore reliable.

Table 6.11 (a) Transportation Mode of the Respondents

transportation					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	motorcycle	228	14.6	14.6	14.6
	tricycle	520	33.3	33.3	47.9
	private car	812	52.1	52.1	100.0
	Total	1560	100.0	100.0	

Source: Field Survey 2012

Table 6.11 (b) Transportation Option of the Respondents

transport option					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	public	1344	86.2	86.2	86.2
	trekking	216	13.8	13.8	100.0
	Total	1560	100.0	100.0	

Source: Field Survey, 2012 ÷ 2013

6.30 Satisfaction with Access to Housing and House Ownership

6.31 Landlord and Tenant House Ownership Statuses

There was need to determine the landlord and tenant house ownership statuses among the respondents. Table 6.12 and figure 6.10 showed that among the 1560 respondents, 720 of the respondents, representing 46.20% of the respondents were landlord household heads and 840 of the respondents, representing 53.8% were the tenants' household heads.

The data on table 6.12 revealed that 53.8% of the respondents, representing tenants' household heads were renters probably which might have needed to own their own houses. This indicated the inadequacy of the public distributive system to distribute housing resources to tenants' households of various income groups in order to attain their housing satisfaction level.

Table 6.12 House Ownerships Status of the Respondents

	Frequency	Percent	Valid %	Cumulative %
Valid Owner Occupier	720	46.20	46.20	46.20
Tenant Occupier	840	53.80	53.80	100.00
Total	1560	100.00	100.00	

Source: Field Survey 2012

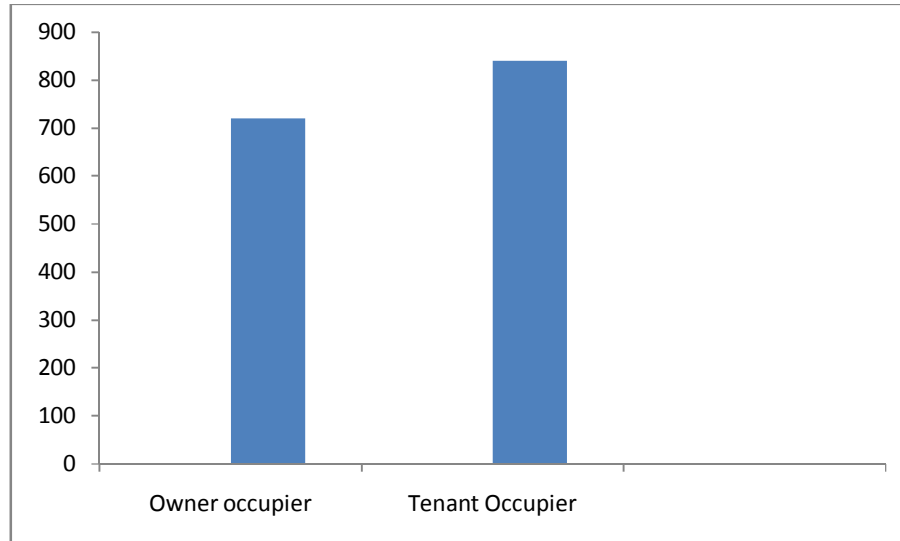


Figure 6.10 House Ownerships Statuses of the Respondents

Source: Table 6.12

6.32 Reasons for Tenant's Household inability to own a house

The data and figure on table 6.13 and figure 6.11 show that among the 840 tenants respondent, 244 tenants respondents, representing 29% of the respondents had difficulties in owning a house due to low income level. About 61 tenants respondents, representing 7.3% could not own houses due to unemployment and 423 respondents, representing 50.3% could not own houses due to high cost of urban land. However, 87 of the tenants respondent, representing 10.4%, could not own a house due to high cost of building materials while 25 of the respondents, representing only 3.0% of the tenants respondents attributed their inability to own a house to poor housing locations within the study area.

The revelation from table 6.13 showed that, 50.3% of the tenants respondents represented households protesting against high cost of urban land. The table also indicated the group of tenants households which needed houses to attain their required satisfaction level in the study area. Therefore, the reliability of this result was not doubtful.

Table 6.13: Reasons for Tenants' Respondent inability to own a house

	Frequency	Percent	Valid %	Cumulative %
Valid income	244	29.0	29.0	9.0
employment	61	7.3	7.3	37.5
cost of land	423	50.3	50.3	46.2
bldg materials	87	10.4	10.4	0.0
location	25	3.0	3.0	
Total	840	100.0	100.0	

Source: Field Survey, 2012/ Table 12

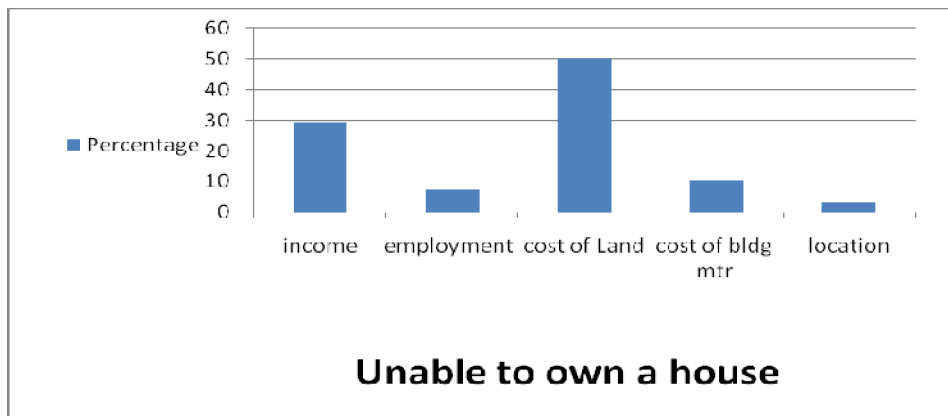


Figure 6.11 Reasons for the Tenant's Respondent inability to own a house

Source: Table 6.13

6.33 Tenants' Savings Initiatives to attain House Ownership Status

Table 6.14 and figure 12 , show that among the 840 tenant respondents, 252 of the respondents representing 30% made monthly savings initiatives toward house ownership; while about 37 respondents, representing 4.4% sub-scribed to housing loan to buy their own houses. About 101 tenants respondents, representing 12% sub-scribed to cooperative, 3 respondents tenants, representing 0.4% borrowed from friends, 10 respondents, representing 1.2% sub-scribed to staff housing scheme and 437 respondents, representing 52% of the respondents made no attempt at all.

The implication of this result is that, 52% of the tenants' household heads spend more on others family budgets and less towards house ownership initiatives. This is an indication that the average savings of household heads in the study area toward house ownership are relatively low and therefore the result was good for the study.

Table 6.14 Tenant Savings Initiatives to attend House Ownership Status

Satisfaction level	Frequency	Percent	Valid Percent	Cumulative Percent
Valid monthly saving	252	30	30	30
Housing loan	37	4.4	4.4	34.4
cooperatives	101	12	12	46.4
friends	3	0.4	0.4	46.8
staff scheme	10	1.2	1.2	48
none at all	437	52	52	100.0
Total	840	100.0	100.0	

Source: Field Survey, 2012/ Table 12

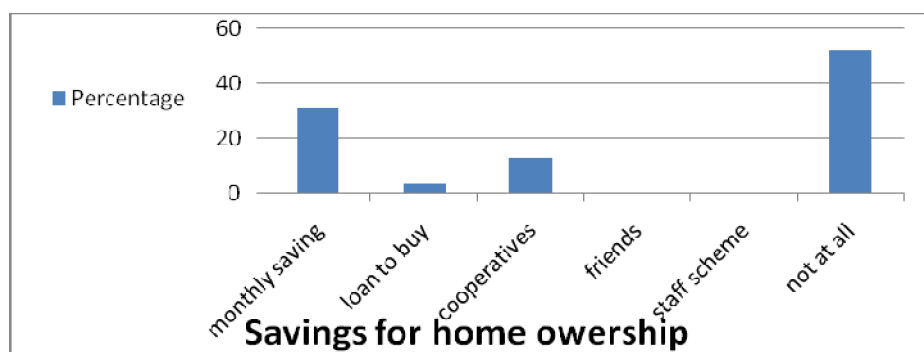


Figure 6.12 Respondents' Tenant Savings Initiatives for House Ownership

Source: Table 6.14

6.34 Respondent Tenants Satisfaction with Access to Public Housing

Effort was made to determine the level of housing satisfaction with the tenants' respondent accessibility to public housing. As shown on table 6.15 and figure 6.13, 210 of the tenants' respondents, 25% tenants represented those which had fairly high access, about 218 of the tenants' respondents represented

26% of those that had low and 412 of the tenants represented 49% that had very low access to public housing.

The tenants' respondent with very low satisfaction level represents 26% of those with low satisfaction level of access to public housing. The aggregate 49% tenants' respondent with low and very low accessibility suggests problem of gaining easy access to public housing.

Table 6.15: Tenants Satisfaction with Access to Public Housing

Satisfaction level	Frequency	Percent	Valid Percent	Cumulative Percent
Valid fairly high	210	25	25	25
low	412	49	49	75
very low	218	26.	26	100
Total	840	100.0	100.0	

Source: Field Survey, 2012/ Table 12

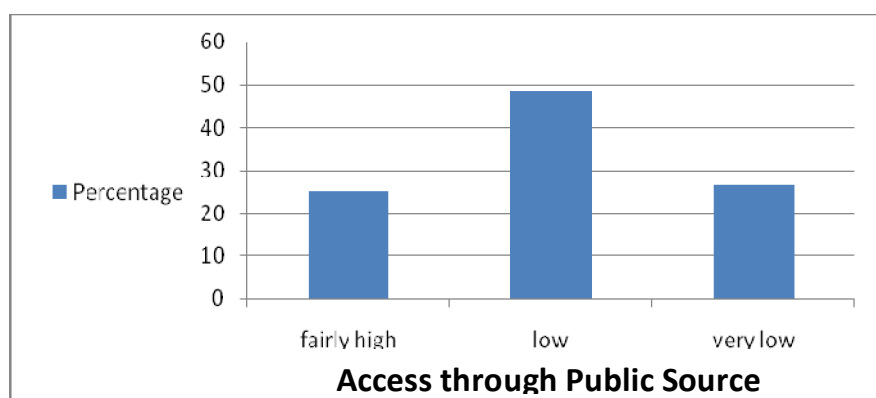


Figure 6.13 Respondent Tenants Satisfaction with Accessibility to Public Housing

Source: Table 6.15

6.35 Tenants Satisfaction with Access to Private Housing

Furthermore, the level of tenants' household satisfaction with the accessibility to private housing was assessed. As shown in table 6.16 and figure

6.14 respectively, 218 (26%) of the respondent tenants responded very high, 445 of the respondents, representing 53% responded high, 84 of the respondents, representing 10% responded fairly high and 86 of the respondents, representing 8% responded low and 25 (3%) recorded very low.

The implication was that the 26% and 53% of the tenants' respondents respectively with high and very high levels of satisfaction responses, (aggregately 79%) suggest that it was easier to gain access to private housing than through the public source. However, despite the easy access to private housing as represented by 79% aggregate tenants' respondents score, affordability still constituted a problem as revealed by 52% responses on table 6.14. Furthermore, the price of the private housing suggest affordability problem due to the influence of the prevailing market forces.

Table 6.16 Tenants Satisfaction with Access to Private Housing

Satisfaction level	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Very high	218	26	26	26
High	445	53	53	79
Fairly high	84	10	10	89
Low	68	8	8	97
Very low	25	3	3	100
Total	840	100.0	100.0	

Source: Field Survey, 2012/Table 12

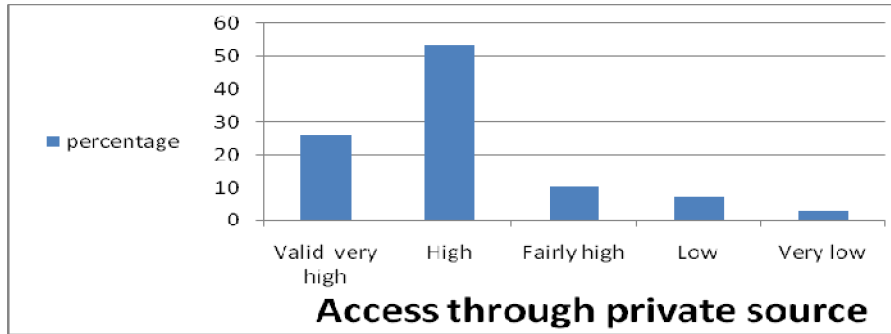


Figure 6.14 Tenants Satisfaction with Accessibility to Private Housing

Source: Table 6.16

6.36 Tenants Satisfaction with Access to Official Quarters

Table 6.17 and figure 6.15 show that among the 840 respondents tenants, 76 representing 9% of the respondents scored access to official quarters very high, 84 of the respondents, representing 10% scored high, 109 of the respondents, representing 13% scored fairly-high, 235 of the respondents, representing 28% scored low and 336 of the respondents, representing 40% scored very low.

As revealed on Table 6.17, 9% and 10%, the tenants' respondents that scored access to official quarters very high and high respectively suggests the existence staff quarters within the study area. The leftover 81% of fairly-high and low respondents, represented those with moderate access to official quarters. This is due to the urban setting of the study area where official residential quarters do exist for some corporate staff, thus the reliability of the result was not doubtful.

Table 6.17 Tenants Satisfaction with Access to Official Quarters

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Very high	76	9	9	9
High	84	10	10	19
Fairly high	109	13	13	32
Low	235	28	28	60
Very low	336	40	40	100
Total	840	100.0	100.0	

Source: Field Survey, 2012 / Table 12

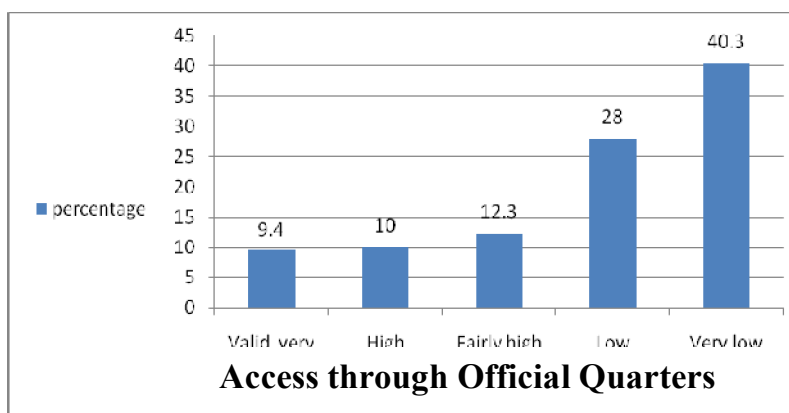


Figure 6.15 Tenant's Satisfaction with Accessibility to Official Quarters

Source: Table 6.17

6.37 Landlord's Satisfaction with Use of Foreign and Local Building Materials

Table 6.18 (a-b) and figures 6.16 (b) show that among 720 respondents, 194 respondents, representing 27% of the landlord respondents who were very highly satisfied with the use of foreign building materials, about 360 respondents, representing 50% were highly satisfied and 87 respondents,

representing 12%, were fairly satisfied. 43 respondents, representing 6% had low satisfaction, 36 respondents, representing 5% very low satisfaction.

Similarly, tables 6.18 (b) and figure 6.16 (b-c) show that among 720 landlord respondents, 93 respondents, representing 13% of the respondents, patronized local building materials and respondents with fairly-high, 108 respondents, representing 15% of the respondents with high, 202 respondents, representing 28% with low and 317 respondents, representing 44% with very low responds

The essence of table 6.18 (a) and figure 6.16 (b-c) suggest how the use of foreign and locally produced building materials influence housing satisfaction level in the study area. The implications of these results show that, 27% and 50% (aggregately 77%) were those with high tendency to patronize foreign building materials while 23% aggregately were the respondents that might have preferred local building materials. Implicitly, it reveals high demand for quality housing within the study area, thus the result was reliable.

Table 6.18 (a) Landlord's Satisfaction with Foreign Building Materials

Satisfaction level	Frequency	Percent	Valid Percent	Cumulative Percent
Valid very high	194	27	27	27
High	360	50	50	77
Fairly high	87	12	12	89
Low	43	6	6	95
Very low	36	5	5	100
Total	720	100.0	100.0	

Source: Field Survey, 2012/ Table 12

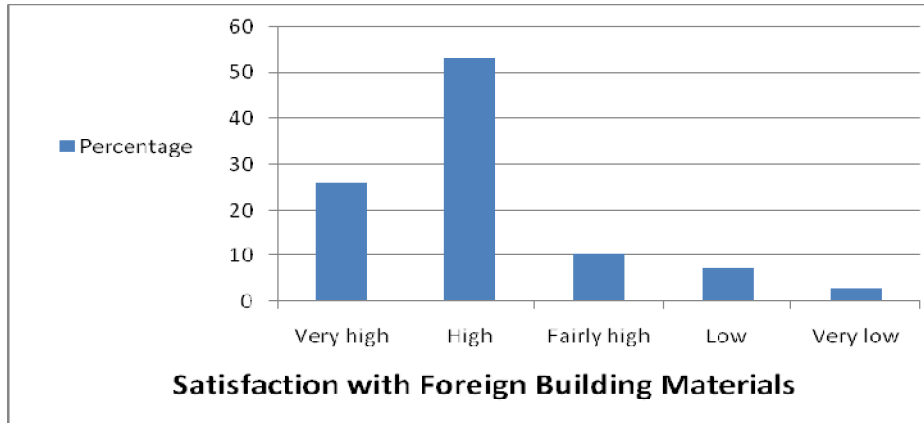


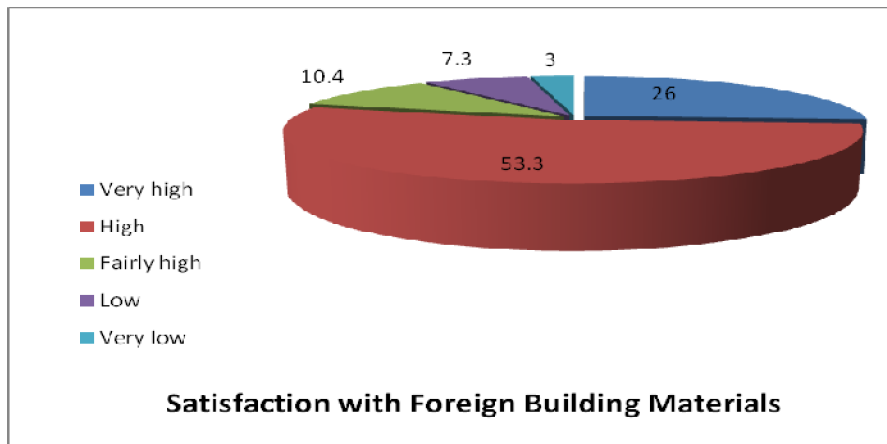
Figure 6.16 (a) Landlord's Satisfaction with Foreign Building Materials

Source: Table 6.18 (a)

Table 6.18 (b) Landlord's Satisfaction with Local Building Materials

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid very high	-	-	-	-
High	93	13	13	13
Fairly high	108	15	15	28
Low	202	28	28	56
Very low	317	44	44	100
Total	720	100.0	100.0	

Source: Field Survey, 2012/Table 12



Source: Source: Table 6.18 (b)

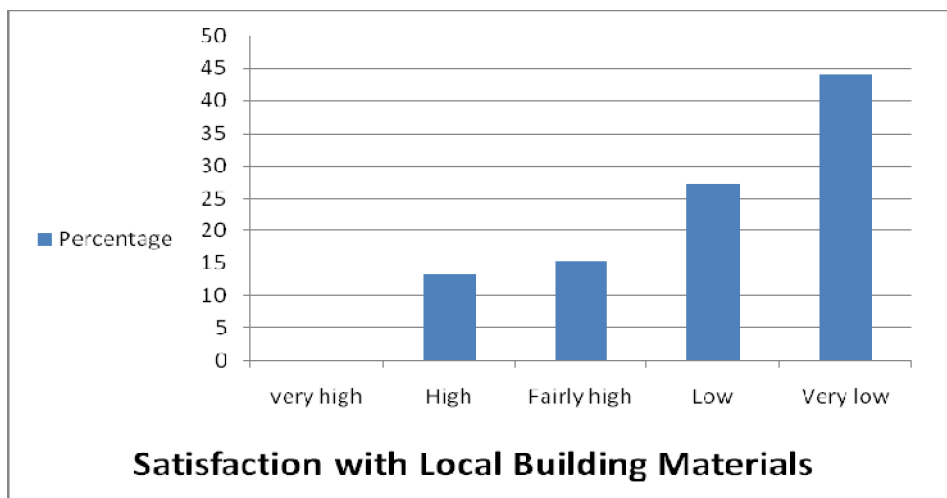


Figure 6.16 (c) Landlord's Satisfaction with Local Building Materials

Source: Table 6.18 (b)

6.38 Landlord's Benefited from Public Housing Programmes

Table 6.19 and figure 6.17 show that among 720 landlord respondents, 36 respondents, representing 5% of the landlord respondents benefited from site and services housing scheme. About 43 of the respondents, represent 6% benefited from staff housing, 21 of the respondents, represent 3% benefited from housing loan, 51 of the respondents, represent 7% benefited from cooperatives and 569 of the respondents, representing 79% benefited from none.

In addition, table 6.19 revealed that 79% of the landlord respondents represented households who did not benefit at all from any of public housing schemes. This result suggests poor housing accessibility in the study area. It also suggests the inadequacy of the public sector housing to provide the necessary enablement to households in the study area to develop their own houses and attend their satisfaction level.

Table 6.19 Landlord's Benefited from Public Housing Programmes

Satisfaction level	Frequency	Percent	Valid Percent	Cumulative Percent
Valid site & serv.	36	5	5	5
Staff housing	43	6	6	11
Housing loan	21	3	3	14
Loan from coop	51	7	7	21
none	569	79	79	100.0
Total	720	100.0	100.0	

Source: Field Survey, 2012/ Table 12

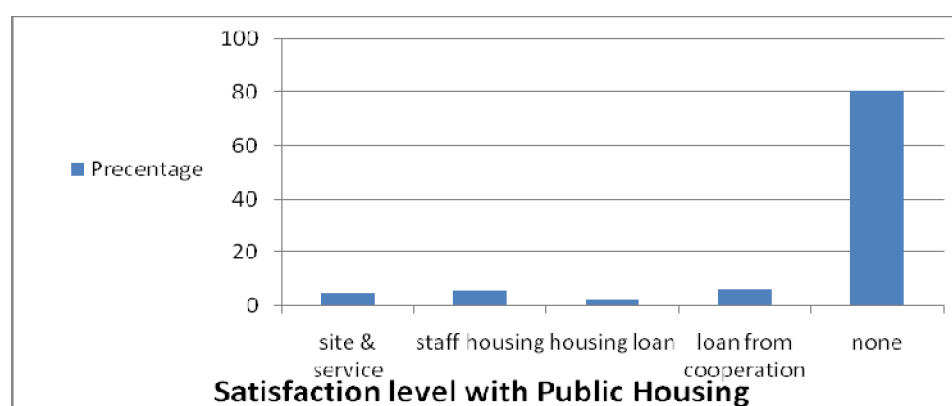


Figure 6.17 Landlord's benefited from Public Housing Programmes

Source: Table 6.19

6.381 Landlord's Satisfaction with Public Constructed Housing

Table 6.20 and figure 6.18 shows that among 720 respondents, 22 of the landlord respondents, representing 3%, were not satisfied with the public constructed housing attributes because of the low standard of houses produced. About 86 of the respondents, representing 12% were not satisfied due to poor design, 512 of the respondents, representing 71% were not satisfied because allocation of public constructed housing favored only high income households while 100 respondents, representing 14% of the respondents were dissatisfied with the locations of public constructed housing estates in the study area.

Table 6.20 Landlord's Satisfaction with Public Constructed Housing

Satisfaction level	Frequency	Percent	Valid Percent	Cumulative Percent
Valid below standard	22	3	3	3
Design unsatisf.	86	12	12	15
Favour high income	512	71	71	86
Unsatisf location	100	14	14	100.0
Total	720	100.0	100.0	

Source: Field Survey, 2012/ Table 12

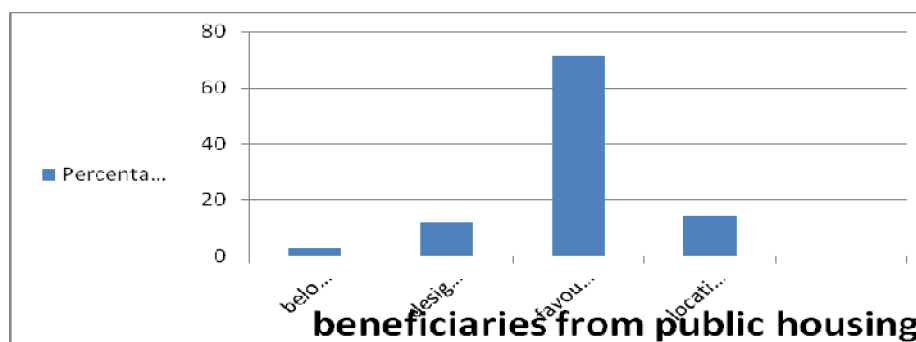


Figure 6.18 Landlord's Satisfaction with Public Constructed Housing

Source: Table 6.20

6.39 Reasons for Landlord's Inability to Benefit from Public Housing

The study examined the landlord respondents' inability to benefit from public housing programmes in the study area. Table 6.21 and figure 6.19 show that 3% of the respondents said that constructed public housing units were sub-standard. Moreover, 12% were dissatisfied with the housing design while 71% allocations favored high-income group, because this group could put up effective demand for public housing allocations in the study area. However, 14% were dissatisfied with the housing locations within the study area.

Table 6.21 Reasons for Landlord's Inability to Benefit from Public Housing

Satisfaction level	Frequency	Percent	Valid Percent	Cumulative Percent
Valid below standard	36	3	3	3
Design unsatisf.	43	12	12	15
Favour high income	21	71	71	86
Unsatisf location	51	14	14	100.0
Total	720	100.0	100.0	

Source: Field Survey, 2012/ Table 12

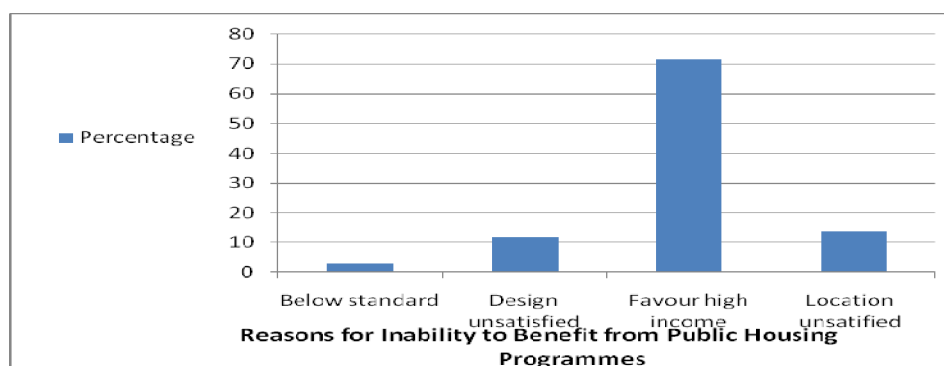


Figure 6.19 Reasons for Landlords' Inability to Benefit from Public Housing

Source: Table 6.21

6.40 Selection of Primary Housing Satisfaction Determining Variables:

Emphasis was placed on identification of housing satisfaction variables used in testing of hypotheses 1 and 3, and for answering research questions 1 and 3 respectively. The hypotheses were as well tested. In the study, 66 primary housing satisfaction variables were identified. However, they were later transformed into a fewer orthogonal secondary variables for better management of the data. The primary variables are presented in table 6.22 below:

Table 6.22 Sixty-Six Identified Housing Satisfaction Variables

Identification No	Identified Raw Variables
P1	Floor plan of the dwelling
P2	Height of ceiling
P3	Size of bedrooms
P4	Performance of foundation
P5	Numbers and positions of electrical points
P6	Location of bed rooms
P7	Street design
P8	Toilet design
P9	Bathroom design
P10	Fire wood kitchen design
P11	Numbers of bathroom
P12	Gas Kitchen design

P13	Numbers of Toilets
P14	Operation of electrical fitting
P15	Quality of paint
P16	Quality of materials use on the wall
P17	Operation of plumbing fitting
P18	Quality of building materials
P19	Quality of materials use on the floor
P20	Location and sizes of balcony
P21	Day light brightness of the house
P22	Indoor air quality
P23	Noise pollution
P24	Water pollution
P25	Landscape of street
P26	Window materials
P27	Source of water
P28	Drainage system
P29	Refuse disposal system
P30	Street lighting
P31	Numbers of bedrooms

P32	Availability of parking space
P33	Security system in the house
P34	Open spaces for recreation
P35	Building setbacks from fence
P36	level of privacy in the house
P37	Level of Neighbourhood Security
P38	Emergency escape routes
P39	Aesthetics appearance of housing
P40	Availability of on street bay
P41	Nearness to Police Station
P42	Nearness to medical Facility
P43	Nearness to Fire Service
P44	Nearness to place worship
P45	Nearness to children school
P46	Nearness to market
P47	Getting value for money spent on housing
P48	Cost and effort of house upkeep
P49	Easiness of house maintenance
P50	Nearness to recreational facilities

P51	Nearness to place of work
P52	Rate of housing deterioration
P53	Neighbourhood reputation
P54	Condition of roads
P55	Plumbing conditions in the house
P56	Availability of play ground
P57	Erosion effect
P58	Availability of public transport
P59	Availability of private space
P60	Good location of building
P61	Good site layout
P62	Condition of ceiling
P63	Storage facility
P64	Leaking roof
P65	Availability of exit door
P66	Visual aesthetics of neighborhood

Source: Field Survey, 2012 - 2013

6.41 Analysis of the 66 Primary Housing Variables

Principal Component Analysis (PCA) was used to compress statistically the identified 66 primary housing satisfaction variables into 14 orthogonal dimensions. The 14 dimensions derived formed the secondary variables (factors). The 1560 by 66 data matrix was used and the Varimax Rotation was computed to ensure proper alignment of coding of variable on a particular factor. Their respective Eigen-values were obtained and the 14 dimensions were selected in their order of importance.

It is worth to note that all the 66 variables were considered based on the eight assumptions of Principal Component Analysis (PCA) that:

- i. Variables included were metric or nominal leveled.
- ii. The sample size was greater than 50
- iii. Bartlett's test conducted had a minimum requirement of 0.50 for overall result. This means that, the test of sphericity was statistically significant as variables with measures of sampling adequacy less than 0.50 were removed
- iv. Variance criterion were not less than 60%
- v. The communality value for each variable was not less than 0.5 variance explained. That implied that, the overall measure of sampling adequacy was 0.50 or higher.
- vi. No variable had complex structure in Rotated Component Matrix (Varimax). That means no variable had more than one value above 0.5.
- vii. The ratio of cases to variables was 5 to 1 or larger.
- viii. None of the component has only one variable in it.

But from the initial output, five variables were excluded and they were:

Height of ceiling	P2	.438
Size of bed rooms	P3	.458
Bathroom design	P9	.430
Fire wood kitchen	P10	.490
Building setback from the fence -	P35	.432

Variables (i ï v) namely height of ceiling (P2) (.438), size of bed rooms (P3) (.458), bathroom design (P9) (.430), fire wood kitchen (P10) (.490), and building setback from the fence (P35) (.432) were excluded. This is because they recorded below 0.50 in the Rotated Component Varimax (RCV), thus did not meet PCA criteria that each variable must record above 0.50.

The remaining 61 variables displayed on the communality table as indicated on table 6.27 had values of .500 to .986, and therefore met the PCA criteria already stated above.

The Principal Components Analysis factors extracted therefore formed the secondary variables (F1 ï F14) used in the subsequent analysis. It is important to mention that factor scores for each of the 1,560 un-weighted cases within each of the quantitatively identified secondary variables were identified. This provided answers to hypothesis one which stated that, “housing satisfaction among the various income groups (low, medium and high) cannot be identified and classified in Uyo Capital City Territory.”

Table 6.23:Extraction of Fourteen Housing Satisfaction Factors in their order of Importance

S/No	Factors	Component Names
1	Factor 1	Architectural/Neighbourhood Infrastructures
2	Factor 2	Convenience/Recreational
3	Factor 3	Housing Amenities/Aesthetics
4	Factor 4	Public Facilities and Security
5	Factor 5	Community Facility/Comfort
6	Factor 6	Housing Investment Reward
7	Factor 7	Housing Materials/Design
8	Factor 8	Health Factors
9	Factor 9	Protection against Hazard
	Factor 10	Functional Housing Amenities
11	Factor 11	Ease of Movement/Leisure
12	Factor 12	Housing Facilities
13	Factor 13	Structural Stability/Facilities
14	Factor 14	Cross Ventilation Factor

Source: Authors's Field Survey 2013

Table 6.24 Groupings of the Fourteen Housing Satisfaction Secondary Factors

Component Names	Identified Variables	Loading
FACTOR-1-Architectural /Neighbourhood Infrastructures		
1.Availability of parking space	P32	.986
2.Neighbourhood reputation	P53	.986
3.Ceiling condition	P62	.986
4.Operation of plumbing fitting	P17	.986
5.Location and size of balcony	P20	.986
6.Level of privacy in the house	P36	.986
7.Nearness to place of worship	P44	.986
8.Rate of housing deterioration	P52	.986
9.Numbers of bathroom	P11	.986
10.Drainage system	P28	.986
11.Nearness to children school	P45	.986
12.Plumbing conditions in the house	P55	.986
13.Storage facility	P63	.986
14.Day light brightness of house	P21	.986
15.Refuse disposal system	P29	.940

16.Landscape of streets	P25	.922
17.Street Design	P7	.922
18.Easiness of house maintenance	P49	.922
19.Level of Neighbourhood Security	P37	.922
20.Aesthetical appearance of the house	P39	.882
	P57	.882
21.Erosion effect	P27	.882
22.Source of water	P51	.829
23.Nearness to place of work		
FACTOR 2- Convenience/Recreational		
1. Toilet design	P8	.981
2. Window materials	P26	.981
3. Availability of play ground	P56	.981
4. Emergency/escape route	P38	.981
5. Nearness to recreational facilities	P50	.802
FACTOR-3-Housing Amenities /Aesthetics		
1. Quality of floor materials	P19	.847
	P33	.815
2. Security system in the house		

3. Cost and effort for keeping the house	P48	.815
4. Visual aesthetics of neighbourhood	P66	.815
5. Water pollution	P24	.791
FACTOR 4-Public Facilities and Security		
1. Adequate on-street bay	P40	.936
2. Availability of public transport	P58	.936
3. Nearness to Police Station	P41	.925
4. Availability of private space	P59	.925
FACTOR 5-Community Facilities /Comfort		
1. Roof leakage	P64	.836
2. Nearness to market	P46	.836
3. Numbers and positions of electrical points	P5	-.513
FACTOR 6- Housing Investment Reward		
1. Availability of exit door	P65	.899
2. Getting value for money spent on housing	P47	.899

FACTOR 7-Housing Materials and Design 1.Quality of materials used on walls 2.Numbers of bed rooms 3.Quality of materials used on floor	P16 P31 P19	.832 .636 -.526
FACTOR 8- Health Factor 1.Nearness to medical facilities 2.Good location of building	P42 P60	.953 .953
FACTOR 9-Protection against Hazard 1.Good site layout 2.Nearness to fire service	P61 P43	.947 .947
FACTOR 10- Functional Amenities 1.Operation of electrical fittings 2.Floor plan of the dwelling	P14 P1	-.792 .724
FACTOR 11- Ease of Movement /Leisure 1.Condition of roads 2.Quality of paint	P54 P15	.786 -.767

3.Open spaces for recreation	P34	-.504
FACTOR 12- Housing Facilities		
1. Numbers of toilet	P13	.831
2. Gas kitchen design	P12	.724
FACTOR 13-Structural Stability and Facilities		
1.Performance of foundation	P4	.698
2. Street lighting	P30	.583
3.Indoor air quality	P22	.575
FACTOR 14- Cross Ventilation Factor		
1.Noise pollution	P23	.744
2.Location of bed rooms	P6	.576

Source: Field Survey 2013

Note that the factor scores were weighted averages of the variables, which were weighted according to their factor loadings. The factor scores of the 14 compressed variables were aggregated to form the aggregate variable (Aggregate Satisfaction Score) that was used for testing hypotheses 1, 2, 3, 4 and 5. In other words;

$$ASS = \times (f_1 + f_2 + f_3 \dots \dots f_{14})$$

Where: ASS = Aggregate Satisfaction Score

Factor 1 (Architectural/Neighbourhood Infrastructures)

Factor 2 (Convenience/Recreational)

Factor 3 (Housing Amenities/Aesthetics)

Factor 4 (Public Facilities and Security)

Factor 5 (Community Facility/Comfort)

Factor 6 (Housing Investment Reward)

Factor 7 (Housing Design)

Factor 8 (Functionality and Aesthetics)

Factor 9 (Health Factor)

Factor 10 (Functional Amenities)

Factor 11 (Ease of Movement/Leisure)

Factor 12 (Housing Facilities)

Factor 13 (Structural Stability/Facilities)

Factor 14 (Cross Ventilation Factor)

Source: Field Survey 2013

6.42 Analysis of Housing Satisfaction Attributes for Low, Medium and High Income Groups

Although the analysis is based on PCA but Relative Satisfaction Indices (RSI) was used to compute the relative housing satisfaction attributes for each of the three income groups. The housing satisfaction score attributes was based on the principle that households' scores on all the fourteen factors PCA compressed

factors, considered together were the empirically determined indices of relative satisfaction (RS).

The analysis was carried out using a five-point scale, categorized into two-point of zero or one degree of satisfaction. A household who scored one and three was coded as zero meaning "not satisfied" while the household who scored between four and five was coded as "satisfied". The data were analyzed using both descriptive and inferential statistics showing frequency distribution and percentages of all the respondents. Mean Item Score (MIS) was determined for each of the three income groups and were ranked in descending order of importance. Index of relative satisfaction (relative importance) were calculated to ascertain specific factor which gave households greatest satisfaction or were sources of least dissatisfaction. The degree of satisfaction or dissatisfaction represents the measure of relative weight attached to a criterion by all the households of a given income group taken together. Using this formula;

$$RPI = \frac{n_1 + n_2 + n_z}{N}$$

Principal Component Analysis (PCA) was used to compress the 66 primary housing satisfaction variables used to measure housing satisfaction attributes of each of the three income groups; low, medium and high income groups in Uyo Capital Territory. Various dimensions of orthogonal housing satisfaction components were derived for each of the three income groups in the study area, which formed the new sets of secondary variables (factors) and determined the housing satisfaction levels for each of the income groups. However, for proper evaluation, the 1560 responses were transformed by 66 data matrix and the Varimax Rotation was computed. Thus, their respective Eigen-values for each income group was obtained and selected in their order of importance.

It is worth to note that all the 66 variables were considered based on the eight assumptions of Principal Component Analysis (PCA) already stated above.

6.43 Principal Component Analysis for Low Income Group

Principal Component Analysis (PCA) was used to compress the 66 primary housing satisfaction variables to determine housing satisfaction level for the low-income group in the study area. It is worth to mention that, although the factor analysis for the low income factored out 15 new housing satisfaction factors for this income group, only 12 factors were significant. Three of the factors had only one variable in them and therefore violated one of the assumptions of Principal Component Analysis (PCA) that none of the factor should have only one variable in it and therefore the three factors were insignificant. It is worth to note that from the initial output, four variables were also excluded from the final output and they were:

Factors insignificant due to cases of ratio of one variable in a factor were:

Performance of foundation	VAR 4 (.757)
Indoor air quality	VAR 21 (.813)
Open space for recreation	VAR 28 (.769)

Variables removed because of having complex structure were:

Water Pollution	VAR 23 (.650) (.598)
Cost and effort of house up keep	VAR 47 (.611) (.564)
Security level of the neighbourhood	VAR 36 (.552) (.547)

The remaining 62 variables displayed on the communality table as indicated in appendix 2a had values of .500 to .986, which did not violate the PCA criteria already stated above.

The Principal Component Analysis factors extracted therefore form the significant secondary variables (F1 to F12) for the low income group households in the study area. It is important to mention that factor scores for each of the 1,560 un-weighted cases for the low-income group within the study area were quantitatively determined which factored out 15 factors of which 12 were significant. This accounted for 81.11% housing satisfaction level for the low-income group in Uyo. This output for the low income group supports objective 2 and hypothesis 2 which states that, "there is no significant difference between housing satisfactions attributes among the three income groups namely; low, medium, and high in Uyo Capital City Territory."

This resulted to a new set of data matrix of 62 by 12 developing for the housing satisfaction factors of the low-income group in the study area. For clarity purpose, each factor was labeled to match the variables loaded on it as indicated in table 6.25 below. Then applying PCA statistical technique, 15 factors were factored out which 12 of them were significant and three were not. The three factors that were insignificant were Performance of Foundation, Indoor Air Quality and Open Spaces for Recreation. It is worth to note that although the three factors had factor loading of above 0.50 and above but because they violated the other assumption of PCA that none of the factor should have only one variable in it, thus were rejected. Therefore the remaining 12 factors were significant because none violated any of the PCA eight assumptions listed section 6.41 of this chapter.

Table 6.25: Low Income Housing Satisfaction Factors and Loading

Factors	Component Names Variables	Variables per Factor	Loading Range
Factor 1	Architectural and Neighbourhood Facilities	15	(.976) (.593)
Factor 2	Convenience and Recreational	4	(.955) (.791)
Factor 3	Housing Amenities and Aesthetics	5	(.973) (.642)
Factor 4	Neighbourhood Facilities and Security	8	(.813) (-.528)
Factor 5	Public Facilities	4	(.845) (.545)
Factor 6	Neighbourhood Facility and Comfort	5	(.836) (.501)
Factor 7	Housing design Factor	4	(.826) (.654)
Factor 8	Functional Housing Amenities	4	(.783) (.606)
Factor 9	Conducive Factor	3	(-.792) (.571)
Factor10	Ease of Movement/Leisure	3	(.756) (.730)
Factor11	Protection against Hazard	2	(.733) (.591)
Factor12	Community Facility/Comfort	2	(.733) (.569)
Factor13	Performance of Foundation (Insignificant)	1	(.757)
Factor14	Indoor Air Quality (Insignificant)	1	(.813)
Factor 15	Open Spaces for Recreation (Insignificant)	1	(.769)

Source: Researchers's Field Book 2013.

Variable removed due to having communality value of variable less than 0.5 variance explained was:

Quality of materials use in flooring AVR 18 (.496)

The remaining 57 variables displayed on the communality table as indicated in Appendix 2b had values of .500 to .978, which did not violate the PCA criteria already stated above.

The Principal Component Analysis factors extracted therefore form the significant secondary variables (F1 to F12) for the medium income group households in the study area. It is important to mention that factor scores for each of the 1,560 un-weighted cases for the medium-income group within the study area were also quantitatively determined which factored out the 12 significant housing satisfaction factors. This accounted for 81.98 percent housing satisfaction level for the medium-income group in Uyo. This output for the medium income group seems to support objective 3 and hypothesis 3 which stated that; "Attributes of housing satisfaction for the low, medium, and high-income groups cannot be significantly determined in Uyo."

This resulted to a new set of data matrix of 57 by 12 developing for the housing satisfaction factors of the medium-income group in Uyo. For clarity purpose, each was named to match the variables found in it as indicated in Table 6.26 below:

Table 6.26 Medium Income Housing Satisfaction Factors and Loading

Factors	Component Names Variables	Variables per Factor	Loading Range
Factor 1	Building Materials/ Neighbourhood Facilities	19	(.978) (.597)
Factor 2	Public and Housing Facilities	4	(.978) (.862)
Factor 3	Privacy and Comfort	5	(.911) (.578)
Factor 4	Housing Conditions and Aesthetics	3	(.888) (.543)
Factor 5	Housing Design and Materials	5	(.825) (.659)
Factor 6	Conducive Factor	2	(.643) (.568)
Factor 7	Community Facility	3	(.899) (.540)
Factor 8	Structural Stability and Facilities	4	(.814) (.617)
Factor 9	Functional Housing Amenities	2	(.854) (.809)
Factor10	Ease of Movement/Protection	3	(.768) (-.521)
Factor11	Location of bedroom (Insignificant)	1	(.886)
Factor12	Cost of House Maintenance	3	(.805) (.492)
Factor13	Proximity to Public Facilities	2	.629 to .539
Factor14	Quality of building materials (Insignificant)	1	(.597)

Source: Researchers's Field Book 2013

6.45 Principal Component Analysis for High Income Group

Principal Component Analysis (PCA) was also used to compress the 66 primary housing satisfaction variables to determine housing satisfaction level for the high-income group in the study area. It is worth to mention that, the factor analysis for the high income factored out 12 new housing satisfaction factors for this income group, and the 12 factors were significant. However, it is worth to note that from the initial output, only two variables were excluded from the final output. Variables removed because of having complex structure were:

Street design	VAR 7 (.593) (.636)
Source of water	VAR 26 (.693) (.668)

The remaining 64 variables displayed on the communality table as indicated in Appendix 2C had values of .500 to .979, which did not violate the PCA criteria already stated above.

The Principal Component Analysis factors extracted therefore form the significant secondary variables (F1 to F12) for the high-income group households in the study area. It is important to mention that factor scores for each of the 1,560 un-weighted cases for the high-income group within the study area were also quantitatively determined which factored out 12 significant housing satisfaction factors. This accounted for 84.15 percent housing satisfaction level for the high-income group in Uyo. This output for the high income group seems to support objective three and hypothesis three which stated that, "Attributes of housing satisfaction for the low, medium, and high-income groups cannot be significantly determined in Uyo."

This resulted to a new set of data matrix of 64 by 12 developing for the housing satisfaction factors of the high-income group in Uyo. For clarity

purpose, each of the factors was named to match the variables found in them as indicated in Table 6.27 below

Table 6.27 High Income Housing Satisfaction Factors and Loading

Factors	Component Names Variables	Variables per Factor	Loading Range
Factor 1	Architectural and Housing Facilities	13	(.979) (.739)
Factor 2	House Design/Proximity to Facilities	16	(.852) (-.526)
Factor 3	Building Design Factor	6	(-.765) (-.526)
Factor 4	Security and Public Facilities	3	(.948) (.948)
Factor 5	Conducive Factor	5	(.835) (.575)
Factor 6	Structural Stability/Facilities	3	(.883) (-.794)
Factor 7	Housing Materials and Security	5	(.786) 9.527)
Factor 8	Housing Conditions and Aesthetics	3	(.803) (.520)
Factor 9	Housing Maintenance and Protection	4	(.819) (.506)
Factor10	Health Considerations	2	(.668) (.550)
Factor11	Ease of Movement	2	(-.614) (.530)
Factor12	Comfort/Proximity to Facilities	2	(.615) (-.529)

Source: Researchers's Field Book 2013

6.50 Test of Research Hypotheses:

6.51 Research Hypothesis One

Ho1 Housing satisfaction attributes among households in Uyo Capital City Territory cannot be significantly identified and classified.

Result of Hypothesis One:

The result of hypothesis one using Principal Component Analysis (PCA) with the 66 housing satisfaction variables for the various income groups in Uyo Capital City Territory showed that, 14 identified and classified factors explained 96.80 percent of the observed variations of all the income groups in the study area. These classifications are:

Factor 1 (Architectural/Neighbourhood Infrastructures)

Factor 2 (Convenience/Recreational)

Factor 3 (Housing Amenities/Aesthetics)

Factor 4 (Public Facilities and Security)

Factor 5 (Community Facility/Comfort)

Factor 6 (Housing Investment Reward)

Factor 7 (Housing Materials/Design)

Factor 8 (Functionality and Aesthetics)

Factor 9 (Health Factor)

Factor 10 (Functional Amenities)

Factor 11 (Ease of Movement/Leisure)

Factor 12 (Housing Facilities)

Factor 13 (Structural Stability/ Facilities)

Factor 14 (Cross Ventilation Factor)

The computation of the 14 factors together with the cumulative percentage of variance explained gave total Eigen value of 54.75, which represents 96.80 percent of the total variability of the model. The above analysis showed clear evidence that housing satisfaction factors listed above were identified and classified quantitatively using Principal Component Analysis (PCA). These factors were found to have strong determining influence on housing satisfaction in the study area. The Principal Component Analysis parameters used were as shown in table 6.28 below. Details of this result are in appendix 1.

Table 6.28 PCA Parameter Used for the Analysis of Hypothesis One

Factors	Classified Factors	Eigen Value	% Variance Explained	Cumulative%
Factor 1	Architectural/Neigh. Infrastructure	22.992	43.538	43.538
Factor 2	Convenience Recreational	7.043	10.408	53.946
Factor 3	Housing Amenities/Aesthetics	4.211	6.380	60.326
Factor 4	Public Facilities and Security	3.578	6.029	66.355
Factor 5	Community Facility/Comfort	3.358	3.833	70.188
Factor 6	Housing Investment Reward	2.893	3.578	73.766
Factor 7	Housing Materials/Design	2.539	3.545	77.310
Factor 8	Health Considerations	2.313	3.323	80.633
Factor 9	Protection against Hazard	1.870	3.224	83.857
Factor10	Functional Housing Amenities	1.656	3.004	86.861
Factor11	Ease of Movement/Leisure	1.416	2.982	89.843
Factor12	Housing Facilities	1.228	2.727	93.570
Factor13	Structural Stability/ Facilities	1.128	2.179	94.749
Factor14	Cross Ventilation Factor	1.060	2.049	96.798
	Total	54.75	96.80%	96.80%

Source: Field Survey 2013

6.52. Research Hypothesis Two

Ho 2: There is no significant difference between Housing satisfaction attributes among the three income groups namely; low, medium, and high in Uyo Capital City Territory

Result of Hypothesis Two:

The result of hypothesis two which states that, housing satisfaction attributes does not differ significantly among the high, medium and low-income groups of Uyo Capital City Territory shows that housing satisfaction differs significantly among the low, medium and high income groups of households in the study area, since, $F = 34.829$, ($p < 0.0$ significant level). Thus, the null hypothesis is therefore rejected in favour of the alternative hypothesis.

In addition, the Post Hoc Tests reveals the housing satisfaction differences of various income groups in the study area. Low-income group significantly differ from the medium income ($p\text{-value} = 0.000$, $p < 0.0$ significant level), medium income group significantly differ from high-income group ($p\text{-value} = 0.000$, $p < 0.0$ significant level) while high-income group does not significantly differ from the low-income group ($p\text{-value} = 0.000$, $p < 0.0$ significant level). See appendix 2.

Table 6.29: ANOVA Result for Testing of Hypothesis Two

F-Value (2, 1557)	P-value	P < significant	Comment
34.829	0.000	$P < 0.05$	Significant

Source: Field Survey 2013

In addition, to explain the variations in housing satisfaction attributes differences of the low, medium and high-income households in Uyo, each income group housing satisfaction attributes were determined using Principal

Component Analysis (PCA). See tables 6.30, 6.31 and 6.32, showing housing satisfaction attributes for the low, medium and high-income groups in Uyo Capital Territory below.

6.53. Research Hypothesis Three

H₀ 3: Attributes of housing satisfaction for the low, medium, and high-income groups cannot be significantly determined in Uyo.

i. Result of Low Income Group Housing Satisfaction Attributes

The result of the low-income group analysis using Principal Component Analysis factored out 15 housing satisfaction components. However, only 12 factors were significant while three were not. Three of the factors had only one variable in the factor and therefore violated the Principal Component Analysis (PCA) assumptions that the ratio of cases to variables must not be one within a factor and thus the factors were insignificant. Therefore, the result of Principal Component Analysis (PCA) for the low-income group housing satisfaction attributes in Uyo showed that, 12 factors explained 81.11 percent with an Eigen value of 55.69 of the quantitatively determined housing satisfaction attributes for the low-income group.

The above result shows that housing satisfaction factors listed above in table 6.31 determined quantitatively, using Principal Component Analysis (PCA), accounted for 81.11 percent of the low income housing satisfaction attributes in the study area. This result was considered strong in determining the housing satisfaction attributes of the low-income group in the study area. The PCA parameters used were as shown in table 6.30 below. Details of this result are in appendix 2a.

Table 6.30 Low Income Group Housing Satisfaction Attributes

Factors	Component Names and Variables	Eigen Value	% Variance Explained	Cumulative %
Factor 1	Architectural and Facilities	14.440	21.879	21.879
Factor 2	Convenience Recreational	5.246	7.948	29.828
Factor 3	Housing Amenities/Aesthetics	4.390	6.652	36.480
Factor 4	Facilities and Security	3.561	5.396	41.876
Factor 5	Public Facilities	3.533	5.356	47.231
Factor 6	Community Facility and Comfort	3.128	4.740	51.971
Factor 7	Housing design	3.053	4.625	56.592
Factor 8	Functional Housing Amenities	2.505	3.796	60.393
Factor 9	Health Considerations	2.351	3.526	63.955
Factor10	Ease of Movement and Leisure	2.207	3.344	67.299
Factor11	Protection against Hazard	2.172	3.291	70.590
Factor12	Community Facility and Comfort	2.088	3.163	73.753
Factor13	Performance of foundation (Insignificant)	1.695	2.568	76.321
Factor14	Indoor Air Quality (Insignificant)	1.592	2.413	78.734
Factor 15	Open spaces for recreation (Insignificant)	1.565	2.371	81.105
	Total	55.69	81.11%	81.11%

Source: Researchers's Field Book- 2013

ii. Result of Medium Income Group Housing Satisfaction Attributes

The result of the factor analysis of the medium-income group factored out 14 housing satisfaction factors as shown in table 6.32 below. However, only 12 factors were significant while two were not. Two of the factors had only one variable each in the factor and therefore violated the Principal Component Analysis (PCA) assumptions that the ratio of cases to variables must not be one within a factor and thus the factors were insignificant. Therefore, the result of Principal Component Analysis (PCA) for the medium-income group housing satisfaction attributes in Uyo showed that, 12 factors explained cumulative 81.98 percent together with an Eigen value of 51.79 of the quantitatively determined housing satisfaction attributes for the medium-income group.

The above analysis showed clear evidence that housing satisfaction factors listed in table 6.31 quantitatively determined, using Principal Component Analysis (PCA), accounted for 81.98 percent of the medium income housing satisfaction attributes in Uyo Capital City Territory. This result was considered strong in determining the housing satisfaction attributes of the medium income group in the study area. The PCA parameters used were as shown in table 6.31 below. Details of this result are in appendix 2b.

Table 6.31 Medium-Income Group Housing Satisfaction Attributes

Factors	Classified Factors	Eigen Value	% Variance Explained	Cumulative%
Factor 1	Building Materials/Neigh. Facilities	15.451	23.411	23.411
Factor 2	Public and Housing Facilities	6.130	9.288.	32.700
Factor 3	Privacy and Comfort	5.067	7.678	40.377
Factor 4	Housing Conditions and Aesthetics	3.716	6.360	46.007
Factor 5	Housing Design and Materials	3.634	5.506	51.513
Factor 6	Health and ventilation	2.898	4.391	55.904
Factor 7	Community Facilities	2.870	4.349	60.253
Factor 8	Structural Stability and Facilities	2.592	3.927	64.180
Factor 9	Functional Housing Amenities	2.573	3.898	68.078
Factor10	Ease of Movement and Protection	2.267	3.435	71.513
Factor11	Location of bedroom -(Insignificant)	2.234	3.385	74.898
Factor12	Cost of Home Maintenance	1.782	2.700	77.598
Factor13	Proximity to Public Facilities	1.465	2.220	78.187
Factor14	Quality of building materials (Insignificant)	1.427	2.161	81.980
	Total	51.79	81.98%	81.98%

Source: Researchers's Field Book- 2013

iii. Result of High Income Group Housing Satisfaction Attributes

The factor analysis of the high-income group factored out 12 housing satisfaction factors as shown in table 6.32 below. However, all the 12 factors were significant. Therefore, the result of Principal Component Analysis (PCA) for the high-income group housing satisfaction attributes in Uyo shows that, 12 factors explained 84.15 percent with an Eigen value of 54.11 of the quantitatively determined housing satisfaction attributes for the high-income group.

The above analysis shows clear evidence that housing satisfaction factors listed below in table 6.32 quantitatively. Therefore, the result of Principal Component Analysis (PCA) for the medium-income group housing satisfaction level in Uyo showed that, 12 factors explained cumulative 84.15 percent together with an Eigen value of 54.11 of the quantitatively determined housing satisfaction level for this group. This result was considered very strong in determining the housing satisfaction attributes of the high income in the study area. The PCA parameters used were as shown in table 6.32 below. Details of this result are in appendix 2c.

Table 6.32 High-Income Group Housing Satisfaction Attributes

Factors	Classified Factors	Eigen Value	% Variance Explained	Cumulative%
Factor 1	Public and Housing Facilities	15.101	20.473	20.473
Factor 2	House Design/Proximity to Facilities	11.308	14.811	35.284
Factor 3	Building Design Factor	5.270	7.166	42.450
Factor 4	Security and Public Facilities	4.297	6.847	49.297
Factor 5	Conducive Element	4.171	6.380	55.678
Factor 6	Structural Stability/Facilities	3.622	5.693	61.370
Factor 7	Housing Materials and Security	3.048	4.742	66.113
Factor 8	Housing Conditions and Aesthetics	2.281	4.651	70.764
Factor 9	Housing Maintenance and Protection	2.076	3.938	74.764
Factor10	Health Considerations	1.732	3.395	78.097
Factor11	Ease of Movement	1.444	3.218	81.315
Factor12	Comfort/Transport	1.188	2.833	84.148
	Total	54.11	84.15%	84.15%

Source: Researchers's Field Book- 2013

6.54 Research Hypothesis Four

Ho 4: There is no significant relationship between housing satisfaction and the socio-economic characteristics of age, education, and income of households of Uyo Capital Territory.

Result of Hypothesis Four:

The result of hypothesis four revealed a significant relationship between housing satisfaction and the socio-economic characteristics namely (age, education, and income) of households in the study area. This was analyzed using Stepwise Method of Multiple Linear Regression analysis at 0.00 level of significant. See table 6.33 below:

Table 6.33 Parameters for the Analysis of Hypothesis Four

R	0.953
R ²	0.909
Adjusted R ²	0.869
Standard error	3.38673
F value	25.014
P value	0.000
Significant value	0.00

Source: Field Survey 2013

The result of the analysis as shown in table 6.33 implies that approximately 87 percent of variability of housing satisfaction of the various income groups in the study area accounted for by the socio-economic characteristics; namely; education level, and income level of households in Uyo. However, only about

13.1 percent of the variability was unexplained by the two socio-economic variables. The p-value of 0.000 indicates that the result is statistically significant at 0.00 levels. The relationship between the housing satisfaction and the socio economic variables are shown in table 6.34 below:

Table 6.34: Relationship of Housing Satisfaction with Socio Economic Variables in Uyo

Variables	Standardized Coefficient (Beta)	T	P	Ū<Sig.	Comment
Constant	-0.806	-3.18	0.000	< 0.05	Significant
Education	0.100	3.929	0.000	< 0.05	Significant
Income	0.059	-2.321	0.020	< 0.05	Significant

Source: Field Survey 2013

Out of the three socio-economic variables (Age of respondents, Educational level and Income levels), only two variables (educational level and income level of respondents) were significant. Accordingly, the resulting model is:

$$Y_1 = -0.806 + 0.100X_1 + 0.059X_2 + 3.440$$

Where Y_1 ï aggregate housing satisfaction of households

X_1 ï educational level of households

X_2 ï Income level of households

3.440 ï Standard error of the estimate (see model summary in appendix 3).

6.55 Research Hypothesis Five:

H₀ 5: There is no correlation between housing satisfaction and types of house ownership of households of Uyo Capital City Territory.

Result of Hypothesis Five:

The result of hypothesis five suggests that there is a correlation between housing satisfaction and types of house occupier's status in Uyo. Using Spearman Correlation technique, the result indicated a correlation among the variables at 0.05 levels (2-tailed test). This accounted for about 87 percent co-relationship of the variables in the study area, which implies strong correlations between housing satisfaction and house ownership statuses of respondents in the study area. See table 6.35.

Table 6.35: Correlation Result for Testing Hypothesis Five

Correlation coefficient (r)	P-value	P < significant	Comment
0.87	0.001	P < 0.05	Significant

Source: Field Survey 2013

6.60 Discussions of Findings:

6.61 Identify and Classify Housing Satisfaction Attributes for Various

Income Groups in Uyo (Objective One)

The analysis of the result of hypothesis one using Principal Component Analysis (PCA) suggests that, housing satisfaction requirements of the various income groups of the Uyo Capital Territory were identified and classified in their order of importance. The PCA result therefore answers objective question one above, which stated that, housing satisfaction requirements of the various income groups in Uyo Capital City Territory could not be identified and classified. The PCA result shows that fourteen significant satisfaction factors were identified in the study area with the Eigen value of 54.746, which accounted 96.78 percent of the total variability of the model

Factor 1: Architectural and Neighbourhood Facilities: These were highly and positively loaded on 23 variables out of which 14 variables ranged from availability of parking to the fourteen variable, which was daylight brightness of the house, which loaded (.986) each. Refused disposal system loaded (.940), while 4 factors which include; landscape of street, street design, level of neighbourhood security loaded (.922) and aesthetical appearance loaded (.989). Source of water and erosion effect loaded (.882) and nearness to place of work loaded (.829) respectively. Factor 1 with an Eigen value of 22.992, explains 34.84% of the determining variables of housing satisfaction for Uyo Capital City Territory. Factor 1 is therefore the most significant housing satisfaction factor contributing to 43.538% of the household housing satisfactions needs for Uyo Capital City residents. Factor 1 as defined by architectural/neighbourhood facilities, is therefore identified and classified as one of the major determinants of household housing satisfaction for Uyo Capital City Territory residents.

Similarly, the descriptive analysis result of housing type occupied by households in the study area revealed that households occupying two and three bedrooms flat aggregately represented 68.4%. This family size bracket corresponds with the aggregate low income group of (18,000-27,000). Thus the result of factor I suggests need for good architectural design to enhance housing satisfaction in the study area. This is in line with Agbola, (2000) identified classes of housing features which include: nature of accommodation such as number and sizes of rooms, toilets, bathrooms types, and quality of interior and exterior furnishing and structural stability of the building.

Salleh (2008) found that the dwelling unit factor which included area of the dining, kitchen and living room; the neighborhood factors relating to educational facilities, infrastructures, security such as police, parking lot, fire station, and central facilities including telephone, market, public transport and many others; are major determinants of housing satisfaction among residents in private low cost housing in Malaysia. These results showed that the housing quality index and the subjective perception of the dwelling size and the housing neighbourhoods have the largest influence on housing satisfaction.

Factor 2: Convenience and Recreational Facilities: These were positively loaded which include; toilet design (.981), louvers windows (.981), play ground (.981), emergency escape route (.981) and nearness to recreational facilities (.802) that is needed by the various households to satisfy their housing needs. With an Eigen value of 3.778, explained another 10.408% of the determining variables of housing satisfaction for Uyo Capital City Territory. Factor 2 as defined by convenience and Recreational factor, had been identified and classified as the second major determinants of household housing satisfaction for Uyo Capital City Territory residents.

The PCA result of convenience factor is in line with the result of the descriptive analysis result of average household size in the study area which revealed that 52.0% of the households were 7 and above persons in each house while 2-3 and 4-6 persons per household were 20% and 28% respectively. This suggests housing dissatisfaction in form of overcrowding in the study area.

Factor 3: Housing Amenities and Aesthetics: These were positively loaded which included; quality of floor materials (.847), security system in the house, cost, and effort for house up-keep and visual aesthetics of the neighbourhood loaded (.815) while water pollution however loaded (.791). With an Eigen value of 4.211, it explained 6.380% of the determining variables of housing satisfaction for Uyo Capital City Territory. Factor 3 as defined by housing amenities/aesthetics factor, has been identified and classified as the third major determinants of household housing satisfaction for Uyo Capital City Territory residents.

The PCA result corresponds with the result of the descriptive analysis on the use of foreign and local building materials which shows aggregately that, 79.3% patronize foreign building materials while 21.7% preferred local ones. This revealed very high demand for high quality housing amenities in Uyo. Also, Rent and Rent (1978), found out that housing characteristics, which included the number of bedrooms; sizes of bedrooms, kitchens, bathrooms, study areas, living rooms, the level of privacy, the location of bedrooms, staircases, living rooms, dining areas, kitchens; and the overall size of the house, are critical factors in determining housing satisfaction as compared to the residents' demographics.

Factor 4: Public Facilities and Security: These were positively loaded which included; availability of street bay and availability of public transport (.936), and nearness to police and availability of private space loaded (.925). With an

Eigen value of 3.029, it explained another 6.029% determining variables of housing satisfaction for Uyo Capital City Territory. Factor 4 as defined by public facilities and security, has been identified and classified as the forth-major determinants of household housing satisfaction for Uyo Capital City Territory residents.

Also, the result of the descriptive analysis on transportation mode of respondents revealed 56.2% of the respondents trekking. This is the reflection of low income households in Uyo and its subsequent influence on housing satisfaction as regards proximity to neighbourhood facilities such as distance to primary schools and offices and places of worship within the study area.

Ramdane and Abdullah (2000), Kearney (2006), Rent and Rent (1978), Rent and Rent (1978), concluded that, the concept of an ideal home takes into account not only the physical, architectural and engineering components of the home but also the social, behavioral, cultural and personal characteristics of the occupants and the arrangements under which the dwelling is managed. Neighbourhood qualities such as accessibility to the workplace, schools, and shops are also considered as factors contributing to housing satisfaction. Families with low-income status choose dwellings that satisfy these social conditions.

Factor 5: Community Facilities/Comfort: These were positively loaded with roof leakage and nearness to market loading (.836) respectively. However, numbers and position of electrical points loaded negatively and with complex value while fire wood kitchen loaded only (.438). With an Eigen value of 3.358, it explained another 3.833% determining variables of housing satisfaction for Uyo Capital City Territory. Factor 5 as defined by community facilities/comfort, has been identified and classified as one of the major

determinants of household housing satisfaction for Uyo Capital City Territory residents.

Thus, according to Gallant (2004), “nothing else gives house dwellers more sense of security, comfort, satisfaction and pleasure than the availability of community facility like electricity.” Thus, electricity supply is included as a basic housing satisfaction indicator which its supply is still erratic in Uyo.

Factor 6: Housing Investment Reward: These were positively loaded, which include; availability of exit door condition and getting value for money spent on housing with loading of (.899) respectively. With an Eigen value of 2.893, it explains another 3.578% determining variables of housing satisfaction for Uyo Capital City Territory. Factor 6 as defined by housing investment reward, is identified and classified as variables that determine household housing satisfaction for the residents of Uyo.

Also, the result of the descriptive analysis on the expenditure pattern of the respondents revealed that, over 95.8% of the respondents were unable to make savings for building start. This corresponds with the result of house ownership status of the respondents which shows that 53.8% of households in the study area did not own houses and therefore had no reward for expenditure on housing. Elsinga & Hoekstra (2005) findings therefore proved that house ownership gives more satisfaction to the owners in terms of safety, power, or freedom to make decisions and a symbol of prestige and personality. This suggests that house ownership in the study area is the desired or aspired housing situation but 53.8% of the tenants’ respondents needed to own their own houses.

Factor 7: Housing Materials/Design: These components were also positively loaded which included; Quality of materials used on walls and Size of rooms loading (.832) and .636) respectively. Quality of materials used on walls loaded negatively (-.526) while ceiling height loaded (.490). With an Eigen value of

2.539, it explains another 3.545% determining variables of housing satisfaction for Uyo Capital City Territory. Factor 7 as defined by housing materials/design, is identified and classified as variables that determine household housing satisfaction for the residents of Uyo. In practice, 50% of the landlord respondents in Uyo were highly satisfied with the use of foreign building materials than the locally produced once

Willington (1993) argued that poor housing qualities are a reflection of low income level. Accordingly, the numbers of children present in a household and female-headed households were found relating significantly to quantity. Thus as argue by Elsinga and Hoekstra (2005), the higher the quality of a dwelling is the higher the household's satisfaction towards it

Factor 8: Health Factor: This is positively loaded, which included; nearness to medical facilities and good location of building loading (.953) respectively. With an Eigen value of 2.313, it explains another 3.323% determining variables of housing satisfaction for Uyo Capital City Territory. Factor 8 as defined by health factor, is identified and classified as variables that determine household housing satisfaction for the residents of Uyo. In reality, there is high demand for quality housing within the study area, as revealed in high demand for quality building materials in Uyo.

Factor 9: Protection against Hazard: This is positively loaded that include; good site layout and nearness to fire service loading (.947) respectively. With an Eigen value of 1.870, it explains another 3.224% determining variables of housing satisfaction for Uyo Capital City Territory. Factor 9 as defined by protection against hazard, is identified and classified as variables that determine household housing satisfaction for the residents of Uyo. This result suggests need for good housing accessibility in the study area in case of fire outbreak. It

also suggests the need for the public sector to locate fire stations close to housing neighbourhoods in Uyo.

Wahab (1985) argue that, to avoid residential hazard in building design and construction, architects must be avoid leaning walls, sagging ceilings, crack floors and staircases are all signs of instability and housing dissatisfaction indicators. Therefore, building materials specified in the design should be capable of withstanding stresses and resistance to any deformation to provide the protective satisfaction for the users.

Factor 10: Functional Housing Amenities: This is positively loaded which included; operation of electrical fittings (.792) and floor plan of the dwelling (.724) respectively that are needed by the various households to satisfy their housing satisfaction requirements. With an Eigen value of 1.656, it explains another 3.004% determining factor of housing satisfaction for Uyo. Factor10 as defined by functional housing amenities therefore accounts for household housing satisfaction for Uyo residents.

Thus, according to Gallant (2004), “nothing else gives house dwellers more sense of security, comfort, satisfaction and pleasure than the availability of community facility like electricity” Thus, electricity supply is included as a basic housing satisfaction indicator in Uyo.

Factor 11: Ease of Movement/Leisure: This loaded positively and negatively which included; condition of roads loading (.786), quality of paint loading (-.767) and open spaces/parks loading (-.504) respectively. With an Eigen value of 1.416, it explains another 2.982% determining factor of housing satisfaction for Uyo. Factor11 as defined by ease of movement/leisure therefore accounts for household housing satisfaction for Uyo residents.

Salleh (2008) found that the dwelling unit factor which included area of the dining, kitchen and living room; the neighborhood factors relating to educational facilities, infrastructures, security such as police, parking lot, fire station, and central facilities including telephone, market, public transport and many others; are major determinants of housing satisfaction among residents in private low cost housing in Malaysia. These results showed that the housing quality index and the subjective perception of the dwelling size and the housing neighbourhoods have largest influence on housing satisfaction in Uyo.

Factor 12: Housing Facilities: This loaded positively, which included; numbers of toilet (.831), gas kitchen design loading (.724) and bathroom design loading (.430) respectively. With an Eigen value of 1.228, it explains another 2.727% determining factor of housing satisfaction for Uyo. Factor12 as defined by housing facilities therefore accounts for household housing satisfaction for Uyo residents. This result suggests need for good housing design and materials used in the study area. In practice, Table 6.20 indicated that, 12% of the respondents in the study area were not satisfied with their houses due to poor design and building materials.

This result is generally consistent with Arimah (1992 and 1996), Daniere (1994) and Kutty (1996) findings, which identified physical adequacy or structure-type indicators to include variables such as wall, floor and roofing materials use in housing demand analysis as reliable determinants of the tenants' willingness-to-pay for housing characteristics.

Factor 13: Structural Stability/Facilities: This loaded positively, which included; performance of foundation loading (.698), street lighting loading (.583) and indoor air quality loading (.575) respectively. With an Eigen value of 1.128, it explains another 2.179% determining factor of housing satisfaction for

Uyo. Factor13 as defined by structural stability/facilities therefore accounts for household housing satisfaction for Uyo residents.

Wahab (1985) identified the strength and stability of a building as a functional requirement, which offers the occupants a feeling of safety. Thus for housing satisfaction to be achieved in Uyo, architects should produce building designs that meets the basic functional and physiological satisfaction of households.

Factor 14: Cross Ventilation Factor: This loaded positively and negatively which included; noise pollution loading (.744), location of rooms loading (.567) and building setback to fence loading (.432) respectively. With an Eigen value of 1.060, it explains another 2.049% determining factor of housing satisfaction for Uyo. Factor14 as defined by cross ventilation factor therefore accounts for household housing satisfaction for Uyo residents.

The result of hypothesis one reveals that, the fourteen housing satisfaction factors constituted 96.798 percent effect on the determination of housing satisfaction attributes of the low, middle, and high-income groups in Uyo Capital Territory. Therefore, to determine the demand schedule for housing satisfaction attributes of the various income groups within the Uyo Capital Territory, it became necessary first to define the range of housing satisfaction factors available of which in practice, these data were not readily available in the study area, as indicated on table 6.36, showing comparism of housing satisfaction factors used by the previous researchers below:

i. Comparism between Housing Satisfaction Factors of Previous Studies with the Identified Fourteen Factors in Uyo

Effort was made to improve on the development of factors for the analysis of housing satisfaction determinants in Uyo Capital Territory as was stated in

objective one. Reviews of literature reveal that Ukoha & Beamish, (1997) identified four housing satisfaction factors. The factors were satisfaction towards the dwelling unit, neighborhood qualities, services provided, and facilities and amenities available in the dwelling unit and its surrounding area. The differing socio-economic background of residents was found to contribute to different attributes of housing satisfaction of the households.

Ukoha & Beamish, (1997), used four factors but this study through literature reviews and advancement in socio-econometric manipulations developed fourteen factors extracted from sixty-six variables using Principal Component Analysis (PCA). These fourteen factors were found to have significant relationship with housing satisfaction in the study area, Uyo. The factors are; architectural and neighbourhood infrastructures, convenience and recreational, housing amenities and aesthetics, public facilities and security, community facility and comfort, housing investment reward, housing materials and design, functionality and aesthetics, health considerations, functional housing amenities, ease of movement and leisure, housing facilities, structural stability and facilities and cross ventilation factor respectively.

The result of hypothesis one and the achievement of objective one using PCA, shows an improvement from the previous work done by Ukoha & Beamish, (1997). The implication is that better and focused predictions can now be made on housing satisfaction determining factors in Uyo and Nigeria in general. Below is table 6.36 showing the comparism of housing satisfaction factors from the previous studies by Arimah (1992), Ukoha & Beamish, (1997), Olatubara and Fatoye, (2006) and Etuk, (2015).

Table 6.36 Comparism of Housing Satisfaction Factors of the Previous Studies

Arimah(1992), Ibadan, Nigeria	Ukoha & Beamish, (1997) PCA	Olatubara & Fatoye, (2006) Lagos, PCA	Etuk, (2015) Uyo, Nigeria-PCA
1)Annual housing values	1)Satisfaction on dwelling unit	1)Physical	1)Architectural and Neighbourhood Infrastructures
2)Socio/Demogr aphic(income, age)	2)Neighbourhood qualities	2)Environmental	2)Convenience and Recreational
	3)Services provided	3)Functional	3)Housing Amenities/Aesthetics
	4)Amenity/Facility	4)Behavioural	4)Public Facilities and Security
		5)Economics	5)Community Facility and Comfort
		6)Timing	6)Housing Investment Reward
			7)Housing Materials and Design
			8)Health Factors
			9)Protection against Hazard
			10)Functional Housing Amenities
			11)Ease of Movement and Leisure
			12)Housing Facilities
			13)Structural Stability/Facilities
			14)Cross Ventilation Factor

Source: Authors's research, 2012 - 2013

6.62 Examine housing satisfaction differences among the various income groups of Uyo. (Objective Two)

The analysis of result of hypothesis two suggests that there is statistically significant difference in housing satisfaction among the various income groups of Uyo Capital Territory. This is because the one-way ANOVA result was (df 2 (1557), $F = 34.829$, $P = 0.000$, $p < 0.05$ significant level).

Accordingly, the Post Hoc Test shows that the medium and high-income groups are in one sub-set (satisfaction group) with $P = 0.000$ and 0.195 at 0.05 while the low and high-income groups with $P = 0.000$ and 0.000 at 0.05 significant levels respectively, are in another sub-set although the two income groups show no differences. In addition, low and medium income groups with $P = 0.000$ and 0.196 are different at $P < 0.05$ level of significant. This result of Analysis of Variance (ANOVA) on table 6.29 confirms that the test of homogeneity of variance using Levene's Statistic of $F 1.557$, which $P < 0.05$ significant, levels, therefore met the ANOVA's assumption requirements. Therefore, there are statistically significant differences between low and medium, medium with high-income groups, which answers research question two.

Thus, ANOVA and Scheffe Test yielded the same result that there are statistically significant differences between the various income groups (medium and high, low and medium while low and high-income groups did not differ).

The implications of the result where low and high-income groups did not differ in the same sub-set is that, the responses by the low-income group might have been from the older household heads. Thus according to Galster (1987), older households have lower level of aspiration but higher level of tolerance towards any shortcomings in their residence as compared with the younger households, hence the reason the low income group did not show any difference

in satisfaction compared with the high income group in study area. In addition, Husna and Nurizan (1987) found out that households who attained a low level of education indicated a high level of satisfaction towards all aspects of their dwellings (except neighbourhood aspects) as compared to those with higher level of education and that income do not display any relationship to the level of satisfaction for all aspects of housing.

Currently, the low and high-income groups have the same level of housing satisfaction, which may have social implications in the study area. Accordingly, Bruin and Cook (1997), opined that low-income were found as good indicators towards housing satisfaction and that it differs according to ethnic backgrounds using variables such as income and level of education of households. Generally, when households of the same ethnic backgrounds lives in an area that fits their social status, their level of satisfaction towards their housing and social surrounding will increases.

Rent and Rent (1978), therefore revealed that different types of buildings such as detached house, terrace house and flats give different levels of satisfaction to their residents and that the level of satisfaction towards housing differs according to the type of dwelling occupied by the household. Therefore, households with different socio-economic backgrounds have different levels of aspiration, tolerance and psychology on satisfaction towards housing (Galster, 1987).

In this circumstance, the differences in housing satisfaction between the low and medium, medium and high income which did not differ, has implications on the attainment of the households' housing satisfaction. The result of descriptive analysis on respondents' income also revealed that low income has influence on housing satisfaction attributes and affordability as 50 percent could not put up effective demand for satisfactory housing in the study area.

6.63 Examine housing satisfaction attributes for Low, Medium, and High-income Groups of Uyo. (Objective Three)

Hypothesis three, established that there are variations in the housing satisfaction among the various income groups namely; low, medium, and high-income of Uyo Capital Territory. In order to support hypothesis three and to answer objective question three, that stated that, ñhousing satisfaction attributes among the various income groups of low, medium, and high-income of Uyo Capital Territory cannot be determinedò, it became imperative to determine the housing satisfaction attributes for each of the income groups.

i. Low-Income Group Housing Satisfaction Attribute

The result of the analysis of housing satisfaction attributes for the low income revealed that 12 significant factors accounted for 81.11 percent of housing satisfaction for the low-income group in the study area. The most significant factor is Architectural and Neighbourhood Facilities with Eigen value of 14.44 accounting, for 21.88 percent and the least factor, Community Facility and Comfort factor had an Eigen value of 2.09, accounting for 3.16 percent of the total satisfaction attributes for the low-income group in Uyo. The result revealed variations in satisfaction factors and variables compositions when compared with satisfaction factors for the medium and high-income groups. In addition, the 12 significant factors for the low income corresponds with the 12 significant factors, factored out for the high-come group although there are variations in component names and variables. This explains why low-income group did not differ with high-income group in the ANOVA Post Hoc Test table. See table 6.30 and appendix 2, 2a.

The result therefore implied that 81.11 percent of the low-income respondents in the study area were satisfied while about 18.90 percent were not.

This could be due to factors beyond the fourteen identified ones in the study area.

This result however, corresponds with the symbolic interaction model, developed by Max Weber (1864-1920) that, men are more likely to perform an activity when they perceive the reward of that activity to be valuable. Since housing has not just economic but social, cultural, political and technological implications, the meaning attributed to housing satisfaction varies from one culture to the other. Thus, to a politician housing satisfaction may mean just to develop housing units to score some political goals, the satisfaction attributes of the households notwithstanding. Whereas, to the low-income earner, housing may mean having just a place for shelter and security, not minding the quality and the basic housing satisfactions requirements expected. This argument therefore, further reveals that, low-income house owners'occupiers are likely to have a higher level of satisfaction as compared to low-income tenants and as Tuan (1972) argued, each class or group has its own set of values, attitudes, and behavioral routines which must not be ignored.

ii. Medium Income Group Housing Satisfaction Attributes

The result of the analysis of housing satisfaction attributes for the medium-income group revealed that 12 significant factors accounted for 81.98 percent of housing satisfaction attributes for the medium-income group in Uyo. The most significant factor is Building Material and Neighbourhood Facilities with Eigen value of 15.45 accounting for 23.41 percent and the least factor, Proximity to Public Facilities factor had an Eigen value of 1.46, accounting for 2.22 percent of the total satisfaction attributes for the medium-income group in Uyo. The result revealed differences in satisfaction factors as variables when compared with satisfaction factors for the low and high-income groups.

The Tukey Post Hoc Tests multiple comparison table revealed that housing satisfaction for medium-income group differs significantly with the low and high-income group. The satisfaction table revealed average housing satisfaction attributes for this group compared with the low and high-income groups. See table 6.31 and appendix 2, 2b.

The implication is that there is a significant difference in housing satisfaction of the medium-income group compared with the low and high-income group in the study area. The result implied that 81.98 percent of the medium-income group respondents were satisfied while about 18.02 percent were not. This probably could be due to other factors beyond the fourteen identified housing satisfaction factors for all income groups in the study area.

The result is consistent with the Expectancy Theory of Vroom as a modification of Maslow and Herzberg theories. The theory of need hierarchy demands that emphasis be placed more on understanding the wants of individuals and the value attached to their wants. This includes how the wants are ordered, aggregated to derive composite satisfaction packages for each income group for the design and implementation of sustainable housing programmes for this group in Uyo.

However, Ezenagu, (2000) argued that most housing programme failed due to the failure of policy makers to distinguish between the attributes of housing satisfaction and demand of the various income groups.

iii. High Income Group Housing Satisfaction Attributes

The result of the analysis of housing satisfaction attributes for the high-income group revealed that 12 significant factors accounted for 84.15 percent of housing satisfaction attributes for the high-income group in the study area. The most significant factor was Architectural and Housing Facilities with Eigen

value of 15.10 accounting, for 20.47 percent and the least factor was Comfort Proximity Facility with an Eigen value of 1.19, accounting for 2.83 percent of the total satisfaction attributes for the high-income group in Uyo. The result revealed differences in satisfaction factors and variables composition when compared with satisfaction factors for the low and medium-income groups. In addition, the 12 significant factors for the high income corresponds with the 12 significant factors, factored out for the low-income group although there are differences in component names and variables. This explains why high-income group did not differ significantly with low-income group in the ANOVA Post Hoc Test table. See table 6.32 and appendix 2, 2c.

The result therefore implied that 84.15 percent of the high-income respondents in the study area were satisfied while about 15.85 percent were not. This probably could be due to other factors beyond the fourteen identified housing satisfaction factors for all the income groups in the study area.

The result is consistent with Herzberg, (1966) hygiene factors that when a particular factor is not present or adequate in a housing environment and the situation tends to create some dissatisfaction to the people and makes them inefficient and unfulfilled. Thus, the idea of satisfying social desires and meeting personal aspirations implies that there are some aspects of the people, especially the high-income group whose values and goals must be taken into consideration in defining housing satisfaction for them. Needleman, (1980) therefore identified the determining factors of satisfaction to include aesthetics, ethics, psychological, sociological, and economic and poetic licenses. Whereas the International Labour Organization (ILO) defined concept of basic satisfaction to include essential housing neighbourhood services provided for public consumption such as portable water, sanitation, security, public transport and ease of accessibility, health, educational as well as cultural facilities

(Richards and Groonerate, 1980). Where these are lacking as revealed by the result of hypothesis two, households irrespective of belonging to the high-income group, will achieve average housing satisfaction as revealed in the Principal Component Analysis results for the high-income group.

6.64 Examine the relationship between housing satisfaction and socio-economic characteristics of households of Uyo (Objective Four)

The result of hypothesis four suggests that some socio-economic variables influenced housing satisfaction in Uyo. These variables used were: age, education, and household's monthly income. The data on housing satisfaction of the households of the eight neighbourhoods of Uyo Capital Territory was analyzed using Stepwise Multiple Regressions with the dummy educational variable, averages of age and income as regressors (see appendix 3).

Out of the three socio-economic variables; age of respondents, educational level and income levels, only two variables namely; educational level and income of respondents were significant. The regression was a fine fit (R^2 adjusted = 86.90%), and the overall relationship between housing satisfaction and the regressors were strongly significant at ($F\ 25.014 = 0.000, P < 0.05$). Therefore, the null hypothesis was rejected while the alternate, which states: "Housing satisfaction for households in Uyo Capital Territory is significantly related to the socio-economic characteristics namely: age, education, and income" was accepted. This result of hypothesis four also answered objective question four that there is a strong relationship between housing satisfaction and socio-economic variables of households in Uyo Capital City Territory.

With other variables held constant, the households' housing satisfaction was highly related to education and income. The individual effect of these are; level of education ($t = -2.321, P < 0.05$) and income (-3.841). These variables though significant, were found relating negatively to housing satisfaction. This could be

due to other unexplained factors different from the households' income and the dummy educational variables. Therefore, the effect of level of education of respondents on housing satisfaction is relative. This is because, the level of satisfaction derived from a unit of housing consumed is a function of the respondent's level of education and income. However, educational level and income although strong, still established a relationship as indicated by Line of Best Fit of R^2 Adjusted of 86.90 percent. Accordingly, the resulting model is:

$$Y_1 = -0.806 + 0.100X_1 + 0.059X_2 + 3.440$$

Where

Y_1 ï aggregate housing satisfaction of households

X_1 ï educational level of households

X_2 ï Income level of households

This implies that a unit increase in Educational level X_1 by 0.100 and a unit increase in income level X_2 by 0.059 will result to 3.440 increase in the housing satisfaction attributes of the respondents holding other variables constant. While a unit decrease in Educational level X_1 by 0.100 and a unit decrease in income level X_2 by 0.059, will result to 3.440 decreases in the housing satisfaction of the respondents holding other variables constant.

It was discovered that the two independent variables, namely educational and income levels, collectively had significant relationship with housing satisfaction in Uyo Capital Territory. These variables accounted for 86.90% influence on housing satisfaction attributes of all the income groups of Uyo Capital Territory. None of these variables was strongly related to each other. The analysis could not explain 13.10% of the relationship. The analysis is therefore consistent with the housing satisfaction problems in the study area,

which is a function of income enhancing demand for housing and housing satisfaction through house ownership.

The result of objective four is consistent with the Cobweb's Theory of Agbola and Kassim (2007) which argued that, housing supply always responds slowly to increase in demand, which is a corresponding increase in household income for demand to be effective. Grimes (1976) believe that effective demand for housing is derived from each household's willingness to pay for the housing. Going by Grime (1976) opinion, the level of household income, its distribution, the prices of available housing, prices of other goods and services are important economic factors influencing decisions about how much to spend on housing.

In other words, Aribigbola, (2000) stated that housing consumption should be determined by the individual household's ability to pay regardless of the expected user's satisfaction attributes. Conventionally, urban housing satisfaction is determined through the inadequacy of incomes of large numbers of households to pay for the housing that is currently being produced (Ezenagu, 1989). Thus, the income distribution of a city as a whole will affect the affordability and demand of housing to different income groups.

The result of hypothesis four further confirms that, socio-economic characteristics, such as income, educational level all have negative significant effects on housing satisfaction individually but have positive significant effect when examined collectively. This corresponds with the inferential analysis result on educational level of the respondents in the study area that was revealed that 82.1% interviewed were educated while 17.9 % were uneducated. The criteria was measured by the dummy variables of the uneducated being those below primary school level while the educated were measured by the dummy variables of those above primary school level.

Husna and Nurizan (1987) confirm that households who attained a low level of education indicated a high level of satisfaction towards all aspects of their dwellings, except neighbourhood aspects as compared with those with higher level of education. Galster and Hesser (1981), Galster (1987), Miller (1990), Bruin and Cook (1997), Jagun (1990), Johnson (1993) studies of elderly residents in subsidized housing, revealed that age, income, and house ownership have positive effect on housing satisfaction,

The implications of these results in relationship with housing satisfaction and the individual socio-economic variables namely; education and household income in the Uyo Capital Territory are under here discussed:

i. Educational Level of the Respondents

The influence of educational level of the respondent of Uyo Capital Territory is significant at [Beta = .059, $t = -2.321$, $P = 0.000$ (significant at 0.05 level)]. The result of the relationship between housing satisfaction and educational level of the respondents was significant. The relationship although individually is negatively related but collectively and positively related with income of households. This result collectively explained 86.90 percent of the fourteen identified and analyzed housing satisfaction components in Uyo Capital Territory. There is indirect relationship, which implies that educational level of respondents collectively with income level of households has 86.90 percent influences on housing satisfaction of the residents of Uyo.

The implication of this result agrees with Husna and Nurizan, (1987) study that reveal that, residents with low level of education indicated a higher level of satisfaction towards all aspects of their dwellings as compared with residents with high level of education.

ii. Income Level of the Respondents'

The influence of educational level of the respondents of Uyo Capital Territory is significant at [Beta = 0.106, $t = -3.841$, $P = 0.000$ (significant at 0.05 level)]. The result of the relationship between housing satisfactions and household income of the respondents was significant. The relationship is individually negative but collectively, it is positively related with educational level of households in Uyo. This result collectively explained 86.90 percent of the fourteen identified and analyzed housing satisfaction factors in the Capital Territory. There is indirect relationship, which implies that household income level of respondents collectively with educational level, have 86.90 percent influences on housing satisfaction attributes of the residents of Uyo.

The Multiple Linear Regression (MLR) Analysis result on income level corresponds with inferential result on household savings to attain house ownership status which revealed that, 52.1% of household heads spend more on others family budgets and less for building start, due to low income level, thus indicating relatively low savings towards house ownership in the study area.

The implication of this result agrees with Galster and Hesser (1981), and Lu (1999) that, higher income households are generally satisfied with their housing conditions and neighborhoods while the higher the educational level of the household heads, the more satisfied the residents are with their housing.

In addition, income hardly displays any relationship to the attributes of housing satisfaction for all aspects of housing. Therefore, the display of high level of housing satisfaction by the low-income group as revealed in the result of hypothesis two and objective two in the study area could be as the reflection of low level of education, cultural and ethnic background, and house ownership status of the respondents.

6.65 Determine Correlation between housing satisfaction and types of house ownership by households in Uyo Capital Territory (Objective Five)

The analysis of the result of hypothesis five, which stated that there is no correlations between housing satisfaction and types of house ownership by households of Uyo Capital City Territory, suggests that there is a strong correlations as the Spearman Correlation output is significant at 0.01 and has 0.87 co-relationship. This means that there is a very good correlations and that people are more satisfied with their types of house occupancies. The implication is that, 0.87 of households are satisfied with their house ownership statuses whether owner or tenant occupiers. This accounted for the fourteen classified and analyzed housing factors which answered objective question five that, there exist high correlations between housing satisfaction and housing ownership status by households in the study area. However, the result could not explain 13 percent of the households' house ownership or tenants' statuses, which accounted for the unexplained variables. The parameter used is shown on table 6.35.

In addition, the result of hypothesis five corresponds with Johnson (1993) study of elderly residents in subsidized housing, which revealed that age, income and house ownership occupiers, have positive effect on housing satisfaction, while family size and tenant's status were found to impact negatively on housing satisfaction. On the other hand, income level was found to have positive effects on housing satisfaction, for owners' occupiers only.

In a similar study, Levy and Micheal (1991), and spilerman, (1993) established that, satisfied tenants lead to fulfilled occupancy, low cost of tenant procurement, and a decrease in rent arrears. House ownership is the primary mechanism of equity accumulation and attainment of housing satisfaction for most families while Leonard, (1989) confirmed that over the

long term, owning one's house is cheaper than renting because house owners will free up more funds to finance their children's educational expenses.

Therefore, the implications of hypothesis five and objective five is that, house owner occupiers's status result of 46.20 percent compared with 53.80 percent for tenants's status within Uyo Capital City Territory is an indication of inadequacy of housing satisfaction for the tenants respondents in the study area.

i. House Owners' Occupier Status of Respondents

The result of hypothesis five on house owner-occupier and tenant-occupier statuses suggest that there is a strong relationship as the Spearman Correlation output is significant at 0.01 and has 0.87 co-relationship. The implication is that, 0.87 of the households, both owners and tenants occupiers are satisfied with their houses, which accounted for 0.87 of the fourteen, classified and analyzed housing satisfaction factors.

However, as indicated on table 6.35, showing house ownership status in Uyo; owner-occupiers housing status of respondents for the satisfied respondents recorded 46.20 percent. This implies that 53.80 percent of the tenant-occupiers in Uyo Capital Territory were not satisfied with their housing. This means that other factors could account for the unsatisfied respondents. This is in line with Galster (1987), 'inspirational' conceptualization of housing satisfaction, which leads one not only to consider house ownership as the key factor in determining housing satisfaction, but also to expect that house owners and renters behave differently in unsatisfactory housing situations. This is so since house ownership has been known not only as one of the most important ways of wealth accumulation, but also as one of the most important signals of personal success.

Generally, house ownership provides a high level of housing satisfaction as compared with a tenant. Implicationally, housing is a reality and an essential need for the people and should be conceived and implemented by the people it was meant for because as Ward (1976) succinctly puts it: "when dwellers control the major decisions and are forced to make their own contributions to the design, construction, and management of their housing, both the process and the environment produce, stimulate individual and social well-being. When people neither take control over nor responsibility for key decisions in the housing process, on the other hand, dwelling environment may become a barrier to personal fulfillment, dissatisfaction and a burden to the economy."

ii. Occupiers' Status of Respondents

The result of hypothesis five and objective five considering housing satisfaction; reveals that house owner occupier and tenant statuses suggest that there is a strong correlations as the Spearman Correlation output is significant at 0.01 and has 87% co-relationship. The implication is that, 87% of the households, both house owners and tenants were satisfied with their homes, which accounted for 87% of the fourteen, classified and analyzed housing factors. However, as indicated on table 6.35, house ownership status in Uyo reveals that, tenants' occupiers' status were more satisfied as recorded by 53.80 percent. This implies that 46.20 percent of the tenants in Uyo were not satisfied with their type of housing occupied. This means that other factors could account for the unsatisfied respondents.

Agbola, (2000) identified two factors to include individual dwelling and site characteristics. The first is nature of accommodation such as number and sizes of rooms, toilets, bathrooms, types and quality of interior and exterior furnishing and structural stability of the building. Accordingly, no two tenants may have these characteristics equally, because it represents supply to sets of

people, class, and status with different income groups, socio-economic and socio-cultural characteristics. The second is differences in housing locations and accessibility to housing resources.

This is in line with the descriptive result on household inability to own a house, due to poor access to private and family land. The result showed that, 50.3% of households complain of high cost of urban land. Aggregately, 78.3% established the fact that it is easier to gain access to private land while 80.6% said it was difficult to gain access to urban land.

This agrees with the United Nations Habitat (2006) noticeable failure of many African governments to tackle large-scale urban land reforms that makes housing problem become even more critical especially as population keeps on expanding on available land. Shivji (1975) therefore stress an urgent need for the developing nations to develop land reform policies that will enable massive urban land to be acquired and redistributed to the various income groups at subsidized rates for housing development.

This implies that housing supply and demand is localized in supply and demand and is tied to accessibility to urban land for housing so as to attend the required various income groups' satisfaction attributes. Thus according to Balchin and Kieve, (1982) housing supply is relatively fixed and its allocation among users determined primarily by changes in demand.

6.70 Summary of Findings

The study revealed that objective one has been achieved which answers question one which states that, housing satisfaction cannot be identified and classified for the various income groups in Uyo. Fourteen housing satisfaction factors were identified and classified for households in Uyo Capital City Territory. These factors account for 96.80 percent housing satisfaction attributes of all the three income groups in Uyo Capital Territory, namely: architectural and neighbourhood infrastructures, convenience and recreational, housing amenities and aesthetics, public facilities and security. Others are; community facility and comfort, housing investment reward, housing materials and design, functionality and aesthetics, health considerations, functional housing amenities, ease of movement and leisure, housing facilities, structural stability and facilities and cross ventilation factor. The PCA result for the architectural and neighbourhood facilities alone explained 43.54%, while inferential analysis result of housing type occupied by households alone also explained 68.4% of the respondents' housing satisfaction attributes respectively.

The analysis of result of hypothesis two suggests that objective two has been achieved which stated that there exist housing satisfaction differences in housing satisfaction attributes among the various income groups in Uyo. The result shows statistically significant differences in housing satisfaction among the various income groups of Uyo of the study area. The medium and high-income groups were in one sub-set while the low and high-income groups were in another subset. This revealed that, income hardly displays any relationship to the attributes of housing satisfaction for all aspects of housing. Therefore, the display of high level of housing satisfaction by the low-income with the high-income group could be attributed to low level of education, cultural and ethnic background, and existence of house ownership status of the respondents.

The result of hypothesis three and objective three has been achieved which suggests that there exist differences in housing satisfactions attributes of the low, medium and high-income groups in Uyo. The result shows that there is distinctiveness in the housing satisfaction attributes of the various income groups in the study area. For instance, the result for the low-income group shows that 12 factors explained 81.11% with an Eigen value of 55.69 of housing satisfaction attributes for this group and the first four factors are: Architectural and Facilities Considerations, Convenience and Recreational, Housing Amenities/Aesthetics, Facilities and Security. Also, 12 factors explained 81.98% with an Eigen value of 51.79 of housing satisfaction attributes for the medium-income group and the first four factors are: Building Materials/Neighbourhood Facilities, Public and Housing Facilities, Privacy and Comfort, Housing Conditions and Aesthetics and finally, 12 significant factors accounted for 84.15% of housing satisfaction attributes for the high-income group in the study area and the first four factors are: Public and Housing Facilities, House Design/Proximity to Facilities, Building Design Factor, Security and Public Facilities. (See table 6.30, 6.31 and 6.32.)

The result of hypothesis four and objective four has been achieved which suggests that there were some socio-economic variables that influence housing satisfaction in Uyo and which accounted for 86.9% relationship between education level and monthly income. These variables though significant, had 87.0 percent relationship and were found relating negatively to housing satisfaction individually, but collectively revealed strong significant relationships with housing satisfaction in the study area. This implies that, the fourteen factors are strongly sensitive to some socio-economic variables such as income and educational level of households in the study area. However, age of respondents was found insignificant to housing satisfaction in this study.

The analysis of the result of hypothesis five and objective five was equally achieved which stated that, there is no correlations between housing satisfaction and types of house ownership in Uyo Capital City Territory. The result suggests that there is strong correlation as the Spearman Correlation output is significant at 0.01 and has 87% correlations. This implies that there is a very strong correlation and that people are more satisfied with their types of houses occupied. The implication is that, 87 percent of households have need of house ownership to attain their satisfaction level, whether owner or tenant occupiers which accounted for the fourteen, identified and classified housing satisfaction factors. These factors were strongly sensitive to other socio-economic variables such as, house owner-occupier status and tenant-occupier status of respondents in Uyo Capital Territory.

7.00 CHAPTER SEVEN: RECOMMENDATIONS AND CONCLUSION

7.10 Recommendations

Housing satisfaction attributes of households in Uyo Capital City Territory depends on the fourteen identified and classified housing satisfaction determining factors. These factors are sensitive to the socio-economic conditions of Uyo, Akwa Ibom State. Their sensitivity expresses extensively in housing dissatisfaction both in quality and quantitative terms in Nigeria especially in most cities having similar socio-economic status like Uyo.

The study identified that there exist distinctiveness in the housing satisfaction attributes for the low, medium and high-income groups in the study area. There is therefore need to develop policy measures that will improve housing satisfaction attributes needs in Uyo for application in cities of similar status in Nigeria. These measures in the long run should contribute to sustain efforts aimed at minimizing housing dissatisfaction that has been undermining our nation's housing sector over the years. In order to achieve this, the following recommendations are made:

(i) Adoption of the fourteen housing satisfaction factors for forecasting of future housing programmes policies in Uyo and similar Nigerian cities

The fourteen housing satisfaction factors used in this study namely: architectural and neighbourhood infrastructures, convenience and recreational, housing amenities and aesthetics, public facilities and security. Others are; community facility and comfort, housing investment reward, housing materials and design, functionality and aesthetics, health considerations, functional housing amenities, ease of movement and leisure, housing facilities, structural stability and facilities and cross ventilation factor, are very strong determinants of housing satisfaction needs in the country. Therefore States and Federal

Governments should adopt these factors identified and classified in this research in forecasting future housing programme policies in the country. This is because the outcome of this forecasting reflects the accurate housing dissatisfaction situation in the Nigerian housing sector.

Based on this forecasted factors, all the efforts aimed at providing satisfactory housing to meet the nations housing demand will yield the desired result. This implies that a good policy frame work has been provided on how best to provide satisfactory housing for the various income groups in Uyo base on household housing satisfaction attributes rather than on housing cost categorization and effective demand where the various income groups were lumped up together, differences in income notwithstanding.

(ii) Production of housing should be based on the three income groups identified satisfaction attributes aimed at meeting households satisfaction needs.

There is need for the production of satisfactory housing that will meet the nations identified and classified individual income group satisfaction attributes. This will help to ensure satisfactory housing provisions to households that will meet their required satisfaction levels.

The current practice of housing cost categorization and lumping up of all the income groups attributes together in housing provisions should be discouraged. Federal and State Governments should adopt effective measures to ensure that housing providers whether public or private provide housing based on various income groups identified attributes.

(iii) Provide easy access to urban land for housing to enable private and public housing providers provide affordable housing to households

The Federal and State Governments should develop new land policy to tackle large scale urban land reforms in Uyo and in Nigerian. This will enable the three income groups gain easy access to federal and state land at affordable rates which currently makes housing acquisitions become more critical especially as population keeps on expanding on the available urban land. In addition, government should allocate residential land at subsidized rates as incentives to the private housing operators. This will cut down the cost of finished residential housing and shortages experienced in our cities.

(iv) Revisit housing subsidy programmes to enable individual developers of each of the three income groups achieve housing satisfaction through house ownership in Nigeria

The Federal and State Governments should reactivate the housing subsidies in Nigerian cities base on the identified housing satisfaction attributes. This will enable the three income groups acquire satisfactory housing that meets their required needs. In addition, government should re-examine the residential land site and services programmes to individual developers to equally enable the three income groups gain easy access to federal and state land at affordable rates for residential purposes. The current dependence on private and family sources for residential land is not affordable to certain income groups.

7.20 Conclusion

This study identified housing satisfaction factors as the major determinants of household housing satisfaction in Uyo Capital City Territory, Nigeria. The major findings of the study shows that housing satisfaction factors namely: architectural and neighbourhood infrastructures, convenience and recreational,

housing amenities and aesthetics, public facilities and security; community facility and comfort, housing investment reward, housing materials and design, functionality and aesthetics, health considerations, functional housing amenities, ease of movement and leisure, housing facilities, structural stability and facilities and cross ventilation factor, are very strong determinants of housing satisfaction attributes of Uyo and similar Nigerian cities.

There exist significant relationship between housing satisfaction and attributes of various income groups in Uyo Capital Territory. In concrete terms, the current housing satisfaction attributes of the three income groups in Nigerian housing sector represents 81.11% for low income, 81.98% for medium-income and 84.15% for the high-income groups. There is however shortfalls in the housing satisfaction attributes of the various income groups which represent 18.89% for low, 18.02% for medium, and 15.85% for the high-income groups. The significant differences of housing satisfaction among the three income groups attested to the fact that, housing satisfaction attributes differ in the study area Uyo and in Nigeria.

The study strongly recommends the adoption of the fourteen identified and classified housing satisfaction factors namely: architectural and neighbourhood infrastructures, convenience and recreational, housing amenities and aesthetics, public facilities and security. Others are; community facility and comfort, housing investment reward, housing materials and design, functionality and aesthetics, health considerations, functional housing amenities, ease of movement and leisure, housing facilities, structural stability and facilities and cross ventilation, for the forecasting of housing policy programmes in Uyo as well as in other similar Nigerian cities as a control measures for future housing development programmes. This will assist to provide sustainable remedy to the

problems of housing satisfaction that the nation-housing sector has been facing for the past thirty years.

7.30 Policy Guidelines and Contribution to Knowledge

In addition to housing cost, income categorization and effective demands housing satisfaction study should also include housing satisfaction attributes of the low, medium and high income groups.

This study has contributed to knowledge in various ways;

- i. The identified housing attributes for the various income groups have provided better knowledge into how to meet the housing demands of households by identifying their peculiar attributes. The study has further contributed to advancement in knowledge as it has added to the existing housing satisfaction factors by past researchers namely; physical, environmental, functional, behavioral, economics and timing factors.
- ii .The main contribution of this study to knowledge is that it has identified the housing satisfaction attributes of the various income groups which should therefore be applied in future housing programmes.

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Appendices

Appendix 1: Rotated Component Matrix Table Showing the Selection of Fourteen Principal Components Analysis PCA Factors used for testing of hypothesis one

Table 1a: Communalities

	Initial	Extraction
ceiling height	1.000	.641
size of room	1.000	.660
performance of foundatn	1.000	.735
no & positi of electrical	1.000	.756
floorplan of dwellg	1.000	.826
street design	1.000	.998
toilet design	1.000	.993
bathroom design	1.000	.443
fire wood	1.000	.623
no of bathroom	1.000	.999
kitchen design	1.000	.578
no of toilet	1.000	.730
operation of elec fitting	1.000	.707
quality of paint	1.000	.731
quality of mtr used in wall	1.000	.787
operation of plumbing fittg	1.000	.999
quality of building materi	1.000	.614
qual of matrs used in floor	1.000	.988
location & siaxe of balcony	1.000	.999
brightness of light in hse in the day	1.000	.999
indoor air quality	1.000	.711
noise pollution	1.000	.624
water pollution	1.000	.910
landscape of streets	1.000	.998
louvers window	1.000	.993
source of water	1.000	.996
drainage system	1.000	.999
refuse disposal system	1.000	.906
street light	1.000	.765
location of rooms	1.000	.555
availability of parking space	1.000	.999
level of privacy in house	1.000	.999
open spaces, parks	1.000	.659
building setback to fence	1.000	.445
security system in the house	1.000	.990
security level in the neighb	1.000	.998
emergy/escape route	1.000	.993
aesthetical apperance	1.000	.996
adequ of on-stree bays	1.000	.947
nearness to police	1.000	.945
nearness to medical facilities	1.000	.949
nearness to fire service	1.000	.964
nearness to worship centre	1.000	.999
nearness to children school	1.000	.999
nearne to market	1.000	.837
getting value for money	1.000	.895
cost & effort for keeping house up	1.000	.990
easiness of maintenance of hse	1.000	.998
nearness to recreatn facit	1.000	.693
nearnsee to work place	1.000	.885
rate of deterioration	1.000	.999
neighbourhood reputation	1.000	.999
street light	1.000	.699
condion of road	1.000	.630
plumbing condition in house	1.000	.999
play ground	1.000	.993
erosion effect	1.000	.996
avalla of public transport	1.000	.947
private space	1.000	.945
good location of building	1.000	.949
good site layout	1.000	.964
ceiling condition	1.000	.999
storage facility	1.000	.999
roof leakage	1.000	.837
exit door condition	1.000	.895
visual aesthetics	1.000	.990

Extraction Method: Principal Component Analysis.

Table 1b: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	22.992	34.837	34.837	22.992	34.837	34.837	22.135	33.538	33.538
2	7.043	10.671	57.309	7.043	10.671	57.309	6.869	10.408	55.219
3	4.211	6.381	62.397	4.211	6.381	62.327	4.211	6.380	61.564
4	3.578	5.421	66.781	3.578	5.421	66.781	3.979	6.029	64.354
5	3.358	5.088	79.476	3.358	5.088	79.476	2.530	3.833	78.787
6	2.893	4.384	89.697	2.893	4.384	89.697	2.362	3.578	86.764
7	2.539	3.848	91.088	2.539	3.848	91.088	2.340	3.545	90.087
8	2.313	3.504	92.278	2.313	3.504	92.278	2.193	3.323	91.323
9	1.870	2.834	93.211	1.870	2.834	93.211	2.128	3.224	92.713
10	1.656	2.509	94.080	1.656	2.509	94.080	1.983	3.004	93.280
11	1.416	2.146	94.875	1.416	2.146	94.875	1.968	2.982	93.778
12	1.228	1.860	96.570	1.228	1.860	95.570	1.800	2.727	94.077
13	1.128	1.709	96.204	1.128	1.709	96.204	1.438	2.179	95.605
14	1.060	1.606	96.838	1.060	1.606	96.838	1.352	2.049	96.838
15	.977	1.481	97.385						
16	.936	1.418	97.880						
17	.918	1.391	98.088						
18	.786	1.190	98.278						
19	.616	.933	99.211						
20	.573	.869	99.080						
21	.525	.795	99.875						
22	.459	.695	99.570						
23	.418	.634	100.000						
24	.418	.634	100.000						
25	.361	.547	100.000						
26	.327	.496	100.000						
27	.286	.434	100.000						
28	.278	.421	100.000						
29	.229	.346	100.000						
30	.183	.277	100.000						
31	.123	.186	100.000						
32	.113	.171	100.000						
33	.096	.145	100.000						
34	.092	.139	100.000						
35	3.40E-015	5.15E-015	100.000						
36	1.77E-015	2.69E-015	100.000						
37	6.17E-016	9.34E-016	100.000						
38	2.66E-016	4.03E-016	100.000						
39	1.30E-016	1.97E-016	100.000						
40	1.17E-016	1.77E-016	100.000						
41	1.02E-016	1.54E-016	100.000						
42	7.92E-017	1.20E-016	100.000						
43	5.75E-017	8.71E-017	100.000						
44	5.58E-017	8.45E-017	100.000						
45	3.91E-017	5.93E-017	100.000						
46	2.49E-017	3.77E-017	100.000						
47	2.26E-017	3.42E-017	100.000						
48	1.34E-017	2.03E-017	100.000						
49	6.46E-018	9.79E-018	100.000						
50	3.25E-018	4.92E-018	100.000						
51	-2.0E-035	-2.97E-035	100.000						
52	-2.0E-018	-3.08E-018	100.000						
53	-3.7E-018	-5.62E-018	100.000						
54	-8.2E-018	-1.24E-017	100.000						
55	-1.8E-017	-2.70E-017	100.000						
56	-2.5E-017	-3.72E-017	100.000						
57	-3.4E-017	-5.10E-017	100.000						
58	-4.6E-017	-6.95E-017	100.000						
59	-5.9E-017	-8.89E-017	100.000						
60	-8.1E-017	-1.22E-016	100.000						
61	-1.0E-016	-1.56E-016	100.000						
62	-1.1E-016	-1.68E-016	100.000						
63	-1.7E-016	-2.53E-016	100.000						
64	-1.9E-016	-2.89E-016	100.000						
65	-2.5E-016	-3.75E-016	100.000						
66	-6.7E-016	-1.02E-015	100.000						

Extraction Method: Principal Component Analysis.

Table 1c: Rotated Component Matrix

	Component													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
availability of parking space	.986													
neighbourhood reputation	.986													
ceiling condition	.986													
operation of plumbing fittg	.986													
location & size of balcony	.986													
level of privacy in house	.986													
nearness to worship centre	.986													
rate of deterioration	.986													
no of bathroom	.986													
drainage system	.986													
nearness to children school	.986													
plumbing condition in house	.986													
storage facility	.986													
brightness of light in hse in the day	.986													
refuse disposal system	.940													
landscape of streets	.922													
street design	.922													
easiness of maintenance of hse	.922													
security level in the neighb	.922													
aesthetical apperance	.882													
erosion effect	.882													
source of water	.882													
nearness to work place	.829													
toilet design		.981												
louvers window		.981												
play ground		.981												
emergency/escape route		.981												
nearness to recreatn facilit		.802												
qual of matrs used in floor			.847											
security system in the house			.815											
cost & effort for keeping house up			.815											
visual aesthetics			.815											
water pollution			.791											
adequ of on-stree bays				.936										
availa of public transport				.936										
nearness to police				.925										
private space				.925										
roof leakage					.836									
nearne to market					.836									
no & positn of electrical fire wood					-.513					.485				
exit door condition					.438									
getting value for money						.899								
quality of mtr used in wall						.899								
size of room							.832							
quality of building materil							.636							
ceiling height							-.529							
nearness to medical facilities							.490							
good location of building								.953						
good site layout								.953						
nearness to fire service									.947					
operation of elec fitting									.947					
floorplan of dwellg										-.792				
condition of road										.724				
quality of paint											.786			
street light											-.767			
open spaces, parks											-.504			
no of toilet												.831		
kitchen design												.724		
bathroom design												.430		
performance of foundatn													.698	
street light													-.583	
indoor air quality													.575	
noise pollution														.744
location of rooms														.576
building setback to fence														.432

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 18 iterations.

Fig 1: Scree Plot

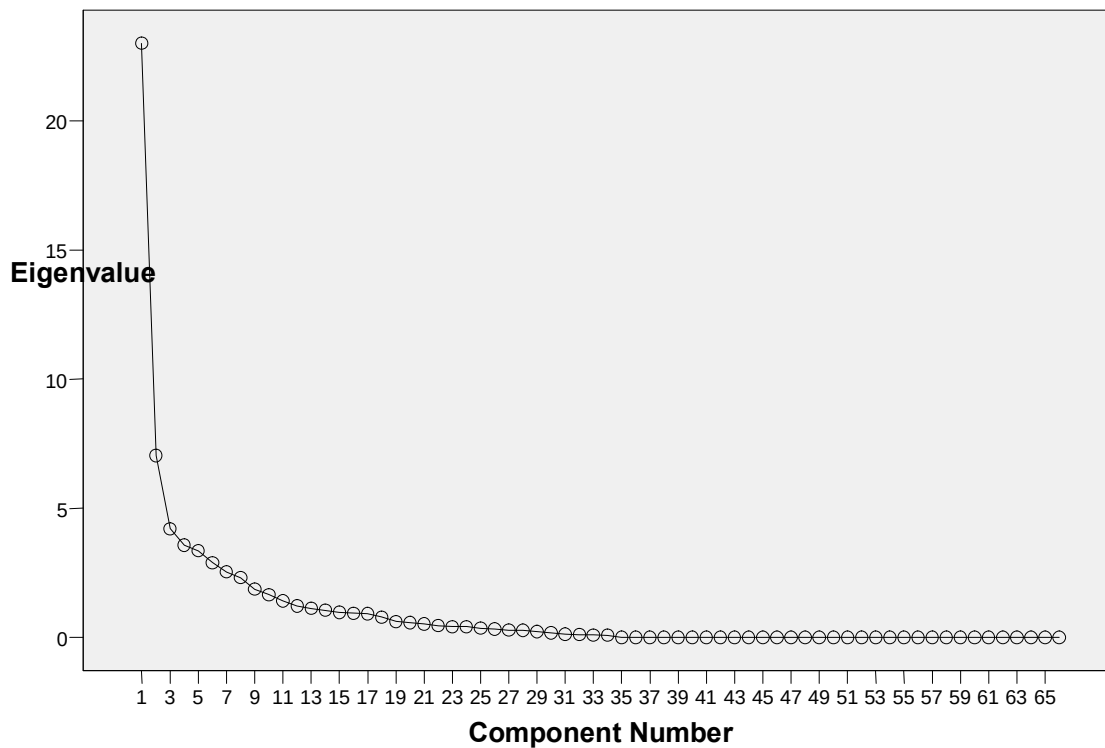


Table 1d: Component Transformation Matrix

Compo	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	.97	.17	.07	.10	.01	.00	.03	-.00	.01	.00	.00	.02	-.00	.00
2	-.19	.88	.40	.00	.02	-.04	-.06	.03	.09	.05	.00	.02	-.02	-.00
3	-.09	-.04	-.00	.83	.35	.21	-.00	-.17	.27	-.06	.07	.03	-.01	-.09
4	.01	-.42	.89	-.00	.00	.03	-.09	.08	.00	.13	.00	.00	-.00	-.01
5	.05	-.05	-.12	-.33	.50	.11	-.50	.20	.41	.23	.06	.24	-.13	-.01
6	.00	.04	.03	-.27	.08	.73	.47	-.15	.20	.07	-.05	-.05	.16	.20
7	-.01	.00	.04	-.02	.38	-.02	.28	.63	-.11	-.59	.09	.00	.00	.06
8	-.00	.01	-.03	.16	-.12	.20	-.21	.24	-.05	-.03	-.79	-.11	-.30	.25
9	-.03	-.00	-.06	.22	-.39	.08	.05	.37	.03	.20	.15	.67	.15	.29
10	.02	-.03	-.04	.04	-.32	-.12	-.07	.31	.62	-.03	.00	-.46	.40	-.03
11	.01	-.02	.08	-.14	-.33	.15	-.19	-.27	.29	-.67	-.02	.33	-.15	-.21
12	-.01	-.04	.03	-.07	.22	-.48	.39	-.18	.29	.02	-.49	.34	.21	-.01
13	.00	.04	.00	.00	.09	.22	-.29	.03	-.34	-.05	-.24	.12	.71	-.38
14	.01	-.01	.05	-.00	.13	-.12	-.30	-.29	-.05	-.25	.08	-.05	.31	.77

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Table 1e: Component Score Coefficient Matrix

	Component													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
ceiling height	.004	.009	.023	-.041	.069	.109	.158	-.034	-.020	-.130	.178	-.010	-.037	.126
size of room	.003	.016	-.010	.016	-.112	.050	.262	.063	.011	.018	.047	-.016	-.050	.001
performance of foundatn	-.005	-.001	.007	.016	.143	-.119	.066	-.092	.027	.022	.036	.022	.483	.104
no & positin of electrical	.008	-.007	-.040	.037	-.245	.017	-.143	.054	.113	.210	.171	-.105	.059	.194
floorplan of dwellg	.003	-.002	.047	.005	-.042	-.051	-.047	-.048	.055	.336	.000	.006	-.002	-.023
street design	.051	-.081	.026	-.006	-.004	.001	-.005	.000	.007	-.004	.000	-.004	.000	.002
toilet design	-.012	.155	-.027	-.001	.003	.002	.002	-.002	-.014	.004	-.001	-.004	.007	-.005
bathroom design	.009	.006	-.042	-.017	.015	-.129	.064	-.130	.079	-.030	.004	.251	-.020	.065
fire wood	.016	-.007	.029	-.051	.225	-.142	-.013	-.101	-.069	.047	-.145	.158	.074	-.148
no of bathroom	.045	-.004	.013	-.007	-.002	.002	-.004	-.001	.000	-.002	.000	-.006	.003	-.001
kitchen design	-.012	-.008	.011	-.003	-.049	.018	.069	.014	.003	.017	.010	.419	.057	-.015
no of toilet	-.010	-.011	.008	.017	-.010	-.012	-.011	-.010	-.018	-.023	-.051	.474	-.021	.020
operation of elec fitting	.005	-.005	.036	-.014	-.093	-.052	-.047	-.046	.138	-.442	-.036	-.004	-.036	.003
quality of paint	-.005	.003	.002	.033	-.052	.049	-.019	.034	-.017	-.021	.396	.054	.097	.007
quality of mtr used in wall	-.005	.004	.003	-.012	.004	-.056	.406	.040	.032	.033	-.013	.063	-.059	-.067
operation of plumbing fitg	.045	-.004	.013	-.007	-.002	.002	-.004	-.001	.000	-.002	.000	-.006	.003	-.001
quality of building materi	.026	.026	-.002	.006	.015	.031	-.265	.044	-.038	-.069	.051	-.033	-.021	.117
qual of matsr used in floor	-.012	-.111	.245	.002	-.003	.004	.002	-.008	.003	-.015	.004	.001	.003	.014
location & siaxe of balcony	.045	-.004	.013	-.007	-.002	.002	-.004	-.001	.000	-.002	.000	-.006	.003	-.001
brightness of light in hse in the day	.045	-.004	.013	-.007	-.002	.002	-.004	-.001	.000	-.002	.000	-.006	.003	-.001
indoor air quality	.009	.022	-.004	.002	-.101	.228	-.265	.124	-.126	-.110	-.004	.140	.468	-.182
noise pollution	.004	-.004	.014	-.017	.078	-.058	-.060	-.054	-.062	.003	.026	-.039	-.011	.591
water pollution	-.002	.027	.179	-.006	.007	-.025	.012	.000	.017	-.015	-.007	.007	-.024	.009
landscape of streets	.051	-.081	.026	-.006	-.004	.001	-.005	.000	.007	-.004	.000	-.004	.000	.002
louvers window	-.012	.155	-.027	-.001	.003	.002	.002	-.002	-.014	.004	-.001	-.004	.007	-.005
source of water	.040	.053	-.113	-.006	.000	.000	-.004	.004	-.001	.006	-.002	-.005	.001	-.007
drainage system	.045	-.004	.013	-.007	-.002	.002	-.004	-.001	.000	-.002	.000	-.006	.003	-.001
refuse disposal system	.044	-.008	.014	-.006	-.003	.002	-.003	.002	.004	.001	-.002	-.007	.003	-.005
street light	.004	.002	.025	-.004	.015	.006	-.101	-.038	.022	-.197	-.412	.063	.209	.090
location of rooms	-.014	-.009	-.002	.072	.042	-.118	.119	-.012	.090	.026	-.105	.073	.120	.434
availability of parking space	.045	-.004	.013	-.007	-.002	.002	-.004	-.001	.000	-.002	.000	-.006	.003	-.001
level of privacy in house	.045	-.004	.013	-.007	-.002	.002	-.004	-.001	.000	-.002	.000	-.006	.003	-.001
open spaces, parks	-.010	.010	-.028	.104	-.165	.054	.061	.021	.006	.153	-.240	-.017	.023	-.035
building setback to fence	.007	.000	.018	-.035	-.089	.148	-.128	-.023	-.046	-.104	.081	.088	-.110	.309
security system in the house	-.001	.034	.183	-.002	-.001	.006	.002	-.008	-.009	-.009	.003	-.005	.009	.007
security level in the neighb	.051	-.081	.026	-.006	-.004	.001	-.005	.000	.007	-.004	.000	-.004	.000	.002
emergy/escape route	-.012	.155	-.027	-.001	.003	.002	.002	-.002	-.014	.004	-.001	-.004	.007	-.005
aesthetical apperance	.040	.053	-.113	-.006	.000	.000	-.004	.004	-.001	.006	-.002	-.005	.001	-.007
adequ of on-stree bays	-.012	-.007	-.008	.255	-.027	-.026	-.025	.009	-.012	.074	.038	.001	-.025	.027
nearness to police	-.013	.003	-.001	.243	.000	.029	.004	.046	-.039	-.040	-.032	-.002	.026	-.014
nearness to medical facilities	-.002	-.003	-.017	.029	-.008	-.020	.043	.455	.020	.052	.012	-.019	-.007	-.025
nearness to fire service	.002	-.019	.001	-.028	-.049	-.033	.044	.007	.490	-.050	-.023	.005	-.028	-.026
nearness to worship centre	.045	-.004	.013	-.007	-.002	.002	-.004	-.001	.000	-.002	.000	-.006	.003	-.001
nearness to children school	.045	-.004	.013	-.007	-.002	.002	-.004	-.001	.000	-.002	.000	-.006	.003	-.001
nearne to market	-.003	.002	-.014	.019	.339	.023	-.033	.022	-.019	.052	.018	-.080	.058	.079
getting value for money	.001	.010	-.002	-.005	-.007	.396	-.026	-.021	-.023	.011	.003	-.012	-.006	-.049
cost & effort for keeping house up	-.001	.034	.183	-.002	-.001	.006	.002	-.008	-.009	-.009	.003	-.005	.009	.007
easiness of maintenance of hse	.051	-.081	.026	-.006	-.004	.001	-.005	.000	.007	-.004	.000	-.004	.000	.002
nearness to recreatin facilit	-.010	.124	-.001	-.001	-.008	.046	.006	.007	-.016	-.017	-.005	-.011	.003	-.011
nearness to work place	.037	.048	-.111	-.006	-.005	-.001	.007	.005	.005	.016	.000	.000	-.018	-.002
rate of deterioration	.045	-.004	.013	-.007	-.002	.002	-.004	-.001	.000	-.002	.000	-.006	.003	-.001
neighbourhood reputation	.045	-.004	.013	-.007	-.002	.002	-.004	-.001	.000	-.002	.000	-.006	.003	-.001
street light	-.007	.002	.003	.065	-.011	.045	-.086	-.026	.000	-.115	.158	.108	-.407	.024
condition of road	-.007	.001	-.015	-.028	.107	.090	.170	.128	-.025	.244	-.181	.135	-.170	-.118
plumbing condition in house	.045	-.004	.013	-.007	-.002	.002	-.004	-.001	.000	-.002	.000	-.006	.003	-.001
play ground	-.012	.155	-.027	-.001	.003	.002	.002	-.002	-.014	.004	-.001	-.004	.007	-.005
erosion effect	.040	.053	-.113	-.006	.000	.000	-.004	.004	-.001	.006	-.002	-.005	.001	-.007
avala of public transport	-.012	-.007	-.008	.255	-.027	-.026	-.025	.009	-.012	.074	.038	.001	-.025	.027
private space	-.013	.003	-.001	.243	.000	.029	.004	.046	-.039	-.040	-.032	-.002	.026	-.014
good location of building	-.002	-.003	-.017	.029	-.008	-.020	.043	.455	.020	.052	.012	-.019	-.007	-.025
good site layout	.002	-.019	.001	-.028	-.049	-.033	.044	.007	.490	-.050	-.023	.005	-.028	-.026
ceiling condition	.045	-.004	.013	-.007	-.002	.002	-.004	-.001	.000	-.002	.000	-.006	.003	-.001
storage facility	.045	-.004	.013	-.007	-.002	.002	-.004	-.001	.000	-.002	.000	-.006	.003	-.001
roof leakage	-.003	.002	-.014	.019	.339	.023	-.033	.022	-.019	.052	.018	-.080	.058	.079
exit door condition	.001	.010	-.002	-.005	-.007	.396	-.026	-.021	-.023	.011	.003	-.012	-.006	-.049
visual aesthetics	-.001	.034	.183	-.002	-.001	.006	.002	-.008	-.009	-.009	.003	-.005	.009	.007

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
Component Scores.

Table 1f: Rotated Component Matrix

	Component													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
availability of parking space	.986													
neighbourhood reputation	.986													
ceiling condition	.986													
operation of plumbing fitting	.986													
location & size of balcony	.986													
level of privacy in house	.986													
nearness to worship centre	.986													
rate of deterioration	.986													
no of bathroom	.986													
drainage system	.986													
nearness to children school	.986													
plumbing condition in house	.986													
storage facility	.986													
brightness of light in house in the day	.986													
refuse disposal system	.940													
landscape of streets	.922													
street design	.922													
easiness of maintenance of house	.922													
security level in the neighbourhood	.922													
aesthetical appearance	.882													
erosion effect	.882													
source of water	.882													
nearness to work place	.829													
toilet design		.981												
louvers window		.981												
play ground		.981												
emergency/escape route		.981												
nearness to recreation facility		.802												
quality of materials used in floor			.847											
security system in the house			.815											
cost & effort for keeping house up			.815											
visual aesthetics			.815											
water pollution			.791											
adequacy of on-street bays				.936										
availability of public transport				.936										
nearness to police				.925										
private space				.925										
roof leakage					.836									
nearness to market					.836									
noise & position of electrical fire wood					-.513					.485				
exit door condition					.438									
getting value for money						.899								
quality of materials used in wall						.899								
size of room							.832							
quality of building material							.636							
ceiling height							-.529							
nearness to medical facilities							.490							
good location of building								.953						
good site layout								.953						
nearness to fire service									.947					
operation of electrical fitting									.947					
floorplan of dwelling										-.792				
condition of road										.724				
quality of paint											.786			
street light											-.767			
open spaces, parks											-.504			
no of toilet												.831		
kitchen design												.724		
bathroom design												.430		
performance of foundation													.698	
street light													-.583	
indoor air quality													.575	
noise pollution														.744
location of rooms														.576
building setback to fence														.432

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 18 iterations.

Appendix 2: Analysis of Variance (ANOVA) used in testing Hypotheses two

One way

Table 2a: Descriptives

aggsatif

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	Between-Component Variance
					Lower Bound	Upper Bound			
low	825	-.5664	3.36196	.11705	-.7961	-.3366	-9.60	10.82	
medium	480	1.0517	3.54762	.16193	.7336	1.3699	-7.50	11.05	
high	255	-.1473	3.17774	.19900	-.5392	.2446	-7.96	10.81	
Total	1560	.0000	3.46410	.08771	-.1720	.1720	-9.60	11.05	
Model			3.39130	.08586	-.1684	.1684			
Fixed Effects				.58429	-2.5140	2.5140			.83281
Random Effects									

Table 2b: Test of Homogeneity of Variances

aggsatif

Levene Statistic	df1	df2	Sig.
3.320	2	1557	.036

Table 2c: ANOVA

aggsatif

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	801.121	2	400.561	34.829	.000
Within Groups	17906.879	1557	11.501		
Total	18708.000	1559			

Table 2d: Robust Tests of Equality of Means

aggsatif

	Statistic ^a	df1	df2	Sig.
Welch	32.952	2	673.478	.000

a. Asymptotically F distributed.

Table 2e Post Hoc Tests

Multiple Comparisons							
Dependent Variable: aggsatif							
		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
(I) income	(J) income				Lower Bound	Upper Bound	
Tukey HSD	low	medium	-1.61810 *	.19468	.000	-2.0748	-1.1614
		high	-.41905	.24299	.196	-.9891	.1510
	medium	low	1.61810 *	.19468	.000	1.1614	2.0748
		high	1.19906 *	.26280	.000	.5825	1.8156
	high	low	.41905	.24299	.196	-.1510	.9891
		medium	-1.19906 *	.26280	.000	-1.8156	-.5825
Scheffe	low	medium	-1.61810 *	.19468	.000	-2.0951	-1.1411
		high	-.41905	.24299	.226	-1.0144	.1763
	medium	low	1.61810 *	.19468	.000	1.1411	2.0951
		high	1.19906 *	.26280	.000	.5552	1.8429
	high	low	.41905	.24299	.226	-.1763	1.0144
		medium	-1.19906 *	.26280	.000	-1.8429	-.5552

*. The mean difference is significant at the .05 level.

Table 2f: Homogeneous Subsets

aggsatif					
income			N	Subset for alpha = .05	
				1	2
Tukey HSD	a,b	low	825	-.5664	
		high	255	-.1473	
		medium	480		1.0517
		Sig.		.176	1.000
Duncan	a,b	low	825	-.5664	
		high	255	-.1473	
		medium	480		1.0517
		Sig.		.075	1.000
Scheffe	a,b	low	825	-.5664	
		high	255	-.1473	
		medium	480		1.0517
		Sig.		.205	1.000

Means for groups in homogeneous subsets are displayed.

- Uses Harmonic Mean Sample Size = 415.684.
- The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Appendix 2A: Principal Components Analysis (PCA) Factors used for testing of hypothesis three (Low income)

Table 1: Communalities

	Initial	Extraction
no of room	1.000	.993
ceiling height	1.000	.824
performance of foundatn	1.000	.767
no & positr of electrical	1.000	.824
floorplan of dwellg	1.000	.834
street design	1.000	.991
toilet design	1.000	.772
bathroom design	1.000	.754
fire wood	1.000	.708
no of bathroom	1.000	.993
kitchen design	1.000	.768
no of toilet	1.000	.690
operation of elec fitting	1.000	.438
quakity of paint	1.000	.730
quality of mtr used in wall	1.000	.789
operation of plumbing fittg	1.000	.777
quality of building materi	1.000	.713
qual of mats used in floor	1.000	.943
location & siaxe of balcony	1.000	.805
brightness of light in hse in the day	1.000	.993
indoor air quality	1.000	.746
noise pollution	1.000	.747
water pollution	1.000	.861
landscape of streets	1.000	.991
lowers window	1.000	.957
source of water	1.000	.984
drainage system	1.000	.837
refuse disposal system	1.000	.993
street light	1.000	.754
location of rooms	1.000	.761
availaibility of parking space	1.000	.993
level of privacy in house	1.000	.752
open spaces, parks	1.000	.763
building setback to fence	1.000	.704
security system in the house	1.000	.879
security level in the neighb	1.000	.991
emergency/escape route	1.000	.867
aesthetical apperance	1.000	.868
adequ of on-stree bays	1.000	.880
nearness to police	1.000	.877
nearness to medical facilities	1.000	.692
nearness tio fire service	1.000	.731
nearness to worship centre	1.000	.993
nearness to children school	1.000	.993
nearne to market	1.000	.672
getting value for money	1.000	.733
cost & effort for keeping house up	1.000	.835
easiness of maintenance of hse	1.000	.991
nearness to recreatrn facilit	1.000	.792
nearnsee to work place	1.000	.754
rate of deterioration	1.000	.814
neighbourhood reputation	1.000	.856
street light	1.000	.763
condtion of road	1.000	.670
plumbing condition in house	1.000	.847
playground	1.000	.898
public transport	1.000	.837
private space	1.000	.704
big location	1.000	.601
good location	1.000	.783
ceilingg	1.000	.781
storagee	1.000	.850
leaking roof	1.000	.435
visual aesthetics	1.000	.751
exist doors	1.000	.735
erosion	1.000	.706

Extraction Method: Principal Component Analysis.

Table 2: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	15.382	23.306	23.306	15.382	23.306	23.306	14.440	21.879	21.879
2	5.807	8.799	32.104	5.807	8.799	32.104	5.246	7.948	29.828
3	5.052	7.654	39.759	5.052	7.654	39.759	4.390	6.652	36.480
4	4.375	6.629	46.388	4.375	6.629	46.388	3.561	5.396	41.876
5	3.688	5.588	51.976	3.688	5.588	51.976	3.535	5.356	47.231
6	3.186	4.827	56.803	3.186	4.827	56.803	3.128	4.740	51.971
7	2.893	4.384	61.187	2.893	4.384	61.187	3.053	4.625	56.597
8	2.375	3.599	64.785	2.375	3.599	64.785	2.505	3.796	60.393
9	2.217	3.360	68.145	2.217	3.360	68.145	2.351	3.562	63.955
10	1.949	2.953	71.098	1.949	2.953	71.098	2.207	3.344	67.299
11	1.661	2.516	73.614	1.661	2.516	73.614	2.172	3.291	70.590
12	1.438	2.179	75.793	1.438	2.179	75.793	2.088	3.163	73.753
13	1.267	1.920	77.713	1.267	1.920	77.713	1.695	2.568	76.321
14	1.227	1.858	79.571	1.227	1.858	79.571	1.592	2.413	78.734
15	1.012	1.533	81.105	1.012	1.533	81.105	1.565	2.371	81.105
16	.965	1.462	82.567						
17	.885	1.341	83.908						
18	.809	1.226	85.134						
19	.740	1.122	86.256						
20	.712	1.079	87.335						
21	.691	1.046	88.382						
22	.596	.904	89.285						
23	.549	.831	90.116						
24	.475	.720	90.836						
25	.450	.682	91.519						
26	.402	.609	92.128						
27	.391	.592	92.720						
28	.365	.552	93.272						
29	.344	.521	93.793						
30	.322	.488	94.281						
31	.295	.447	94.728						
32	.281	.426	95.154						
33	.264	.400	95.554						
34	.249	.377	95.930						
35	.226	.343	96.273						
36	.223	.338	96.612						
37	.212	.321	96.932						
38	.204	.309	97.241						
39	.186	.281	97.523						
40	.170	.258	97.780						
41	.163	.247	98.027						
42	.150	.227	98.255						
43	.144	.219	98.473						
44	.134	.203	98.676						
45	.129	.196	98.872						
46	.123	.186	99.059						
47	.106	.161	99.220						
48	.095	.143	99.363						
49	.092	.139	99.503						
50	.083	.125	99.628						
51	.070	.107	99.735						
52	.056	.084	99.819						
53	.050	.076	99.895						
54	.034	.051	99.947						
55	.032	.049	99.996						
56	.003	.004	100.000						
57	1.42E-016	2.15E-016	100.000						
58	9.68E-017	1.47E-016	100.000						
59	2.50E-017	3.79E-017	100.000						
60	4.97E-018	7.52E-018	100.000						
61	-1.6E-017	-2.46E-017	100.000						
62	-4.2E-017	-6.39E-017	100.000						
63	-7.6E-017	-1.15E-016	100.000						
64	-1.0E-016	-1.51E-016	100.000						
65	-2.3E-016	-3.55E-016	100.000						
66	-5.5E-016	-8.27E-016	100.000						

Extraction Method: Principal Component Analysis.

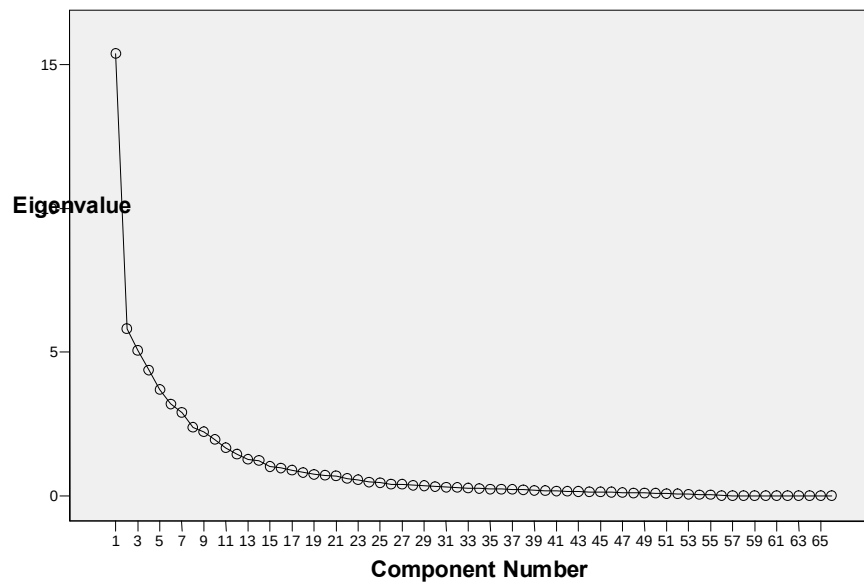
Fig 2: Scree Plot

Table 3: Component Matrix

	Component														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
no of room	-.977														
no of bathroom	.977														
brightness of light in hse	.977														
in the day	.977														
refuse disposal system	.977														
nearness to worship	.977														
centre	.977														
nearness to children	.977														
school	.977														
availability of parking	.977														
space	.977														
street design	.871														
easiness of maintenance	.871														
of hse	.871														
security level in the	.871														
neighb	.871														
landscape of streets	.871														
source of water	.843														
neighbourhood reputation	.771														
nearness to work place	.668														
operation of plumbing fitting	.667														
drainage system	.568														
aesthetical appearance	.568														
location & size of	.541														
balcony	.536														
rate of deterioration	.535														
level of privacy in house	.499														
quality of building material															
playground		-.625													
emergency/escape route		.591	.570												
toilet design		.585	.520												
storage		.574													
private space		.512													
location of rooms															
public transport															
building setback to fence															
louvers window		.583	.673												
nearness to recreation facility		.507	.627												
floorplan of dwelling			.554												
quality of mtr used in wall															
fire wood															
erosion				-.659											
water pollution			.502	.603											
quality of materials used in				.559	.504										
floor		-.494													
exist doors				-.552											
cost & effort for keeping			.524	.525											
house up				-.508											
visual aesthetics															
street light															
leaking roof															
ceiling height					.533										
plumbing condition in															
house															
no & position of electrical						.797									
good location						.707									
open spaces, parks						.491									
ceiling															
security system in the															
house															
adequacy of on-street bays															
noise pollution							.632								
getting value for money							.545								
quality of paint															
big location								-.537							
condition of road															
bathroom design															
operation of electrical fitting															
nearness to market															
nearness to medical															
facilities															
no of toilet															
nearness to police															
kitchen design															
performance of foundation															
nearness to fire service															
street light															
indoor air quality															

Extraction Method: Principal Component Analysis.
a. 15 components extracted.

Table 4: Rotated Component Matrix

	Component														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
no of room	-.976														
no of bathroom	.976														
refuse disposal system	.976														
brightness of light in hse in the day	.976														
nearness to worship centre	.976														
nearness to children school	.976														
availaibility of parking space	.976														
easiness of maintenance of hse	.935														
street design	.935														
security level in the neighb	.935														
landscape of streets	.935														
source of water	.866														
neighbourhood reputation	.706														
nearness to work place	.655														
operation of plumbing fitting	.593							.540							
rate of deterioration															
louvers window		.955													
nearness to recreatn facility		.881													
emergy/escape route		.849													
toilet design		.791													
water pollution		.656	-.598												
cost & effort for keeping house up		.611	-.584												
leaking roof															
qual of mats used in floor			-.904												
playground			-.876												
storage			.759												
erosion			.624			.499									
drainage system				.633											
building setback to fence				.628											
aesthetical appearance				.609											
getting value for money				.566											
security system in the house				.552		.547									
location of rooms				.530											
level of privacy in house				.522											
street light															
street light															
ceiling height					.845										
public transport					.840										
quality of mtr used in wall					.641										
private space					.545										
nearness to fire service															
exist doors						.744									
plumbing condition in house						.674									
visual aesthetics						.501									
good location							.826								
no & positi of electrical							.816								
floorplan of dwellg							.669								
ceilingg							.654								
bathroom design								.621							
big location								-.608							
location & siaxe of balcony								.606							
quality of building materil															
quakity of paint									-.792						
noise pollution									.767						
condion of road									.571						
nearness to medical facilities										.756					
kitchen design										.710					
nearness to police											.836				
adequ of on-stree bays											.814				
nearne to market												.733			
operation of elec fitting												-.569			
no of toilet													.757		
fire wood															
performance of foundatn														.813	
indoor air quality															.769
open spaces, parks															

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 17 iterations.

Table 5: Component Transformation Matrix

Component	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	.956	.145	-.068	.165	.046	.040	.045	.122	-.006	.031	.092	.012	-.038	-.012	.028
2	-.187	.537	.475	.431	.381	.046	-.013	.090	.042	.207	.200	-.010	-.114	.012	.113
3	-.043	.723	-.101	-.277	-.347	.283	.255	-.060	-.150	-.179	-.139	.119	.133	-.005	-.119
4	-.140	.294	-.641	.320	-.196	-.476	-.142	.084	.187	.060	.182	-.085	-.024	.057	.075
5	-.038	.011	-.495	-.083	.567	.289	.270	-.287	.078	.339	-.152	.114	-.061	.146	.061
6	-.085	-.176	-.002	.236	-.218	.041	.768	.301	-.013	.095	-.074	-.270	-.097	-.161	.230
7	-.102	-.191	-.199	.456	-.096	.392	-.038	-.051	-.487	-.230	.364	.336	-.029	.046	-.022
8	-.084	-.021	-.173	-.019	.028	.455	-.305	.638	.270	.144	-.078	.062	.227	-.315	-.020
9	.035	-.085	.159	.233	-.332	.143	.031	-.230	.538	.047	-.123	.392	.241	.320	.326
10	.002	-.020	.064	-.004	.013	-.406	.095	.261	-.389	.399	-.249	.553	.265	.032	-.067
11	.023	-.037	.043	-.088	-.113	.014	.103	-.324	.029	.403	.531	-.132	.517	-.337	-.127
12	-.033	-.037	.012	-.150	.243	-.179	.358	.198	.389	-.378	.380	.399	-.034	-.029	-.343
13	.007	.047	-.055	.025	.345	-.150	.022	-.047	-.111	-.485	-.106	-.036	.511	-.244	.519
14	-.010	-.037	.006	.078	.108	.058	.069	.234	-.067	-.066	.033	-.368	.474	.688	-.275
15	-.015	.016	-.001	-.495	-.048	.026	-.033	.249	-.122	.127	.464	.056	-.143	.314	.565

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Table 6: PCA Analysis for Low-Income Groups

Coding	Component names and variables	Loading
	Architectural and Facilities	
VAR-1	Numbers of bedrooms	-.976
VAR-12	Numbers of bathroom	.976
VAR-28	Refuse disposal system	.976
VAR-20	Day lighting of the house	.976
VAR-43	Nearness to Place of worship	.976
VAR-44	Nearness to children school	.976
VAR-31	Availability of parking space	.976
VAR-47	Cost and effort of house up keep	.935
VAR-7	Street design	.935
VAR-35	Security level of the house	.935
VAR-24	Landscape of street	.935
VAR-26	Source of water	.866
VAR-52	Neighbourhood reputation	.706
VAR-50	Nearness to place of work	.655
VAR-16	Operation of plumbing fitting	.593
2)	Convenience and Recreational	
VAR-25	Window materials	-.955
VAR-49	Nearness to recreational facilities	.881
VAR-37	Emergency escape route from the house	.849
VAR-8	Toilet design	.791
3)	Housing Amenities and Aesthetics	
VAR-63	Leaking roof	.937
VAR-18	Quality of materials use in flooring	-.904
VAR-56	Play ground	.876
VAR-62	Storage Facility	.759
VAR-57	Erosion effect	.642
4)	Facilities and Security	
VAR-3	Size of bedroom	.813
VAR-27	Drainage system	.663
VAR-34	Building setbacks from fence	.628
VAR-38	Aesthetical of housing	.609

VAR-46	Getting Value for money on housing	.561
VAR-30	Location of bed rooms	.530
VAR-32	Level of privacy in the house	.522
VAR-29	Street lighting	-.528
5)	Public Facilities	
VAR-2	Height of ceiling	.845
VAR-15	Quality of wall materials	.840
VAR-45	Rate of deterioration	.641
VAR-42	Nearness to Fire Service Station	.545
6)	Community Facility and Comfort	
VAR-11	Gas Kitchen design	.836
VAR-40	Nearness to Police Station	.814
VAR-64	Exit door condition	.774
VAR-55	Condition of plumbing in the house	.674
VAR-65	Visual aesthetics of neighbourhood	.501
7)	Housing design	
VAR-59	Good Location of building	.826
VAR-19	Location and sizes of balcony	.816
VAR-5	Number/position of electrical points	.669
VAR-6	Floor plan of the dwelling	.654
8)	Functional Housing Amenities	
VAR-60	Site layout	.783
VAR-61	Condition of ceiling	.621
VAR-9	Bathroom design	.608
VAR-53	Building location	.606
9)	Conducive Factor	
VAR-17	Quality of building materials	-.792
VAR-14	Quality of paint	.767
VAR-22	Noise pollution	.571
10)	Ease of Movement/ and Leisure	
VAR-54	Condition of roads	.756
VAR-41	Nearness to medical center	.710
VAR-39	Availability of on street bay	.730
11)	Community Facility and Comfort	
VAR-13	Operation of electrical fitting	.733
VAR-45	Nearness to market	.591
12)	Structural Stability and Facilities	
VAR-12	Numbers of Toilet	.733
VAR-10	Fire wood kitchen	-.569
13)	Insignificant	
VAR-4	Performance of foundation	.757
14)	Insignificant	
VAR-38	Indoor Air Quality	.813
15)	Insignificant	
VAR-33	Open spaces for recreation	.769

Source: Researchers's Field Work- 2013

Appendix 2B: Principal Components Analysis (PCA) Factors used for testing of hypothesis three (Medium income)

Table 1: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	16.134	24.446	24.446	16.134	24.446	24.446	15.451	23.411	23.411
2	6.563	9.944	34.390	6.563	9.944	34.390	6.130	9.288	32.700
3	5.802	8.791	43.181	5.802	8.791	43.181	5.067	7.678	40.377
4	4.191	6.349	49.530	4.191	6.349	49.530	3.716	5.630	46.007
5	3.842	5.821	55.351	3.842	5.821	55.351	3.634	5.506	51.513
6	3.067	4.647	59.998	3.067	4.647	59.998	2.898	4.391	55.904
7	2.879	4.362	64.361	2.879	4.362	64.361	2.870	4.349	60.253
8	2.364	3.581	67.942	2.364	3.581	67.942	2.592	3.927	64.180
9	2.065	3.128	71.070	2.065	3.128	71.070	2.573	3.898	68.078
10	1.828	2.770	73.840	1.828	2.770	73.840	2.267	3.435	71.513
11	1.740	2.637	76.477	1.740	2.637	76.477	2.234	3.385	74.898
12	1.395	2.114	78.591	1.395	2.114	78.591	1.782	2.700	77.598
13	1.151	1.744	80.334	1.151	1.744	80.334	1.465	2.220	79.818
14	1.086	1.645	81.980	1.086	1.645	81.980	1.427	2.161	81.980
15	.925	1.401	83.381						
16	.894	1.355	84.736						
17	.758	1.149	85.885						
18	.716	1.084	86.969						
19	.642	.973	87.942						
20	.610	.924	88.866						
21	.562	.851	89.717						
22	.525	.795	90.512						
23	.492	.745	91.257						
24	.435	.659	91.916						
25	.405	.613	92.530						
26	.388	.588	93.118						
27	.371	.562	93.680						
28	.336	.509	94.189						
29	.307	.465	94.654						
30	.283	.428	95.082						
31	.270	.409	95.491						
32	.258	.391	95.882						
33	.239	.362	96.243						
34	.234	.354	96.598						
35	.222	.337	96.935						
36	.200	.303	97.238						
37	.192	.290	97.528						
38	.181	.274	97.802						
39	.163	.246	98.049						
40	.148	.224	98.273						
41	.146	.221	98.493						
42	.129	.195	98.689						
43	.119	.180	98.869						
44	.111	.168	99.037						
45	.104	.157	99.194						
46	.099	.150	99.344						
47	.080	.121	99.466						
48	.074	.112	99.577						
49	.059	.089	99.666						
50	.053	.080	99.747						
51	.051	.077	99.824						
52	.042	.064	99.888						
53	.024	.036	99.924						
54	.020	.030	99.954						
55	.018	.028	99.982						
56	.012	.018	100.000						
57	4.52E-016	6.85E-016	100.000						
58	2.22E-016	3.36E-016	100.000						
59	1.54E-016	2.33E-016	100.000						
60	3.41E-017	5.17E-017	100.000						
61	1.74E-017	2.63E-017	100.000						
62	-2.0E-016	-2.99E-016	100.000						
63	-2.1E-016	-3.20E-016	100.000						
64	-2.7E-016	-4.03E-016	100.000						
65	-1.4E-015	-2.14E-015	100.000						
66	-1.9E-015	-2.88E-015	100.000						

Extraction Method: Principal Component Analysis.

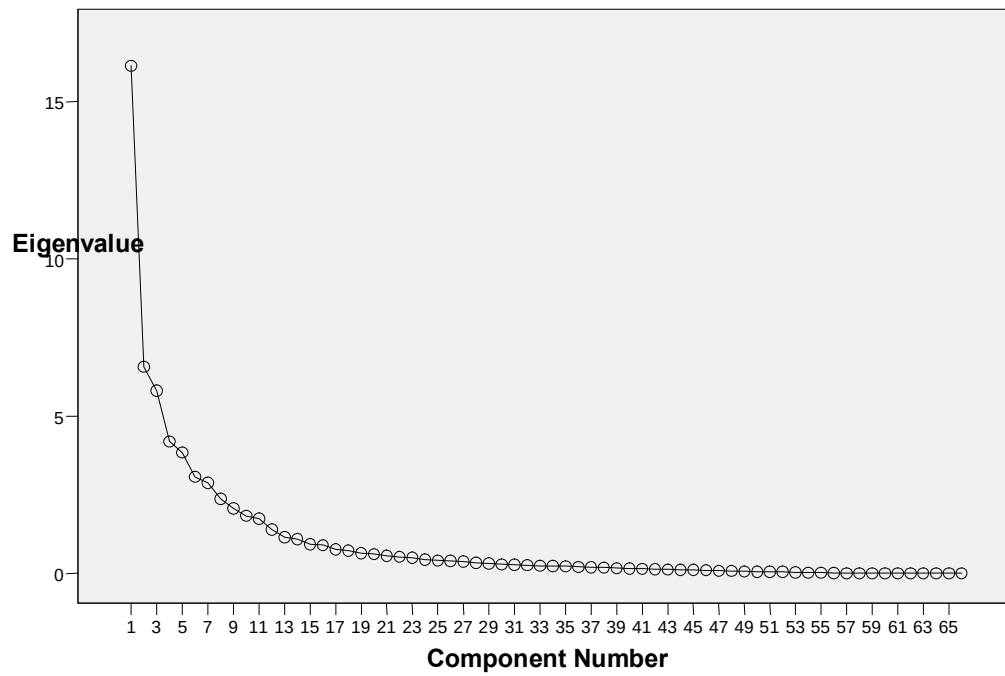
Fig 3: Scree Plot

Table 2: Rotated Component Matrix

	Component													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
VAR00017	.978													
VAR00020	.978													
VAR00001	-.978													
VAR00021	.978													
VAR00037	.935													
VAR00007	.935													
VAR00025	.927													
VAR00052	.927													
VAR00011	.895													
VAR00027	.860													
VAR00049	.830													
VAR00044	.742													
VAR00028	.739													
VAR00033	.738													
VAR00039	.691		.526											
VAR00032	.625		.600											
VAR00053	.580					-.522								
VAR00009	.578													
VAR00029	.577													
VAR00056	.562													
VAR00051	.518										.551			
VAR00018	.496													
VAR00038		.978												
VAR00008		.978												
VAR00026		.961												
VAR00050		.862												
VAR00031			.911											
VAR00059			.700											
VAR00057			-.691											
VAR00016			.626											
VAR00003			.578											
VAR00014														
VAR00019				.888										
VAR00024		.603		.730										
VAR00036		.603		.730										
VAR00063				-.705										
VAR00048		.543		.548										
VAR00064					.825									
VAR00005					.742									
VAR00061					.716									
VAR00062					.693									
VAR00006					.659									
VAR00034						.643								
VAR00065						-.615								
VAR00010	.537					.568								
VAR00023							.899							
VAR00041							.889							
VAR00040							.540							
VAR00054														
VAR00004								.814						
VAR00060								.789						
VAR00022								.684						
VAR00015								.617						
VAR00012									.854					
VAR00013									.809					
VAR00058										.768				
VAR00002										.748				
VAR00035										-.521				
VAR00030											.886			
VAR00055												.805		
VAR00047												.612		
VAR00046												.492		
VAR00043													.628	
VAR00042													.539	
VAR00045	.576													.597
VAR00066														

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
 a. Rotation converged in 25 iterations.

Table 3: Component Matrix

	Component													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
VAR00017	.983													
VAR00020	.983													
VAR00001	-.983													
VAR00021	.983													
VAR00052	.918													
VAR00027	.876													
VAR00011	.866													
VAR00037	.853													
VAR00007	.853													
VAR00025	.853													
VAR00033	.802													
VAR00028	.794													
VAR00039	.766													
VAR00049	.761													
VAR00044	.726						.485							
VAR00032	.718													
VAR00009	.614													
VAR00045	.609													.538
VAR00056	.602													
VAR00029	.589													
VAR00053	.582													
VAR00010	.551						-.536							
VAR00051	.548													
VAR00018	.489													
VAR00057		-.669												
VAR00031		.663												
VAR00059		.661												
VAR00023		.594												
VAR00065		.572	-.496											
VAR00003		.540												
VAR00016		.521												
VAR00038			.811											
VAR00008			.811											
VAR00026		.491	.788											
VAR00050			.713											
VAR00036			.643		.568									
VAR00024			.643		.568									
VAR00064														
VAR00006				-.712										
VAR00005				-.677										
VAR00061				-.628										
VAR00034				-.608		.484								
VAR00062				-.594										
VAR00015				.507										
VAR00046														
VAR00019					.814									
VAR00063					-.631									
VAR00066					-.578									
VAR00048					.573									
VAR00041						.620								
VAR00040						.613								
VAR00012						.596								
VAR00013														
VAR00014														
VAR00022								.626						
VAR00060								.610						
VAR00054								-.597						
VAR00004								.574						
VAR00030									-.559					
VAR00043									.531					
VAR00047														
VAR00002														
VAR00058														
VAR00055												.484		
VAR00035														
VAR00042														

Extraction Method: Principal Component Analysis.

a. 14 components extracted.

Table 4: Component Transformation Matrix

Component	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	.968	.172	.132	.045	.033	-.011	.065	.002	.027	.023	.064	.031	.031	.042
2	-.179	.457	.710	-.126	.164	.283	-.208	-.156	.142	.169	.067	.090	.035	.044
3	-.119	.851	-.308	.172	-.037	-.260	.154	.088	-.150	-.099	-.008	-.047	-.038	-.012
4	-.023	.012	.266	-.111	-.783	-.102	.232	.285	-.033	.284	-.220	.014	.150	.069
5	-.073	-.081	.122	.876	-.074	.018	.123	-.056	.386	.010	.056	.032	.038	.166
6	-.075	-.015	-.021	-.277	.326	-.146	.625	.252	.462	.215	.225	.153	-.022	.027
7	.024	.059	-.241	.079	.102	.681	.123	.243	-.161	.373	-.161	-.231	-.253	.274
8	.007	-.037	.191	.122	.299	-.206	-.323	.766	.039	-.052	-.222	-.214	.084	-.134
9	-.011	-.056	.119	.123	.323	-.045	.314	-.142	-.336	.033	-.648	.405	.207	-.031
10	-.039	-.055	-.036	.184	.031	.057	-.074	.226	-.464	.298	.572	.424	.270	-.124
11	-.047	-.065	.342	.025	-.022	.207	.434	.162	-.333	-.645	.224	-.177	-.079	.057
12	.034	.093	-.161	-.033	-.200	.399	-.104	.236	.302	-.340	-.125	.576	-.166	-.339
13	.002	.073	-.175	-.048	.008	.324	.087	-.056	.175	-.091	-.017	-.292	.819	-.225
14	-.018	.022	-.122	-.152	.012	-.023	-.196	.131	.071	-.250	.001	.269	.282	.828

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Table 5: PCA Analysis for Medium-Income Groups

Coding	Component Names and Variables	Loading
1)	Building Materials/ Neighbourhood Facilities	
VAR-17	Quality of building materials	.978
VAR-20	Day lighting of the house	.978
VAR-1	Numbers of bedrooms	-.978
VAR-21	Indoor air quality	.978
VAR-37	Emergency escape route from the house	.935
VAR-7	Street design	.935
VAR-25	Window materials	.935
VAR-52	Neighbourhood reputation	.927
VAR-11	Gas Kitchen design	.895
VAR-27	Drainage system	.860
VAR-49	Nearness to recreational facilities	.830
VAR-44	Nearness to children school	.742
VAR-28	Open spaces for recreation	.739
VAR-33	Refuse disposal system	.738
VAR-9	Bathroom design	.578
VAR-29	Quality of paint	.577
VAR-56	Street lighting	.562
VAR-51	Play ground	.518
VAR-18	Quality of materials use in flooring	.496
2)	Public/Housing Facilities	
VAR-38	Aesthetical of housing	.978
VAR-8	Toilet design	.978
VAR-26	Source of water	.961
VAR-50	Nearness to place of work	.862
3)	Privacy and Comfort	
VAR-31	Availability of parking space	.911
VAR-14	Location and sizes of balcony	.816
VAR-59	Location of building	.700
VAR-57	Erosion effect	-.691
VAR-16	Operation of plumbing fitting	.626
VAR-3	Size of bedroom	.578

4)	Housing Conditions and Aesthetics	
VAR-19	Landscape of street	.888
VAR-63	Leaking roof	-.705
VAR-64	Exit door condition	.543,
5)	Housing Design and Materials	
VAR-5	Number/position of electrical points	.825
VAR-61	Condition of ceiling	.742
VAR-62	Storage Facility	.716
VAR-6	Floor plan of the dwelling	.693
VAR-34	Building setbacks from fence	.659
6)	Conducive Factor	
VAR-65	Visual aesthetics of neighbourhood	.643
VAR-23	Water pollution	.568
7)	Community Facility	
VAR-41	Nearness to Police Station	.899
VAR-40	Nearness to medical center	.889
VAR-54	Condition of roads	.540
8)	Structural Stability/Facilities	
VAR-4	Performance of foundation	.814
VAR-60	Site layout	.789
VAR-22	Noise pollution	.684
VAR-15	Quality of wall materials	.617
9)	Functional Housing Amenities	
VAR-12	Numbers of Toilet	.854
VAR-13	Operation of electrical fitting	.809
10)	Ease of Movement and Protection	
VAR-58	Availability of public transport	.768
VAR-2	Height of ceiling	.748
VAR-35	Security level of the house	-.521
11)	(Single Variable -Insignificant)	
VAR-30	Location of bed rooms	.886
12)	Cost of House Maintenance	
VAR-55	Condition of plumbing in the house	.805
VAR-47	Cost and effort of house up keep	.612
VAR-46	Getting value for money spent on housing	.492
13)	Proximity to Public Facilities	
VAR-43	Nearness to Fire Service Station	.628
VAR-42	Nearness to market	.539
14)	(Single Variable -Insignificant)	
VAR-66	Quality of building materials	.597

Source: Researchers's Field Work- 2013

Appendix 2C: Principal Components Analysis (PCA) Factors used for testing of hypothesis three (High income)

Table 1: Communalities

	Initial	Extraction
VAR00001	1.000	.997
VAR00002	1.000	.882
VAR00003	1.000	.757
VAR00004	1.000	.882
VAR00005	1.000	.745
VAR00006	1.000	.867
VAR00007	1.000	.843
VAR00008	1.000	.813
VAR00009	1.000	.848
VAR00010	1.000	.844
VAR00011	1.000	.713
VAR00012	1.000	.853
VAR00013	1.000	.808
VAR00014	1.000	.709
VAR00015	1.000	.744
VAR00016	1.000	.898
VAR00017	1.000	.997
VAR00018	1.000	.624
VAR00019	1.000	.827
VAR00020	1.000	.887
VAR00021	1.000	.919
VAR00022	1.000	.519
VAR00023	1.000	.842
VAR00024	1.000	.983
VAR00025	1.000	.991
VAR00026	1.000	.966
VAR00027	1.000	.863
VAR00028	1.000	.997
VAR00029	1.000	.997
VAR00030	1.000	.723
VAR00031	1.000	.736
VAR00032	1.000	.997
VAR00033	1.000	.997
VAR00034	1.000	.803
VAR00035	1.000	.753
VAR00036	1.000	.983
VAR00037	1.000	.991
VAR00038	1.000	.887
VAR00039	1.000	.827
VAR00040	1.000	.837
VAR00041	1.000	.860
VAR00042	1.000	.655
VAR00043	1.000	.702
VAR00044	1.000	.872
VAR00045	1.000	.997
VAR00046	1.000	.569
VAR00047	1.000	.742
VAR00048	1.000	.983
VAR00049	1.000	.991
VAR00050	1.000	.547
VAR00051	1.000	.886
VAR00052	1.000	.851
VAR00053	1.000	.997
VAR00054	1.000	.898
VAR00055	1.000	.766
VAR00056	1.000	.997
VAR00057	1.000	.778
VAR00058	1.000	.784
VAR00059	1.000	.774
VAR00060	1.000	.887
VAR00061	1.000	.785
VAR00062	1.000	.831
VAR00063	1.000	.879
VAR00064	1.000	.749
VAR00065	1.000	.824
VAR00066	1.000	.778

Extraction Method: Principal Component Analysis.

Table 2: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	15.101	22.880	22.880	15.101	22.880	22.880	13.512	20.473	20.473
2	11.308	17.134	40.014	11.308	17.134	40.014	9.775	14.811	35.284
3	5.270	7.985	47.999	5.270	7.985	47.999	4.730	7.166	42.450
4	4.297	6.511	54.511	4.297	6.511	54.511	4.519	6.847	49.297
5	4.171	6.320	60.831	4.171	6.320	60.831	4.211	6.380	55.678
6	3.622	5.487	66.318	3.622	5.487	66.318	3.757	5.693	61.370
7	3.048	4.618	70.936	3.048	4.618	70.936	3.130	4.742	66.113
8	2.281	3.455	74.391	2.281	3.455	74.391	3.070	4.651	70.764
9	2.076	3.145	77.536	2.076	3.145	77.536	2.599	3.938	74.701
10	1.732	2.624	80.160	1.732	2.624	80.160	2.241	3.395	78.097
11	1.444	2.188	82.348	1.444	2.188	82.348	2.124	3.218	81.315
12	1.188	1.799	84.148	1.188	1.799	84.148	1.870	2.833	84.148
13	.938	1.421	85.569						
14	.728	1.104	86.673						
15	.696	1.055	87.727						
16	.650	.985	88.713						
17	.544	.825	89.537						
18	.525	.795	90.333						
19	.485	.734	91.067						
20	.428	.649	91.716						
21	.393	.596	92.312						
22	.372	.564	92.876						
23	.356	.540	93.415						
24	.339	.514	93.930						
25	.322	.487	94.417						
26	.299	.453	94.870						
27	.263	.399	95.269						
28	.261	.395	95.664						
29	.246	.372	96.037						
30	.233	.353	96.389						
31	.222	.337	96.726						
32	.193	.293	97.019						
33	.180	.273	97.292						
34	.164	.249	97.541						
35	.157	.238	97.778						
36	.138	.209	97.987						
37	.132	.199	98.187						
38	.131	.198	98.385						
39	.116	.176	98.561						
40	.116	.176	98.736						
41	.111	.168	98.904						
42	.102	.155	99.059						
43	.094	.142	99.200						
44	.087	.131	99.332						
45	.076	.116	99.447						
46	.075	.114	99.562						
47	.070	.106	99.668						
48	.056	.085	99.752						
49	.052	.079	99.831						
50	.040	.061	99.893						
51	.038	.057	99.949						
52	.022	.033	99.983						
53	.011	.017	100.000						
54	1.97E-015	2.99E-015	100.000						
55	1.40E-016	2.12E-016	100.000						
56	6.41E-017	9.72E-017	100.000						
57	5.22E-017	7.91E-017	100.000						
58	2.70E-017	4.09E-017	100.000						
59	6.60E-018	1.00E-017	100.000						
60	-2.7E-017	-4.06E-017	100.000						
61	-4.8E-017	-7.27E-017	100.000						
62	-5.6E-017	-8.44E-017	100.000						
63	-8.7E-017	-1.32E-016	100.000						
64	-2.0E-016	-3.10E-016	100.000						
65	-5.7E-016	-8.68E-016	100.000						
66	-9.7E-016	-1.47E-015	100.000						

Extraction Method: Principal Component Analysis.

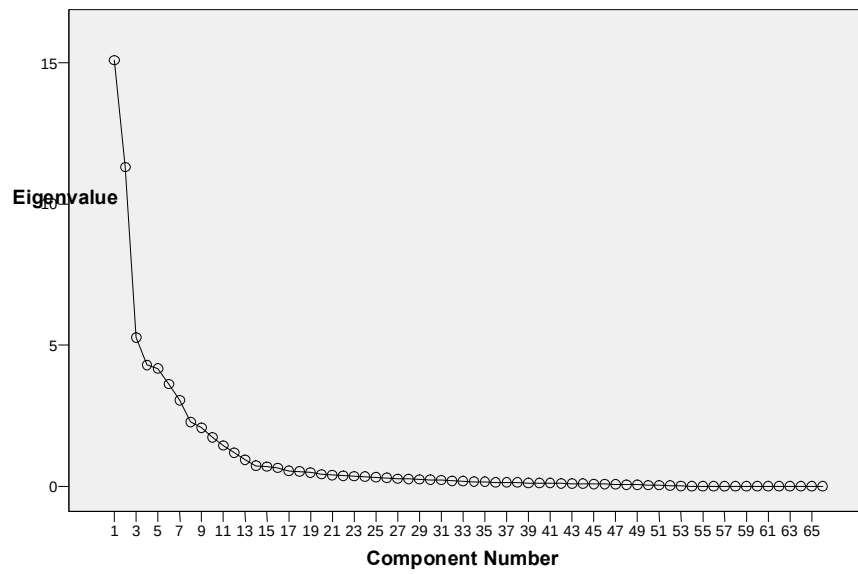
Fig 2: Scree Plot

Table 3: Component Matrix

	Component											
	1	2	3	4	5	6	7	8	9	10	11	12
VAR00053	.872											
VAR00017	.872											
VAR00029	.872											
VAR00001	-.872											
VAR00045	.872											
VAR00028	.872											
VAR00032	.872											
VAR00056	.872											
VAR00033	.872											
VAR00007	.777											
VAR00025	.769											
VAR00049	.769											
VAR00037	.769											
VAR00027	.677											
VAR00051	.590											
VAR00003	.589	.546										
VAR00039	.530	.519										
VAR00041	.496											
VAR00052												
VAR00064												
VAR00059		.747										
VAR00002	.550	.697										
VAR00016	.531	.667										
VAR00058		.643										
VAR00065		.634										
VAR00043		.626										
VAR00006		-.608										
VAR00062		-.591										
VAR00031		.588										
VAR00009		.534										
VAR00047		.525										
VAR00042												
VAR00023												
VAR00050												
VAR00004												
VAR00012												
VAR00044			.743									
VAR00066			.704									
VAR00010			-.625									
VAR00014			.560									
VAR00013			-.532									
VAR00015			.529									
VAR00020			-.493									
VAR00060												
VAR00026				.637	.530							
VAR00036				.598	.509							
VAR00024				.598	.509							
VAR00048				.598	.509							
VAR00038				.524								
VAR00021												
VAR00008					.542							
VAR00034												
VAR00030												
VAR00057						-.520						
VAR00011						.508						
VAR00005						-.497						
VAR00054												
VAR00019							-.647					
VAR00063							.607					
VAR00035								.497				
VAR00061												
VAR00055									.499			
VAR00040												
VAR00022												
VAR00018												
VAR00046												

Extraction Method: Principal Component Analysis.

a. 12 components extracted.

Table 4: Rotated Component Matrix

	Component											
	1	2	3	4	5	6	7	8	9	10	11	12
VAR00053	.979											
VAR00017	.979											
VAR00029	.979											
VAR00001	-.979											
VAR00028	.979											
VAR00032	.979											
VAR00045	.979											
VAR00033	.979											
VAR00056	.979											
VAR00025	.936											
VAR00049	.936											
VAR00037	.936											
VAR00027	.739											
VAR00011												
VAR00051		.842										
VAR00009		.823										
VAR00039		.819										
VAR00016		.761										
VAR00038		.742										
VAR00002		.734										
VAR00052		.727										
VAR00059		.681										
VAR00003		.675										
VAR00007	.539	.636										
VAR00043		.635										
VAR00050		.596										
VAR00042		.569										
VAR00065		.568										
VAR00005		.542										
VAR00047		.526										
VAR00064												
VAR00006			-.765									
VAR00014			.761									
VAR00062			-.749									
VAR00030			.653									
VAR00055			-.644									
VAR00036				.948								
VAR00024				.948								
VAR00048				.948								
VAR00026				.693				.668				
VAR00020					.835							
VAR00010					.782							
VAR00021					.706							
VAR00013					.601							
VAR00023					.575							
VAR00004						.883						
VAR00060						.834						
VAR00054						-.794						
VAR00057												
VAR00035							.786					
VAR00015							.593					
VAR00031							.560					
VAR00063								.803				
VAR00019								-.737				
VAR00008								.520				
VAR00061									.727			
VAR00066									.556			
VAR00046									.506			
VAR00018												
VAR00040										.819		
VAR00041										.668		
VAR00034										.550		
VAR00022											-.614	
VAR00058											.530	
VAR00012												.615
VAR00044												-.529

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
 a. Rotation converged in 14 iterations.

Table 5: Component Transformation Matrix

Component	1	2	3	4	5	6	7	8	9	10	11	12
1	.827	.462	.150	.164	.136	.082	.102	-.029	.029	.109	.054	.031
2	-.513	.705	.306	-.119	.105	.218	.165	-.016	.035	.094	.163	.096
3	.045	-.089	.594	-.123	-.508	-.349	.223	.081	.323	.158	-.155	-.181
4	-.135	.266	-.265	.680	-.377	-.368	.134	.186	-.143	-.118	.077	.092
5	-.140	-.263	.288	.611	.407	.263	.009	.254	.258	.242	-.112	-.135
6	.001	-.093	.027	-.194	.481	-.450	.524	.333	-.246	.024	-.102	.250
7	.083	.064	-.235	-.221	-.147	.298	.082	.757	.318	-.269	.101	-.106
8	-.009	-.133	-.271	.072	-.062	.250	.709	-.425	.370	-.111	.004	.064
9	-.065	.236	-.462	-.108	.198	-.353	-.092	-.043	.376	.456	-.098	-.428
10	-.033	.225	.006	.030	.102	-.043	-.156	-.061	.210	-.425	-.811	.155
11	-.001	.033	-.139	-.043	-.267	.372	.223	.121	-.501	.428	-.487	-.183
12	.014	-.061	-.129	-.044	-.164	.044	-.168	.091	.269	.475	-.047	.783

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Table 6: PCA Analysis for High-Income Groups

Coding	Component names and variables	Loadings
1)	Architectural and Facilities	
VAR-53	Leaking roof	.979
VAR-17	Quality of building materials	.979
VAR-29	Street lighting	.979
VAR-1	Numbers of bedrooms	-.979
VAR-28	Refuse disposal system	.979
VAR-32	Level of privacy in the house	.979
VAR-45	Nearness to market	.979
VAR-33	Open spaces for recreation	.979
VAR-56	Play ground	.979
VAR-25	Window materials	.936
VAR-49	Nearness to recreational facilities	.936
VAR-37	Emergency escape route from the house	.936
VAR-27	Drainage system	.739
2)	House Design/Proximity to Facilities	
VAR-11	Gas Kitchen design	.852
VAR-51	Play ground	.842
VAR-9	Bathroom design	.823
VAR-39	Availability of on street bay	.819
VAR-16	Operation of plumbing fitting	.761
VAR-38	Aesthetical of housing	.742
VAR-2	Height of ceiling	.734
VAR-52	Neighbourhood reputation	.727
VAR-59	Location of building	.681
VAR-3	Size of bedroom	.675
VAR-43	Nearness to Place of worship	.635
VAR-50	Nearness to place of work	.596
VAR-42	Nearness to Fire Service Station	.569
VAR-65	Visual aesthetics of neighbourhood	.568
VAR-5	Number/position of electrical points	.542
VAR-47	Cost and effort of house up keep	.526
3)	Building Design Factor	

VAR-6	Floor plan of the dwelling	-.765
VAR-14	Quality of paint	.761
VAR-62	Storage Facility	-.749
VAR-30	Location of bed rooms	.653
VAR-55	Condition of plumbing in the house	-.644
VAR-64	Exit door condition	-.526
4)	Security and Public Facilities	
VAR-36	Security level of the neighbourhood	.948
VAR-24	Landscape of street	.948
VAR-48	Ability of house maintenance	.948
VAR-26	Source of water	.693 .668
5)	Conductive Element	
VAR-20	Day lighting of the house	.835
VAR-10	Fire wood kitchen	.782
VAR-21	Indoor air quality	.706
VAR-13	Operation of electrical fitting	.601
VAR-23	Water pollution	.575
6)	Structural Stability/Facilities	
VAR-4	Performance of foundation	.883
VAR-60	Site layout	.834
VAR-54	Condition of roads	-.794
7)	Housing Materials and Security	
VAR-15	Quality of wall materials	.786
VAR-35	Security level of the house	-.621
VAR-31	Availability of parking space	.593
VAR-63	Leaking roof	.560
VAR-57	Erosion effect	.527
8)	Housing Conditions and Aesthetics	
VAR-26	Source of water	.693 .668
VAR-19	Location and sizes of balcony	.803
VAR-8	Toilet design	-.737
VAR-61	Condition of ceiling	.520
9)	Housing Maintenance and Protection	
VAR-40	Nearness to Police Station	.819
VAR-66	Rate of deterioration	.727
VAR-46	Getting value for money spent	.556
VAR-18	Quality of materials use in flooring	.506
10)	Health Considerations	
VAR-41	Nearness to medical center	.668
VAR-34	Building setbacks from fence	.550
11)	Ease of Movement	
VAR-22	Noise pollution	-.614
VAR-58	Availability of public transport	.530
12)	Comfort/Transport	
VAR-12	Numbers of Toilet	.615
VAR-44	Nearness to children school	-.529

Source: Researchers's Field Work- 2013

Appendix 3: Multiple Linear Regression (MLR) for testing Hypothesis 4

Regression

Table 3a: Descriptive Statistics

	Mean	Std. Deviation	N
aggsatif	.0000	3.46410	1560
Age	3.0128	.76976	1560
Educational	3.3154	.66084	1560
income	1.6346	.74777	1560

Table 3b: Correlations

		aggsatif	Age	Educational	income
Pearson Correlation	aggsatif	1.000	-.021	-.070	.106
	Age	-.021	1.000	.063	-.055
	Educational	-.070	.063	1.000	-.117
	income	.106	-.055	-.117	1.000
Sig. (1-tailed)	aggsatif	.	.203	.003	.000
	Age	.203	.	.007	.014
	Educational	.003	.007	.	.000
	income	.000	.014	.000	.
N	aggsatif	1560	1560	1560	1560
	Age	1560	1560	1560	1560
	Educational	1560	1560	1560	1560
	income	1560	1560	1560	1560

Table 3c: Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1			Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	income		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
	Educational		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: aggsatif

Table 3d: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.923 ^a	.862	.849	3.44554	.802	17.841	1	1558	.000
2	.953 ^b	.909	.869	3.44070	.801	5.387	1	1557	.020

a. Predictors: (Constant), income

b. Predictors: (Constant), income, Educational

Table 3e: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	211.802	1	211.802	22.841	.000 ^a
	Residual	18496.198	1558	11.872		
	Total	18708.000	1559			
2	Regression	275.575	2	137.787	25.014	.000 ^b
	Residual	18432.425	1557	11.838		
	Total	18708.000	1559			

a. Predictors: (Constant), income

b. Predictors: (Constant), income, Educational

c. Dependent Variable: aggsatif

Table 3f: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.806	.210		-3.841	.000
	income	.493	.117	.106	4.224	.000
2	(Constant)	.268	.508		.528	.598
	income	.461	.117	.100	3.929	.000
	Educational	.308	.133	.059	-2.321	.020

a. Dependent Variable: aggsatif

Table 3g: Excluded Variables

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Age	-.015 ^a	-.603	.547	-.015	.997
	Educational	-.059 ^a	-2.321	.020	-.059	.986
2	Age	-.012 ^b	-.473	.636	-.012	.994

a. Predictors in the Model: (Constant), income

b. Predictors in the Model: (Constant), income, Educational

c. Dependent Variable: aggsatif

Appendix 4: Spearman's Correlations used in testing Hypotheses Five.

Table 4a: Correlations

			home ownership2	aggsatif
Spearman's rho	home ownership2	Correlation Coefficient	1.000	.087**
		Sig. (2-tailed)	.	.001
		N	1560	1560
	aggsatif	Correlation Coefficient	.087**	1.000
		Sig. (2-tailed)	.001	.
		N	1560	1560

** . Correlation is significant at the 0.01 level (2-tailed).

Questionnaire

UNIVERSITY OF NIGERIA-ENUGU CAMPUS

SCHOOL OF POST-GRADUATE STUDIES

ANALYSIS OF HOUSING SATISFACTION AMONG HOUSEHOLDS IN

UYO CAPITAL CITY TERRITORY, AKWA IBOM STATE, NIGERIA

[AHHS]

Sir/Madam

This questionnaire is part of a research on Analysis of Housing Satisfaction Survey in Uyo Capital City Territory, Akwa Ibom State, Nigeria. It is designed to derive data on housing satisfaction attributes among households in Uyo Capital City Territory. Please offer your sincere response to the questions. The research is purely for academic purposes and will be accorded necessary confidentiality.

Thanks.

Etuk, E. O.

Instructions: Tick ☐ or Fill Space as Applicable

Section 1: Personal Data

1. Sex (a) Male ☐ (b) Female ☐
2. What is your age? (a) 18-30 ☐ (b) 31-45 ☐ (c) 46-60 ☐ (d) 60-80 ☐
3. Marital Status: (a) Single ☐ (b) Married ☐
4. What is your educational level?
 - (a) Primary education ☐ (b) Secondary education ☐
 - (c) University education ☐ (d) Polytechnic/College ☐
5. How long have you lived in Uyo Capital Territory?
 - (a) Below 5 years ☐ (b) 6 to 10 years ☐ (c) 11-15 years ☐

- (d) 16- 20 years (e) Above 21 years
6. What is your occupation?
- (a) Civil Servant (b) Private firm
- (c) Self employed (e) Trading
- (e) Farming ..
7. What is your monthly income?
- (a) Below N18,000 (b) 18,000.00 ï N26,000.00
- (c) N26,001.00-N147,000.00 (d) N147,001 and Above
8. What percentage of your monthly income do you spent on the following?
- (a) House Rent (b) Food/Health care
- (c) Children Education (d) Transportation
- (e) Savings for building start
9. What type of building do you occupy
- (a) Single room (b) Two bedroom
- (c) Three bedroom (d) Four bedroom .
- (e) Storey/Family flats
10. What numbers of people are in your household?
- (a) 2 ï 3 people (b) 4 - 6 people
- (c) Above 7 people
11. What means of transportation do you have?
- (a) Motorcycle (b) tricycle
- (c) Private car

12. What other means of transport does your household depend on?

(a) Public Transport (b) Trekking

Section ii: Satisfaction with Functional Issues on Housing: House Ownership, Affordability, and Accessibility to Urban Land/Building Materials in Uyo Capital Territory

13. What is your house ownership status?

S/no	House Ownership Status	Satisfied	Not-Satisfied
1	Owner's Occupier		
2	Tenant's Occupier		

14. If you are a tenant, what are your reason(s) for your inability to own a house in Uyo?

(a) Low income (b) High cost of urban land

(c) High cost of building materials (d) Poor housing locations

15. As a tenant, how will you rate your level of satisfaction with access to public, private and official quarters in Uyo?

S/no	Access to public, private and official quarters	Very high	High	Moderate	Low	Very low
1	It is easy through public source					
2	It is easy through private source					
3	It is easy through the official quarters source					

16. As a tenant, which of these housing initiatives have you ever undertaken toward house ownership?

S/no	Savings for house development	Very high	High	Moderate	Low	Very low
1	Monthly savings for building start					
2	Obtain loan to buy residential land					
3	Finance from friends					
4	Staff Housing Scheme					
5	Not at all					

17. As a landlord, how will you rate your level of satisfaction with the qualities of foreign or local building materials used for housing development in Uyo?

S/no	Building material	Very high	High	Moderate	Low	Very low
1	Foreign Building Materials					
2	Local Building Materials					
3	None of the above					

18. As a landlord, which of these public housing programmes have you ever benefited?

- (a) Site and Services
(b) Staff housing scheme
(c) Housing loan from bank
(d) Loan from Cooperative
(e) None of the above

19. As a landlord, what reason(s) contributed to your inability to benefit from public housing programmes?

- (a) Units below acceptable standard
(b) Design unsatisfactory
(c) Allocation favored high income
(d) Housing locations unsatisfactory
(e) None of the above

Section iii: Satisfaction with Housing Components, Housing Materials, Household Income, Residential Land Accessibility, Infrastructure, Amenities, and Neighbourhood Facilities:

20. Given the gap, which occur between your present housing satisfaction performance and your expected satisfaction attributes, identify and rank what you consider among the following as your most desired housing satisfaction needs. Rank according to priority 1, 2, 3, 4, 5...

S/no	Performance variables	Very	High	Moderate	Low	Very
1	Floor plan of the dwelling					
2	Height of ceiling					
3	Size of bedroom					
4	Performance of foundation					
5	Numbers /positions of electrical points					
6	Location of bed rooms					
7	Street design					
8	Toilet design					
9	Bathroom design					
10	Fire wood kitchen design					
11	Numbers of bathroom					
12	Gas Kitchen design					
13	Numbers of Toilets					
14	Operation of electrical fitting					
15	Quality of paint					
16	Quality of materials use on the wall					
17	Operation of plumbing fitting					
18	Quality of building materials					
19	Quality of materials use on the floor					
20	Location and sizes of balcony					
21	Day light brightness of the house					
22	Indoor air quality					
23	Noise pollution					
24	Water pollution					
25	Landscape of street					
26	Window materials					
27	Source of water					
28	Drainage system					
29	Refuse disposal system					
30	Street lighting					
31	Numbers of bedrooms					
32	Availability of parking space					
33	Security system in the house					

34	Open spaces for recreation					
35	Building setbacks from fence					
36	level of privacy in the house					
37	Level of Neighbourhood Security					
38	Emergency escape routes					
39	Aesthetics appearance of housing					
40	Availability of on street bay					
41	Nearness to Police Station					
42	Nearness to medical Facility					
43	Nearness to Fire Service					
44	Nearness to place worship					
45	Nearness to children school					
46	Nearness to market					
47	Getting value for money spent on housing					
48	Cost and effort of house upkeep					
49	Easiness of house maintenance					
50	Nearness to recreational facilities					
51	Nearness to place of work					
52	Rate of housing deterioration					
53	Neighbourhood reputation					
54	Condition of roads					
55	Plumbing conditions in the house					
56	Availability of play ground					
57	Erosion effect					
58	Availability of public transport					
59	Availability of private space					
60	Good location of building					
61	Good site layout					
62	Condition of ceiling					
63	Storage facility					
64	Leaking roof					
65	Availability of exit door					
66	Visual aesthetics of neighborhood					

21. What recommendations or others issues do you want to mention as affecting housing satisfaction in Uyo Capital Territory?

(a)é é é é é é é

(b)é é é é é é é

(c)é é é é é é é

(d)é é é é é é é