EDITORIAL BOARD

CONTENTS

EDITORIAL

ARTICLES:

Community Based Organisations in the Sustainable Development of the Rural Area of Atiba L.G.A., Oyo State.
Abegunde, A. A. ................................................................. 1

Urban Expansion and Physical Development Problem in Abuja: Implications for the National Urban Development Policy.
Jinadu, A. M. ................................................................. 15

Perspectives on Spatial Aspect of Sustainable Water Supply in Benue State.
Atser, Jacob and Beulah Ofem ............................................. 31

Residents' Satisfaction Index in Selective Rehabilitation of An Urban Core Residential Area in Ogbomoso, Oyo State.
Afon, A. O. ................................................................. 45

A Study of Urban Violence and Insecurity in Abuja
Agbola, Tunde .............................................................. 59

Anatomy of "Illegal Structures" in Akure Metropolis, Ondo State
Otujimi, J. A. B. and O. S. Fasuyi ........................................ 79

Land Value Determinants in Medium Density Residential Neighbourhoods of Metropolitan Lagos, Lagos State.
Oduwaye, Leke ............................................................ 97

REFEREES

NOTE TO CONTRIBUTORS
EDITORIAL BOARD

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PAGES
EDITORIAL BOARD ................................................................. i
CONTENTS ................................................................. ii
EDITORIAL ................................................................. iii

ARTICLES:
Community Based Organisations in the Sustainable Development of the Rural Area of Atiba L.G.A., Oyo State.
Abegunde, A. A ................................................................. 1

Urban Expansion and Physical Development Problem in Abuja: Implications for the National Urban Development Policy.
Jinadu, A. M ................................................................. 15

Perspectives on Spatial Aspect of Sustainable Water Supply in Benue State.
Atser, Jacob and Beulah Otem ........................................ 31

Residents' Satisfaction Index in Selective Rehabilitation of An Urban Core Residential Area in Ogbonoso, Oyo State.
Afon, A. O ................................................................. 45

A Study of Urban Violence and Insecurity in Abuja
Agbola, Tunde ................................................................. 59

Anatomy of "Illegal Structures" in Akure Metropolis, Ondo State
Olujimi, J.A.B. and O. S. Fashuyi ........................................ 79

Land Value Determinants in Medium Density Residential Neighbourhoods of Metropolitan Lagos, Lagos State.
Oduwaye, Leke ................................................................. 97

REFEREES ................................................................. 112

NOTE TO CONTRIBUTORS ................................................................. 113
FOREWORD

The sustainability of any development intervention must first and foremost be determined by need. For the intervention to be sustainable, it must be needs-based. These needs should be identified and defined by the target group or beneficiary.

In most developing countries of the world, access to current, educative, well researched planning books and journals are becoming increasingly difficult. This is an identified need.

The journal of the Nigerian Institute of Town Planners (NITP) is set to meet the need and bridge the information gap, providing a medium for the dissemination of current research findings to Town Planners and other professionals in the field of Physical Planning, Human Settlements and Environment.

In order to accommodate the volume of well researched articles being received, we hope to achieve our dream of making the journal bi-annual in the year 2005.

We believe that the publication will continue to improve the professional competence of Urban Planners, our students and other users in facing the ever increasing challenges in their present and future practice.

My unreserved appreciation goes to members of my Council, the National Secretariat, the Editor-in-Chief of the Journal Tpl. Prof. Bade Ogunjumo MNITP, other members of Editorial Board, the Publication Committee and others through whose hardwork and deligence we have contributed to achieve the impressive results especially in this edition.

Finally, I thank all our members for the renewed interest, support and contributions that are of current appeal and encouragement.

Tpl. Isah Usman Ichaba. FNITP, RTP
President, Nigerian Institute of Town Planners
EDITORIAL

The Editorial Board has received quite a number of articles in the past year for publication in the Journal. Most of the papers received were of poor quality in terms of the theoretical underpinnings, empirical research and methodological contributions. These weaknesses unduly prolonged the period of blind peer assessment of the papers and the corrections required of the authors. The rate of rejection of articles for publication has been rather high in spite of the Editorial Boards efforts to streamline the standard format and inform authors accordingly. The Editorial Board is working very hard to uplift the standard of the Journal beyond the national level. Breaking into the international arena has not been made easy by the vast knowledge and application of the computer to planning issues.

All the inadequacies have been responsible for the delay in the publication of this Volume, as was reported to NITP Council at the 35th National Conference of the Institute at Bauchi last October. The Editorial Board is still calling for high quality empirical articles, which contribute either theoretically or methodologically, or both, to the readers’ present knowledge in Urban and Regional Planning Practice and Methods. The Board extends this call to all Town and Country Planners and Practitioners in the allied disciplines in the rural and built urban environment.

The support of the past and present administrations of the NITP and TOPREC to the Editorial Board is highly appreciated.

The Editorial Board.
COMMUNITY BASED ORGANISATIONS IN THE SUSTAINABLE DEVELOPMENT OF THE RURAL AREA OF ATIBA L.G.A., OYO STATE.

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ABSTRACT

Development is achieved when individuals contribute positively and progressively to the growth of their communities. The need for such is more acute in rural areas where there is need for self reliance and perhaps, this was what led to the formation of 160 community based organizations (CBOs) in Atiba Local Government Area of Oyo State where this study was based.

The study randomly selected 40(25%) of these CBOs for interview and analysed the data collected through the use of descriptive method of analysis. Research revealed that these CBOs had an average membership of 6238 people. They also provided facilities worth 17.6 million naira to the study area. Other assistance, which they rendered, includes security, financial, social, and labour support to members.

The study recommended the creation of joint purse into which government; individuals and non-governmental organizations (NGOs) can contribute money to speed up development in the area. It was also recommended that public enlightenment and incorporation of CBOs to developmental programmes of government at all levels in the area should be encouraged.

INTRODUCTION

The idea of co-operation toward community development is very common to every human society. The urban centred approach toward development that polarizes economic activities in cities, leaving lagging regions under-developed has however, intensified the need for community development through self help in Nigerian rural regions (Adejumobi, 1991; Chen and Ravallion, 2004).

Self help, as used in this paper, refers to the formation of local voluntary association in which members share common interests, organize and coordinate programmes with the sole aim of improving the socio economic well being of their entire community. The lack of good governance in the rural sector has also forced the rural populace to lay emphasis on their indigenous institutions to solve problems of daily existence. This has revived locally based institutions that formerly existed before the colonial period. Advantageously, they now act as life wires that conduct socio-economic development in the Nigerian rural communities. Past studies revealed that groups in local communities,
over the years, have successfully organized themselves to construct roads, health centres, bridges and dwelling houses, cultivate farms, offer scholarships, and establish industrial/commercial institutions in community programmes. The argument is that government exists to cater for human needs. Evidences of these have led to the multiplication and expansion of both membership and self-help activities in community. Exonerating them may indirectly mean that a significant part of the community is put aside in issues that touch their cohesive existence. It is however inadequate for government to negatively influence community goal. In other words and in agreement with Olowu (1983) and Akinola (2000), government’s intervention in local development should be properly weighed before arriving at a conclusion in community decisions.

The challenges of aided self-help cum amazing role of private sector towards rural development have over the years attracted interests of policy makers and scholars. It is, therefore, the focus of this study to assess the characteristics, activities and sustaining effects of these community based organisations in Atiba Local Government Area of Oyo State. It is expected that the knowledge of their problems and prospects would be of immense relevance to policy makers and rural development planners alike.

2.0 THE CONCEPT OF COMMUNITY AND COMMUNITY DEVELOPMENT ASSOCIATIONS

The concept of community lacks unified definition, as scholars tend to view it from varying perspectives (Nettridge 1972, Omata 1986). For instance, Biddle (1968) and Okafor (2002) have a geographic spatial approach to it. To them, community is a specified geographical entity that can be identified in space, such as towns, cities or villages. Another school of thought sees
community in terms of a common political economic pursuit, ethnic and cultural trait, common religious interest, experiences, memories, attributes, problems or some combinations of these but which are not necessarily confused by spatial attributes (Abiodun and Aguda 1986; Akorede, 1987). These scholars see socio economic and political lifestyles of people as basic background in identifying a given community. This opinion best suits African nations as people living there are influenced by ethnicity, culture or religion. Kolaja's (1960), Agbola, (1988) and Akinola's (2000) perspectives bridge the gap between the two opinions above as they both see a community in terms of common interests, experiences and roots which influence them to be concentrated within a geographical content.

Along this line, Abram (1971) and Uwaegbulam (2001) argued that people living in the same area irrespective of their socio cultural backgrounds and economic differences will, over the years, recognize and outline the attributes of their environment as resources as well as social wholeness in which each member has a stake. This results in life regulation and operation rather than competition and conflict. In a technical sense, a community as conceived in this study and in agreement with Abram (1971) and Uwaegbulam (2001) denotes a small, localized, political, economic and social unit whose members share common values and struggle to achieve common goal.

3.0 COMMUNITY DEVELOPMENT ASSOCIATIONS AND RURAL DEVELOPMENT
Community development association otherwise known as community based organisation in Nigeria has been given different names in different parts of the world. These include “Neighbourhood Council”, “Community Council”, “United Community” among others in Europe and United States (Biddle and Biddle 1968).

Community organization can be said to be the process of organizing people within a given living or working environment in such a way as to create conditions favourable for bringing about social change which broadens the base of self governance and diffusion of power through a wider circle of the population (Adeyemo, 2002). Adejumobi (1991) simply defined it as voluntary organizations offering selfless services towards boosting of community social or political ego. Voluntary in the sense that membership of these organizations is subjected to individual choice.

Membership may be compulsory as in the case of certain professions or trades such as occupationtrade unions. Holdcraft (1982), reasoning along this line, argues that age grade, community or clan associations, peasant movements and agricultural professional associations cannot actually be referred to as voluntary. This is due to the fact that membership of these associations is often predetermined by birth or specific involvement in some lines of trade. This view has however been criticized that the ultimate decision of a member to register should be basically voluntary (Agbaje, 1990; Ayeni, 1990).

Irrespective of the nature of existing community organizations in any area, the major goal is the development of their respective communities through the mobilization of the people for self help (Ogundipe, 2003). These include protection
of people’s welfare, provision of infrastructures, furnishing the community with necessary materials, information, opportunities and general upliftment of community image. In view of this, men living together under a geographical area are not referred to as a community in this study. A community is first a spirit and then an area. It lies in the collective individual sense of commitment and co-operation among the residents of a particular working or living environment. Community based organizations may be area specific but are recognized by their performances such as lobbying for needs and services or raising fund to pay for pressing projects. To this end, the activities of these community development organizations, particularly in Nigerian rural environment where such need is acute call for interest.

5.0 THE STUDY AREA

Atiba local government area was carved out of Oyo Local Government in 1996. It has a population of about 157,032 people (1991 census) with a land area of 219,753 square kilometres. It is bounded at the North, East and West by Ogo Oluwa and Orire, Oyo-East and Oyo-West local government areas respectively.

It is located in the tropical rain forest zone with agriculture as the main occupation of the people in the area. A negligible portion of the population practice crafts and trading with their farming. As a local government in the former old Oyo empire, self-help practice as means of sustaining development is a common practice among the people. See figure one.

6.0 PROCEDURE

Data collected from local government council and village heads at reconnaissance survey revealed that there existed 160 community development organizations (CBOs) in the study area. These 160 CBOs were stratified into 9 major group based on the functions they perform in the community. See table one.

Systematic random sampling was employed to select and interview 25% of each of the stratified 9 groups. Data required from them include types, size of membership and objectives of the CBOs. Other questions asked during interview of the respondents relate to their achievements, mode of generating funds and problems limiting effective operations of these CBOs. Data collected from them were analyzed using descriptive statistical method.

7.0 FINDINGS

7.1 Types of CBOs

Table 1 summarizes the CBOs in the study area into 9 groups. The table reveals that 18.0 percent of the total respondents are grouped under social organization. Religion based association has the least percentage of 2.0. CBOs under the aegis of the community development, trading/commercial and professional/occupational associations have the same percentage of 15.0 percent each. Landlord/Neighbourhood association has 10.0 percent while those under Youth, Co-operative and Town Union/ Age grade associations each has 7.0 percent.

7.2 Size of CBOs

Considering the size of CBOs in the study area, table 2 reveals that CBOs indicated to be having 101-200 membership
have 32.0 percent of the total. Those in this group are in Youth and Community Development Associations. Co-operative
and Trading Associations had the least frequency of 4 (10%) out of the total 40 respondents. They indicated to be having
301-400 members in each of their associations. Others like Religion Based and Professional Associations with 25
percent of the total had 50-100 membership, Social Clubs/Age Grades Association with 200-300 membership and
Landlord/Neighbourhood Associations of less than 50 membership had percentages of 20.0 and 13.0 of the total respectively.
The import of this is that Social Club and Age Grade Associations have the highest number of membership (being 2004
members) in the study area. Landlord and Neighbourhood Associations have the least membership (125 members). (See tables
2 and 4).

7.3 Objectives of CBOs
Table 3 reveals that most (62%) of the CBOs in the study area provided financial assistance either towards community
development or personal needs of their members. The table also shows that 10 percent of the CBOs offered social
assistance to members. Thirteen percent of the CBOs provided security to life and property while the rest 15 percent of the
CBOs contributed to the development of their area through provision of joint labour. The importance of this is that most of the
CBOs in the study area met the financial needs of both members and their community. It was observed that they all
attended to different needs of the people who were members in the community of study.

7.4 Mode of Generating Fund by the CBOs
Considering the mode of generating fund by the CBOs in the study area, most (63%) of the CBOs generated funds through
individual contribution from members. Money realized from the investment of the organizations contributed 25 percent to
sources of fund generation by the CBOs. Loans/Borrowings provided just 5 percent of the money used by the CBOs. The
significance of this is that CBOs in the study area generated fund through internal revenue to finance their projects. See table
4.

7.5 Achievements of the CBOs
Major achievements of the CBOs in the study area include provision of infrastructures, social assistance, educational support and employment for association members and some individuals in the community. Table 5 reveals that 81
percent of the CBOs contributed towards infrastructure needs of people in their community. These were observed in form
of roads and bridges construction, drilling of boreholes, rural electrification, and construction of public buildings like
schools, banks, health centre, neighbourhood halls and toilets.
Social assistance rendered includes neighbourhood security, provision of manual labour, and assisting members during
ceremonies among others. Only 13 percent of the CBOs indicated to have offered social assistance to members in the past. Four
percent of the sampled 40 CBOs indicated to have offered educational support in form of scholarship or bursary to members of
the community. The rest 2 percent indicated to have offered employment opportunities.
to members of their CBOs. In the summary, most of the CBOs in the study area indicated to have offered financial assistance to either members or their communities in times past.

8.0 PROSPECTS & PROBLEMS OF CBOs IN ATIBA LOCAL GOVERNMENT AREA

A number of social facilities had been provided by various CBOs in the study area. Table 6 reveals the number and monetary value of these social facilities. These include health centres and maternities (3 at 2.8 million naira), schools and vocational centres (2 at 1.5 million naira), electric transformers (3 at N135 million naira), rural electrification (1 village at 3 million naira), banks (2 at 5 million naira), public conveniences (4 at 1 million naira), boreholes (7 at 350,000 naira), re-grading of roads and provision of drainage facilities (not specified), community hall (1 at 2.5 million naira) and two statutes at 60,000 naira. Their monetary worth was estimated to be 17.56 million naira.

The provision of these facilities and other activities of the CBOs have afforded members of the communities opportunities to better education and social status, reduced incidence of water-borne diseases, increased rate of safe deliveries, decent sanitation, convenient accessibility and mobility on roads among others. The contributions and supports of members during ceremonies and provision of security have also heightened the spirit of unity, neighbourliness and community welfare in the study area.

Activities of the CBOs in the study area are sometimes hampered by problems that pose danger to the fulfillment of their objectives for the community. Predominant among these are the lack of finance, poor participatory level of the community members, problem of land procurement for project execution and uncomplimentary government attitude. Table 7 reveals that about half (49%) of the sampled CBOs have the problem of finance. This is followed closely by lack of incentive and assistance from government (39%). Managerial problem rates least with just 2 percent of the total. Other problems affecting the CBOs include poor community participation (6%) and problem of land procurement (4%) respectively.

9.0 SUMMARY, CONCLUSION AND RECOMMENDATION

The study reveals that Atiba local government area with a population of 157,032 people has CBOs of about 160 different associations. Their social-economic impact in attaining sustainable rural development is reflected in their multifarious activities and projects executed in the study area. These include the provision of socio-facilities by the sampled 40 CBOs with estimated value of about 17.56 million naira. Others that could not be quantified in this study include the social security and ceremonial support provided for the members of the community.

Significant among the problems limiting their operations are finance, poor attitude of government towards CBOs and difficulty in procuring land for project execution in the area. The study therefore recommends that government at local and state levels in the area should incorporate the CBOs in their developmental welfare provision programmes. The power of state government on land issues could be of
immense assistance in acquiring land to execute CBOs developmental projects.

There is also the need for the existing 160 CBOs in the study area to come together in carrying out public awareness on the need for public participation in community development programmes. Joint efforts could be sought to raise funds where necessary to execute huge projects. Summarily, there should be a special purse created, to which the government as well as the non-governmental organizations will contribute regularly to assist the CBOs operations in the study area. The study however reveals that CBOs could act as vehicle's wheels in attaining rural sustainable development Nigeria.

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Olajuyin, L. M. (1990): 'A Study of the Adequacy of Infrastructural Facilities in Rural Areas of Oranmiyan Local


Figure 1: Study Area.
### Table 1: Types of CBOs

<table>
<thead>
<tr>
<th>Types of CBOs</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landlord/Neighbourhood Associations</td>
<td>4.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Trading/Commercial Associations</td>
<td>6.0</td>
<td>15.0</td>
</tr>
<tr>
<td>Professional/Occupation Associations</td>
<td>6.0</td>
<td>15.0</td>
</tr>
<tr>
<td>Youth Associations</td>
<td>3.0</td>
<td>7.0</td>
</tr>
<tr>
<td>Co-operatives</td>
<td>3.0</td>
<td>7.0</td>
</tr>
<tr>
<td>Religion Based Associations</td>
<td>2.0</td>
<td>6.0</td>
</tr>
<tr>
<td>Town Unions/Age Grade Associations</td>
<td>3.0</td>
<td>7.0</td>
</tr>
<tr>
<td>Social Clubs/International Association</td>
<td>7.0</td>
<td>18.0</td>
</tr>
<tr>
<td>Total</td>
<td>40.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Source: Field Survey Data, 2002.*

### Table 2: Size of the CBOs

<table>
<thead>
<tr>
<th>Range of Membership</th>
<th>No of CBOs</th>
<th>Percentage</th>
<th>Average no of Membership</th>
<th>Percentage</th>
<th>CBOs by Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 50</td>
<td>05</td>
<td>13%</td>
<td>125</td>
<td>02.0</td>
<td>Landlord and Neighbourhood</td>
</tr>
<tr>
<td>50-100</td>
<td>10</td>
<td>25%</td>
<td>750</td>
<td>12.0</td>
<td>Religion and Professional/Occupational</td>
</tr>
<tr>
<td>101-200</td>
<td>13</td>
<td>32%</td>
<td>1957</td>
<td>31.4</td>
<td>Youth and Community Development</td>
</tr>
<tr>
<td>201-300</td>
<td>08</td>
<td>20%</td>
<td>2004</td>
<td>32.1</td>
<td>Social Club and Age grade</td>
</tr>
<tr>
<td>301-400</td>
<td>04</td>
<td>10%</td>
<td>1402</td>
<td>22.5</td>
<td>Trading and Cooperative</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100%</td>
<td>6238</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Field Survey Data, 2002.*
### Table 3: Objective of the CBOs

<table>
<thead>
<tr>
<th>Nature of Assistance</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Assistance towards community</td>
<td>10</td>
<td>25.0</td>
<td>25.0</td>
</tr>
<tr>
<td>development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Assistance towards social</td>
<td>7</td>
<td>17.0</td>
<td>42.0</td>
</tr>
<tr>
<td>development of members</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Financial Assistance to members</td>
<td>8</td>
<td>20.0</td>
<td>62.0</td>
</tr>
<tr>
<td>and community</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Development through labour</td>
<td>6</td>
<td>15.0</td>
<td>17.0</td>
</tr>
<tr>
<td>contribution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighbourhood Security</td>
<td>5</td>
<td>13.0</td>
<td>90.0</td>
</tr>
<tr>
<td>Social Assistance to members</td>
<td>4</td>
<td>10.0</td>
<td>100%</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Source: Field Survey Data, 2002.*

### Table 4: Mode of Generating Fund by the CBOs

<table>
<thead>
<tr>
<th>Mode</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribution from members</td>
<td>25</td>
<td>63.0</td>
<td>63.0</td>
</tr>
<tr>
<td>Investment of the organization</td>
<td>10</td>
<td>25.0</td>
<td>88.0</td>
</tr>
<tr>
<td>Loans/Borrowings</td>
<td>2</td>
<td>5.0</td>
<td>93.0</td>
</tr>
<tr>
<td>Grants from charity organizations</td>
<td>3</td>
<td>7.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Grants from government</td>
<td>Nil</td>
<td>Nil</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Source: Field Survey Data 2002.*
Table 5: Achievement of CBOs

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure</td>
<td>31</td>
<td>81</td>
</tr>
<tr>
<td>Social Assistance</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Educational Support</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Employment</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Financial Assistance</td>
<td>*39</td>
<td>*97%</td>
</tr>
</tbody>
</table>

* Source: Field Survey Data, 2002.
* Multiple response

Table 6: Number and Value of Social Facilities Embarked upon by the CBOs

<table>
<thead>
<tr>
<th>S/No</th>
<th>Facility</th>
<th>Frequency</th>
<th>Value (in million naira)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Health Centre and Maternity</td>
<td>3</td>
<td>2.8</td>
</tr>
<tr>
<td>2</td>
<td>School</td>
<td>2</td>
<td>1.5</td>
</tr>
<tr>
<td>3</td>
<td>Electric Transformer</td>
<td>3</td>
<td>1.35</td>
</tr>
<tr>
<td>4</td>
<td>Rural Electrification</td>
<td>1</td>
<td>3.0</td>
</tr>
<tr>
<td>5</td>
<td>Banks</td>
<td>2</td>
<td>5.0</td>
</tr>
<tr>
<td>6</td>
<td>Public Conveniences</td>
<td>4</td>
<td>1.0</td>
</tr>
<tr>
<td>7</td>
<td>Boreholes</td>
<td>7</td>
<td>0.35</td>
</tr>
<tr>
<td>8</td>
<td>Re-grading of Road and Drainage facility</td>
<td>Many</td>
<td>Not specified</td>
</tr>
<tr>
<td>9</td>
<td>Community Hall</td>
<td>1</td>
<td>2.5</td>
</tr>
<tr>
<td>10</td>
<td>Statues</td>
<td>2</td>
<td>0.060</td>
</tr>
<tr>
<td></td>
<td>Total 25+</td>
<td>25+</td>
<td>17.56</td>
</tr>
</tbody>
</table>

* Source: Field Survey Data, 2002.

Table 7: Limitations of the CBOs

<table>
<thead>
<tr>
<th>Limitation</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Constraint</td>
<td>19</td>
<td>49</td>
</tr>
<tr>
<td>Uncomplimentary Government Attitude</td>
<td>15</td>
<td>39</td>
</tr>
<tr>
<td>Poor Community Participation</td>
<td>3</td>
<td>06</td>
</tr>
<tr>
<td>Problem of Land Procurement</td>
<td>2</td>
<td>04</td>
</tr>
<tr>
<td>Managerial problem</td>
<td>1</td>
<td>02</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100%</td>
</tr>
</tbody>
</table>

* Source: Field Survey Data, 2002.
URBAN EXPANSION AND PHYSICAL DEVELOPMENT PROBLEM IN ABUJA
IMPLICATIONS FOR THE NATIONAL URBAN DEVELOPMENT POLICY

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Federal University of Technology, Minna

Abstract

One major product of urbanization, which poses serious challenge to urban planners, is rapid urban expansion, most especially that which is devoid of proper planning and control. Over the years, attempts to create a livable urban environment have yielded policies and programmes of action. Our experience in urban management in Nigeria has witnessed changes in actions and strategies, yet the problem remains the same. This paper examines the trend of urban growth in and around the Federal Capital City – Abuja. It uses satellite image data from Landsat TM of 1987 and Landsat ETM+ taken in 2001 to monitor urban growth in Abuja and some of its satellite settlements. The analysis shows that between 1987 and year 2001, the size of Abuja, Idu/Karmo, Kubwa, Karu/Nyanyan, and Lugbe, increased by 89,265, 5,587, 13,453, 25,240 and 4,489 square kilometers respectively. This indicates a rapid rate of physical development. The scenario captured, using digital camera, shows that the quality of development in most satellite settlements was poor. Amongst others, poor management capacity, arising from lack of official commitment to the implementation of the ideals of the National Urban Development Policy (NUDP) is found to be a major problem. The study recommends institutional capacity building and community – based settlement upgrading schemes as alternatives to eviction and slum clearance. It concludes on the note that doing this will require high official commitment to policy implementation and adequate financial disbursement.

1. INTRODUCTION

Urban settlements all over the world are in a state of flux, a phenomenon characterized by constant growth and changes. Nigeria has one of the world’s highest urban growth rates, which stood at 5.8 percent in year 2004 (Federal Republic of Nigeria, 2004). Statistics on urbanization trend show Nigeria as one of the most urbanized countries in Africa south of the Sahara. Urban population in most towns and cities was observed to increase five fold between 1952 and 1982 and as at 1995, Nigeria had seven cities with population of over one million people, 18 cities with over 500,000 people, 36 with over 200,000 people, 78 cities with 100,000 people and 5,000 cities with over 20,000 people (Federal Republic of Nigeria, 1996). Following from this trend, the proportion of population living in urban centres is estimated at 45 percent (Federal Republic of Nigeria, 2004) while the World Bank’s record shows that the urban population in Nigeria is expected to increase to 100 million by the year 2010.

The trend of urban development in Nigeria has shown tremendous growth of major cities like Lagos, Ibadan, Ilorin, Port-Harcourt, Kaduna and Kano with Lagos attaining the status of a mega-city. While
these old cities have continued to grow in size, new ones like Abuja have also attracted rapid physical development in recent times. The problems associated with rapid urbanization in Nigeria are well documented and have been discussed in several fora. Amongst others, the 1997 National Urban Development Policy (NUDP) identifies uncontrolled, unplanned urban growth, development of sub-standard and sub-human environments plagued by slum, squalor and grossly inadequate social amenities as being the negative consequences of rapid urbanization in Nigeria.

Successive Governments in Nigeria have responded to the multiplicity of urban problems through the enactment of physical planning laws, formulation of urban development policies and execution of urban development projects from time to time. With respect to policies, the various ad hoc measures taken in the colonial and immediate post colonial periods culminated in the preparation of a national urban development policy document for Nigeria in 1992. The comprehensive NUDP published in October 1997 followed this initial policy effort. The 1997 policy has since been reviewed by the Presidential Committee on Urban Development and Housing constituted in year 2001. The amendments to the policy as contained in Government's White Paper released in year 2002 forms the basis of the new Draft National Urban Development Policy published in January 2004.

The 1997 and 2004 draft policies have the identical goal of developing a dynamic system of urban settlements which will foster sustainable economic growth, promote efficient urban and regional development and ensure improved standard of living and well-being for all Nigerians'. The strategies advanced in the policies stipulate pragmatic means of having orderly urban development, efficient and well-managed urban system in Nigeria. However, the impact of the policies has not been felt due to poor commitment and sometimes outright non-implementation of policy guidelines. This paper examines the rate of urban expansion and physical development situation at the Federal Capital Territory (FCT) after almost a decade of NUDP experience in Nigeria. It examines the trend in urban growth and describes the nature of physical development as well as the associated problems in Abuja and some satellite settlements. The paper also examines the urban management problems and concludes with recommendations on how to manage the situation observed in the area.

2. Research Setting and Context

The FCT was created in 1976 following the recommendations of Justice Akinola Aguda Committee and the promulgation of the Federal Capital Territory Decree on the 4th of February 1976 (Doxiadis Associates, 1983). It is located in the centre of Nigeria, approximately between latitudes 7° 25" – 9° 20" north of the Equator and longitudes 6° 45" – 7° 39" east of the Greenwich meridian (figure 1). The territory covers an area of 8000 km² and consists of six Area Councils, including Abuja Municipal, Bwari, Abaji, Kuje, Gwagwalada and Kwali Area Councils.
At the time of establishment, several reports by authors established that there were no major urban developments in the area. For instance, Mabogunje and Abumere (1981) observed that numerous hamlets and villages that were nucleated in varying degrees characterized the cultural landscape of the entire FCT. Prior to the construction of the FCC therefore, the area was entirely rural and was dominated by small, sparsely populated settlements, with about 85% of the settlements having a population of between 50-500 inhabitants (Gaza, 1990 as quoted in Balogun, 2001).

Significant urban growth became a common landscape feature at the FCC in the early 1990s following the building of the new Federal Capital City (FCC) and the subsequent transfer of the Federal capital to Abuja in December 1991. The movement of the Federal ministries and civil servants generated an influx of people to the FCC and the surrounding satellite settlements.

This sets off the process of rapid urban growth in the area. The issue of concern is that the accelerated growth currently observable in the FCT is generating negative consequences as manifested in mounting population pressure and slum development with all its associated problems (Jinadu, 2001).

3. Research Materials and Methods

This research utilizes satellite image data in establishing the level of urban growth between 1987 and 2001. The images used include Landsat, Thematic Mapper (TM) with 30-meter resolution taken in January 1987 and Landsat Enhanced Thematic Mapper plus (ETM+) with 30-meter resolution taken in December 2001. These images were visually interpreted using direct signature and pattern recognition approach. The image features were recognized and traced using the on-screen digitization function of the ERDAS IMAGINE software. The digitized lines and
polygon features were saved as vector coverages and transferred to ArcView version 3.2a software for map composition. The statistical function of ArcView was used to generate data on the sizes of the settlements in 1987 and 2001. The growth rate of each settlement was determined using the simple formula:

\[ r = \frac{\Delta A}{nA_0} \times 100 \]

Where:
- \( r \) = growth rate
- \( \Delta A \) = change in area extent between 1987 and 2001
- \( A_0 \) = Area extent of the base year (1987)
- \( n \) = number of years (interval between 1987 and 2001).

The study also uses picture data from field survey. The Kodak digital camera was used to capture micro scenes of the nature of physical development observable in some of the satellite settlements.

### 4.0 Analysis of the Data and Interpretation of Results


The construction of the Federal Capital City (FCC) started in 1980. Against the backdrop of preponderance of small rural settlements in the pre FCC period, the level of urban expansion in Abuja and ten satellite settlements was monitored using the satellite image data. Landsat TM image of 1987 was interpreted and used to generate statistics of the level of urban expansion in 1987. As seen in figure 2, minor urban growth had occurred in all the settlements. The Statistics in table 1 reveal that the size of Abuja city had grown to 15.862 Km² within seven years of construction while Karu/Nyanyan grew up to 2.725 Km². Idu/Karmo and Zuba also experienced minor urban development as the process of growth had already been set off by the existence of FCC in the area.

#### Table 1: Settlement Sizes 1987 - 2001

<table>
<thead>
<tr>
<th>S/No</th>
<th>Settlements</th>
<th>Size in 1987(Km²)</th>
<th>Size in 2001(Km²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Abuja (FCC)</td>
<td>15.862</td>
<td>105.127</td>
</tr>
<tr>
<td>2</td>
<td>Dutse Alhaji</td>
<td>0.092</td>
<td>1.743</td>
</tr>
<tr>
<td>3</td>
<td>Gwagwa</td>
<td>0.237</td>
<td>3.147</td>
</tr>
<tr>
<td>4</td>
<td>Idu/Karmo</td>
<td>0.464</td>
<td>6.051</td>
</tr>
<tr>
<td>5</td>
<td>Karu/Nyanyan</td>
<td>2.725</td>
<td>27.965</td>
</tr>
<tr>
<td>6</td>
<td>Kubwa</td>
<td>0.112</td>
<td>13.565</td>
</tr>
<tr>
<td>7</td>
<td>Kuchigoro</td>
<td>0.024</td>
<td>1.084</td>
</tr>
<tr>
<td>8</td>
<td>Lugbe</td>
<td>0.105</td>
<td>4.594</td>
</tr>
<tr>
<td>9</td>
<td>Zuba</td>
<td>0.649</td>
<td>4.298</td>
</tr>
</tbody>
</table>

*Source: Landsat TM 1987 & ETM 2001*
FIGURE 2: LAND USE / LAND COVER MAP (1967)
The pace of settlement growth set in 1987 continued and culminated into the 2001 situation with all the settlements recording increases in their sizes (figure 3). The growth statistics generated from the map data (Table 1) reveals a significant physical expansion in all settlements. The table shows that the size of Abuja, Idu/Karmo, Kubwa, Karu/Nyanyan, and Lugbe, increased by 89,265, 5,587, 13,453, 25,240 and 4,489 square kilometers respectively within fourteen years. An index of the rate of change calculated for the settlements reveals a significant rate of urban growth. Table 2 shows that high rates of urban growth were recorded in most settlements with Kubwa (858.0%), Kuchigoro (315.5%), Lugbe (305.4%) and Dutse Alhaji (128.2%) having exceptionally high growth rates.

Table 2: Settlement Sizes and Growth Rates, 1987 – 2001

<table>
<thead>
<tr>
<th>SNo</th>
<th>Settlements</th>
<th>Size in 1987 (Km²)</th>
<th>Size in 2001 (Km²)</th>
<th>Newly created Settlement Area (Km²)</th>
<th>Growth Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Abuja (FCC)</td>
<td>15.862</td>
<td>105.127</td>
<td>89.265</td>
<td>40.2</td>
</tr>
<tr>
<td>2</td>
<td>Dutse Alhaji</td>
<td>0.092</td>
<td>1.743</td>
<td>1.651</td>
<td>128.2</td>
</tr>
<tr>
<td>3</td>
<td>Gwagwa</td>
<td>0.237</td>
<td>3.147</td>
<td>2.910</td>
<td>87.7</td>
</tr>
<tr>
<td>4</td>
<td>Idu/Karmo</td>
<td>0.464</td>
<td>6.051</td>
<td>5.587</td>
<td>86.0</td>
</tr>
<tr>
<td>5</td>
<td>Karu/Nyanyan</td>
<td>2.725</td>
<td>27.965</td>
<td>25.24</td>
<td>66.2</td>
</tr>
<tr>
<td>6</td>
<td>Kubwa</td>
<td>0.112</td>
<td>13.565</td>
<td>13.453</td>
<td>858.0</td>
</tr>
<tr>
<td>7</td>
<td>Kuchigoro</td>
<td>0.024</td>
<td>1.084</td>
<td>1.060</td>
<td>315.5</td>
</tr>
<tr>
<td>8</td>
<td>Lugbe</td>
<td>0.105</td>
<td>4.594</td>
<td>4.489</td>
<td>305.4</td>
</tr>
<tr>
<td>9</td>
<td>Zuba</td>
<td>0.649</td>
<td>4.298</td>
<td>3.649</td>
<td>40.2</td>
</tr>
</tbody>
</table>

Source: Landsat, TM 1987 & ETM 2001

The analysis of the trend of urban expansion reveals that tremendous physical development occurred in Abuja and its surrounding satellite settlements in the period under review. In order to appreciate the nature of physical development in the area, digital camera was used to capture the scenario in the different settlements and this is presented in the next section of the paper.

4.2 Physical Development Scenario and Problems.

The scenario in Abuja and the ten satellite settlements feature areas of different physical characteristics and qualities. Generally, the entire housing environment is characterized by planned, unplanned and slum areas which are present in different degrees in all the settlements. Planned development features mainly in Abuja city and parts of Karu, Nyanyan, Kubwa (Federal Housing area) and Lugbe (Lugbe estate) where there are well laid out residential environments (plate 1).
Plate I: Planned Residential Environment in Kubwa

Source: Author's Fieldwork, 2003.

Unplanned developments in the settlements manifest in urban sprawl and slum housing and their spatial extent vary from one settlement to the other. The problem of urban sprawl is most noticeable in the new areas of Lugbe, Gwagwa and Karmo where extensive housing areas have been built haphazardly with poor access and services.

Slum development is a common phenomenon in all the settlements studied. While localized slums/squatter settlements have developed in Abuja and old areas of Karu, Nyanyan, Lugbe and Kubwa, large-scale slum areas have developed in Zuba, Gwagwa, Idu and Sabon Karmo. Generally, the slum areas are characterized by poor housing environment. The houses are substandard, small, congested and poorly ventilated. They are built of assorted, poor quality materials such as mud, planks and old zinc. Plates II and III show typical squatter settlements and slum houses in Abuja and Karmo respectively.

Plate II: Mabushi Squatter Settlement in Abuja City.

Source: Author's Fieldwork, 2003.
Plate III: Large Scale Slum Development in Karmo

Source: Author’s Fieldwork, 2003.

Apart from the substandard and poor housing quality, the slum areas also feature poor access roads and deteriorated environment. In Gwagwa, Idu and Sabon Karmo for instance, there are no tarred roads except the single carriage Diedie–FCC link that passes through the settlements. The entire residential areas in these settlements are serviced by narrow, winding roads with severe drainage problem. The general environment of the slum settlements is poor with common cases of heaps of refuse taking over the roads and residential properties (plate IV).

Plate IV: Access Road and Residential Properties Swallowed up by Refuse in Idu

Source: Author’s Fieldwork, 2003.

The observed rapid urban development and the preponderance of unplanned and poorly serviced environment have certain negative consequences for the entire FCT. In physical terms, development pressure, arising from population influx and high demand for housing and infrastructure, has resulted into illegal, congested and haphazard development. Land speculators and informal building investors have taken the advantage of increasing housing demand to build ramshackle and poorly
serviced accommodation. Thus, substandard buildings as well as encroachment on public lands and river flood plains characterize physical developments in Zuba, Gwagwa, Idu, Sabon Karmo, Kuchigor and parts of Lugbe, Yanyan, Karu and Kubwa (plate V).

With reference to encroachment on public land, the buffer zones between the outer northern express road and Kubwa as well as that between Zuba and Madalla have been converted to commercial and residential developments. These problems combined with poor neighbourhood quality, due to poor hygiene, to create a generally overcrowded, unsanitary and polluted housing environment, which has negative implications for health and the well being of the residents.

Plate V: Development Encroachment on River Flood Plain in Zuba

Source: Author’s Fieldwork, 2003.

The scenario presented above shows that, contrary to the lofty goal and objectives of the NUDP (See sections 4.2 and 4.3.1 of the 1997 policy), efficient urban development and management still elude most settlements in Nigeria. As it were, the situation in most of the satellite settlements studied poses a serious challenge to urban planning and constitutes a threat to urban social order as conceived in section 6.1 and 6.2 of the policy. The next section of this paper examines urban management problems in the area and some desirable solutions.

5. Discussions

Urban problems in Nigeria have their roots in the financing and institutional arrangement for service delivery (Federal Republic of Nigeria, 2002). The physical development problems observed in most parts of the satellite settlements are attributed to poor management arising from poor institutional capacity and official inactivity. The Regional Planning Section of the Department of Lands, Planning and Survey of the FCDA is charged with the responsibility of preparing Master Plan for the satellite settlements and ensuring development control. The Zonal Area Offices of the Department, which were established in 1988, are directly in charge of the preparation of Action Area Plans, execution of development proposals, development
control and enforcement of standards in the different Area Councils.

Despite the establishment of urban management institutions with defined functions and responsibilities, the reality on the ground shows that the existing institutions could not effectively manage physical development in the FCT. Several problems inhibiting effective planning administration and land management were identified in the 1999 report of the Ministerial Committee for the Appraisal of Physical Planning and Development Issues in the FCT. These, amongst others, include:

(i) Delay and sometimes outright non-implementation of Action Plans for some satellite settlements;
(ii) Delay in the provision of infrastructure on many new layouts, which creates hindrances for developers and gives room for encroachment and illegal development;
(iii) Inadequate human and material resources in the Zonal Planning Offices. The problems here include shortage of manpower, inadequate office and residential accommodation, lack of office equipment and transportation problems;
(iv) Non-application of effective development control, a situation which results in rapid growth of illegal development;
(v) Poor co-ordination between the Regional Planning Division of the Department of Lands, Planning and Survey and the Zonal Offices as well as role conflict between the Zonal Planning Offices and the Area Councils.

These problems have combined with indiscriminate sales of land by the Traditional Chiefs and land speculations to compound physical planning problems in the area.

Although the Nigerian Government commits itself to the establishment of appropriate institutional framework for urban management and the strengthening of the capacity of all agencies and bodies responsible for policy implementation (Sections 4.4.1 and 4.4.5 of the 1997 policy), the current situation reveals poor and ineffective institutional capacity for urban management in most cities. Also the problems of inadequate number and quality of manpower at the Local Government level still persist despite the fact that the Government committed itself to increasing the quantity and improving the quality of manpower needed for urban development and management in section 4.4.14 of the 1997 policy. These are indications that Nigeria has not benefited from the formulation of the NUDP due to the problem of non-implementation and non-application of the lofty ideals of the policy. There is therefore the need to invoke and implement the relevant sections of the policy to ensure efficient management of new development in Abuja and other parts of Nigeria.

One major and immediate requirement for adequate management of the situation in and around Abuja is to strengthen the capacity of the existing planning institutions as recommended in section 4.4.5 of the NUDP. The capacity building should cover the provision of adequate human and material resources needed for effective monitoring and control as well as staff
training and re-training in modern approaches to urban management. In addition to these, there is the need for a change in attitude and methods. It is high time the planning agencies changed their apathetic and laissez-faire attitudes, which allow encroachment and illegal development to take place and/or slums to develop before thinking of solution. The situation in and around Abuja is such that planners have watched, and are still watching with little interest, the formation of large-scale slums and haphazard development. This laissez-faire-planning attitude must be discouraged. Development control in planning is a daily affair and act of encroachment and illegal development should be challenged at first attempt.

The method for dealing with the existing slum housing in the satellite settlements like Zuba, Gwagwa, Idu, Karmo, Lugbe, Pwoiyi, Nyanyan-Maraba, and Karu should also change from the old method of slum demolition to slum upgrading. The Urban Development Policy's goal on urban environment is to 'ensure an orderly development of Nigeria's urban settlements in a way that guarantees a decent livable environment'. One of the objectives is to 'upgrade the existing slums and squatter settlements and control the emergence of unplanned settlements' (see section 7.4 and 7.5.1). Although sections 4.3.3 and 9.5.2 of the NUDP contradict the upgrading objective and support slum clearance and the declaration of 'Redevelopment Areas', there is the need to review old strategies and do things differently.

Experience has shown that slum clearance is socially and economically costly. It is a temporary rather than permanent planning solution as it normally leads to the re-emergence of slum(s) elsewhere and nearby. Given the numerous success stories of best practices in slum upgrading and innovative settlement management from countries like Kenya, Sudan, Angola and Botswana amongst others, a viable solution lies in the institution of community-based settlement improvement programmes in the different settlements. The experience of unauthorized squatter settlement treatment programme in Khartoum, Sudan, where 90% of unauthorized settlers were granted land title should be shared (Together Foundation and UNCHS, 2001). The improvement programme should therefore focus on regularization of land tenure and facility up-grade through public-private and community efforts. Above all, there is the need for planning intervention and control at the urban fringes to prevent them from haphazard development.

6. Conclusion

The physical development scenario presented in this paper reveals a rapid, uncontrolled urban development, which manifests in poor, congested and unsanitary housing environment around the Federal Capital City-Abuja. This situation is a replica of the nature of new developments around most major cities in Nigeria and it is an indication of poor commitment to, and non-implementation of the lofty ideals of, the NUDP. There is the need for adequate official commitment to the implementation of the NUDP in terms of institutional capacity building and the disbursement of the required finances for efficient urban management. It must be emphasized here that the problems of non-implementation of Action Plans, delay in
the servicing of new layouts and inadequate material and manpower resources identified in section six of the paper are all connected to shortages of fund for urban management. Government should therefore invoke and implement section 4.4.6 of the 1997 policy, which seeks to 'ensure continuous flow of fund from various sources for urban development'. In the case of Abuja and its environs the manpower and logistic problems must be addressed. Above all, the Federal Government should facilitate and accelerate the relocation of all settlements within the Phase II and Phase III Development Area of Abuja city (with the exception of few large population centres like Idu and Karshi) and settle all compensation as well so as to forestall land controversies, illegal occupation and slum development in the area.

REFERENCES


"PERSPECTIVES ON SPATIAL ASPECT OF SUSTAINABLE WATER SUPPLY IN BENUE STATE."

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Abstract

This paper provides an overview of the spatial aspects of sustainable water supply in Benue State, Nigeria. It examined the performance of the Benue State Rural Water and Sanitation Agency (BERWASA) since its inception. The paper investigated the issue using theoretical and empirical approaches. Relevant literatures were surveyed while data obtained through oral interview were analyzed. A total of 80 boreholes or 10% of the total number of successful boreholes in the study area were randomly sampled to ascertain their functionality and environmental conditions. The findings showed considerable achievement in terms of borehole water extraction in the state from 1996 to 2002. Out of a total of 955 borehole projects, 159 were unsuccessful due to geological constraints. Makurdi Local Government Area had the highest boreholes of 137 or 17.2% of the total number, followed by Uka (10.2%), Oju (5.7%) and Guma (9.2%) local government areas respectively. These areas, which are mainly urban, were from conception to focal points for borehole projects in the state. They have however, taken the lion's share of boreholes at the detriment of needy local government areas such as: Kande, Ushungu, Katsina, Otukpo, Apa, Ogbadibo and Ogoja. Factors accounting for the observed pattern of water supply distribution points have been identified as geology and depth of water table; low level of involvement and understanding of the benefiting communities; and the politics of water supply by Government. The paper finally identified areas of future improvement to include: the cooperation of all tiers of government as a panacea for successful implementation of policies on sustainable water supply and citizenry empowerment as to reposition them for effective participation in water supply development programmes.

INTRODUCTION

Water is a social and economic necessity without which no economic endeavour is possible (Doornkamp, 1982). This remark emphasizes the importance of water in the socio-economic development of any area. Conversely, negative aspects of water supply signify adversity and thus have a direct effect on the health of the people (Ekop, 1994) as well as the growth and distribution of the population. Nyong and Kanaroglou (1999) have expressed that water is the most essential of all natural resources and is fundamental to all vital processes of values to man. In Nigeria, Adeniji (1985) noted that water influences the performance of many sectors of the economy such as industrial, agricultural, recreation and health.

Against the background of the importance of water for sustainable socio-
economic development, efficient and rational control and harnessing of water resources have occupied a prime place in regional development planning in most countries of the world. In spite of its importance, water supply problems still persist in the world. Statistics from the UN indicate that about 2.2 million people still lose the battle of life yearly by succumbing to water related diseases (Guardian, 2003).

In Benue state, water supply situation is far from being sustainable. Public taps are either constantly dry or non existent in some instances, and the generality of the populace is forced to source for drinkable water from other sources such as wells, streams, rivers and ponds. On the whole, the safety of these sources of water supply is in doubt because water is so easily contaminated at the slightest chance. Water has become a critical strategic commodity in Benue state as its demand increases while supply diminishes in both urban and rural areas. In view of its growing scarcity and its recognition as a finite resource, it has become imperative to plan its development in order to improve human livability and achieve socio-economic development. Although the United Nations Population Information Network (UNPIN) (1994) emphasizes the importance of technology for achieving the objective of urban and rural water needs, attention is also focused on the role of demographic factor as it relates to water supply.

According to Falkenmark (1989a, 1989b, 1994), UN (1991) and Sharma et al (1996), population affects both the demand and supply of water, as it leads to increased use, which in turn exacerbates water shortages and ultimately leads to economic and social crises. Thus, the relationship between population and water is reciprocal. Fruitful potable water supply efforts in Benue state were in the form of urban water schemes. These schemes were expected to extend the urban water to the rural areas to meet the rural water needs. However these schemes have not been able to meet the urban water demand to the extent that domestic supplies are grossly inadequate for sustainable living. Consequently, extension of supplies from urban to rural areas has not been possible. This prevailing condition led to the introduction of borehole strategy as deliberate water supply plan to meet the growth in rural water needs not only in Benue but also in other states of the federation. This approach is an attempt to divorce from the traditional single source and urban base character of water supply scheme in Nigeria with attendant low-level performance (Faniran, 1985). Investigations have revealed that the proliferation of borehole projects in the Nigerian urban landscape is indicative that the strategy has become an alternative option for water supply in both urban and rural areas.

Prior to the United Nations water Supply and Sanitation Decade, about one quarter of the world population lacked essential water supply and sanitation services (UNDP, 1990). Solution to this deplorable water supply condition was to be found in technologies. However, technologies that were suitable to developed countries were unable to work for developing countries. There was the need to build new systems that are self-reliant. Thus, borehole supply system emerged to become an envied approach to sustainable water supply. The use of borehole has been greatly intensified in developing countries.
According to Eggers (1986), 1700 boreholes were planned for 900 villages with a population of 350,000 in Aquaviva Mali in 1991 while 400 boreholes were provided in Yatenga in Burkina Faso. In Nigeria, many states are at different levels of borehole water supply projects. In line with UN declaration making 1981 - 1990 “the world water decade”, this paper gives an overview of the spatial aspect of water supply in Benue state, Nigeria, two decades after UN declaration.

A rapidly growing population, urbanization and intense economic development particularly in the agricultural sector are characteristic features of Benue State. In many parts of the state, the major sources of drinking water are streams and rivers. In actual sense, water supply in the state for domestic use is not sustainable. Sustainable water supply is the adequate provision of good water to the citizenry in the right quantum and quality at all times without compromising the ability of the future generation to meet their water needs. No wonder, the 2003 theme for world environment day was captioned “water: 2 billion people are dying for it”. In view of this development, there is an aggressive water supply expansion scheme in the state to meet the water needs of both urban and rural areas. There is across the state, an indiscriminate underground water abstraction. This strategy came into full force since 1995 as part of the efforts towards the realization of the goals of the international drinking water supply and sustainable decade. Water is a finite and vulnerable resource. The water supply to the earth is basically fixed as the amount of rain that falls to the earth and that, which is, stored underground remains the same (Malachi, 2003).

In view of the indispensable value and finite nature of water resources, what is the implication of indiscriminate and widespread abstraction of underground water in the state? Is the spatial distribution of borehole water points in consonance with the population served? What factors account for the observable spatial pattern of distribution of borehole water points in the state? These questions formed the subject of inquiry in this paper. Given the aggressive interaction between increasing population and developmental activities with little or no consideration to environmental sustainability, what is the impact of this development in water quality served?

METHODOLOGY

This study dealt with analysis of data obtained from primary and secondary sources. Oral interview with the officials of Benue State Rural Water and Sanitation Agency provided the needed primary data. A total of 80 boreholes representing 10% of the total number of successful projects were randomly sampled with a view to ascertaining their functionality and environmental conditions while percentage statistics was used in the analysis.

RESEARCH FINDINGS

(a) The Population factor in Urban and Rural water supply

Safe water supply in the state has not been able to keep pace with demand. What holds in the state is a general trend in the country. The population growth in the country is faster than water supply development, resulting in deteriorating coverage of the services. As at 1991, less than 25% of the population in rural and semi-
urban areas had access to adequate water supply facilities in Nigeria whereas these sectors accounted for about 70% of the total population as shown in table 1. On the whole, only about 37.1% of the total population in the country had access to water supply.

<table>
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<th>Total Population (Million)</th>
<th>Total coverage (Million)</th>
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<tr>
<td>Total</td>
<td>88.50</td>
<td>32.8</td>
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</table>

Table 1: Water Supply Coverage Status in Nigeria as at 1991.

Source: NPC (1991)

Using data from the National Population's Commission as shown in table 1, about 50% of the total population live in rural areas with the lowest water supply coverage of 15.03% of rural population. According to the National population census report, the urban area had a population growth rate of 3.0% per annum while that of semi-urban, and rural areas stood at 2.5% and 2.0% respectively. On the basis of these growth rates, an urban area refers to communities with more than 20,000 people while semi-urban areas have between 5,000-20,000 population. The rural areas have population of less than 5,000 persons. Thus, following this lines of classification, all the communities in Benue State were grouped accordingly using the 1991 population result for the state as shown in table 2 below.

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<th></th>
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<td>Total</td>
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</table>

Source: Compiled and projected by the Authors (2003)

NC = Number of Communities
POP = Population
Table 2 shows that, Benue State has 5 urban areas, 21 semi-urban areas and 3155 rural communities. The implication of this line of inquiry is that the state is more of a rural economy than urban. Out of a total of 2,753,077 population for the state, 2222396 persons representing 72% live in rural communities.

(b) Finance in Water Supply Management

Under the present dispensation, the national policy on water provides institutional arrangements for the operation of potable water supply for both urban and rural areas. One of such institutions is the State Water Board. In Benue State, the Water Board is expected to generate enough money through rates collection at least to facilitate the operation and maintenance of her facilities. However, the state Water Board cannot collect enough revenue because it has been restricted by government from charging economic rates. Consequently, the State Water Board has collapsed due to obsolete facilities in the face of increased demand. The government subventions have been too meagre to keep the operation of water facilities smooth. To cushion this situation, the National Policy on Water came out with a financing strategy that entails a cost-sharing approach involving the federal, state, local governments and individual communities concerned as shown in Table 3 below.

### Table 3. Cost Sharing for Capital Investment in Water Provision

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<th>Level</th>
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<th>Semi-urban</th>
<th>Urban</th>
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<tr>
<td>Total %</td>
<td>100</td>
<td>100</td>
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*Source: National Water Policy (2000)*

All the stakeholders are expected to adhere strictly to the cost sharing formula. From Table 3, the federal government is expected to bear 50% of the total cost of rural water provision while the state and local government bear 25% and 20% of the total cost respectively. Thus, the extent of water supply in both urban and rural areas depends on the extent to which the various tiers of government have adhered to the cost sharing formula.

In Benue state, the cost sharing formula has been abused. Field investigation showed that for any community to benefit from the project, such a community will pay as much as 15% of the total project cost for rural water supply while the local government will pay as high as 35% of the cost for rural water projects. This gives a combined total cost of 50% as against the stipulated 5% and 20% total cost to be borne by the communities and local government for rural water supply. This shift of financial burden has affected the extent of involvement of various communities.

The Benue Rural Water and Sanitation Agency (BERWASA) has undertaken 955 shallow boreholes of average depth of 60m between the periods 1995-2002 as shown in Table 4.

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Source: Adopted from BERWASA (2003)

S = successful U = unsuccessful
Table 5: Existing and Expected Water Supply Points

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<th>Location</th>
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<td>11</td>
<td>337</td>
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<td>Buruku</td>
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<td>184</td>
<td>23</td>
<td>374</td>
<td>1:6119</td>
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<td>Gboko</td>
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<td>11</td>
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<td>687</td>
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<tr>
<td>Oju</td>
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<td>148</td>
<td>76</td>
<td>297</td>
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<td>Guma</td>
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<td>Apa</td>
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<td>131</td>
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<td>Total</td>
<td>3941334</td>
<td>3181</td>
<td>796</td>
<td>7883</td>
<td>1:4951</td>
</tr>
</tbody>
</table>

Source: Atser (2003)  
Level of performance = \( \frac{7883 \times 100}{9883} = 10.08\% \)

* Ratio of existing boreholes to projected population.

The table has shown that the supply of water points has not been able to keep pace with population. The population size is greater than water supply development resulting in deteriorating coverage of the services. The existing number of boreholes (796) accounted for only 10% of 7883 is expected to serve the population. The ratio of existing boreholes to projected population is not sustainable.

(d) Discussion

Field investigation has revealed that the observable pattern in the distribution of borehole water supply points in the state (see figure 1) could be traced to many factors. The observable spatial variation...
pattern in the number of boreholes across the state landscape is directly related to the nature of the underlying rock (geology) and the depth of the water table. Borehole water supply development is easily facilitated under shallow depths of between 5 – 100 metres. The implication is that where deep-seated aquifers of beyond 100 metres depth occur, borehole drilling becomes more capital intensive and less attractive to poor communities. Thus, the difficult geological conditions in some parts of the state serve as impediments to abstraction of the underground water resources.

Another factor is low level of involvement and understanding on the part of the beneficiaries. The number of borehole water supply points in the various local government areas depended upon the extent to which the benefiting communities were involved. The need to involve beneficiaries in all stages of development projects is in line with the recommendations of the United Nations that government should adopt popular participation as a basic policy measure in national development and should encourage the widest active participation of all individuals and other stakeholders. Considering the level of poverty in our society generally, the lack of active involvement of communities and individuals in development programmes of this nature may not be deliberate but rather due to lack of economic power to participate effectively. Thus, the existing pattern of borehole projects distribution is directly related to the levels of socio economic development of the various local government areas.

Considering the important role water plays in our existence, politics of water supply in the study area should deal with the willingness on the part of government to show more commitment and performance in this sector. The problem is on the willingness to provide potable water for the masses but not lack of finance. Thus, the low performance or non-performance in some local government areas in Benue State could be related to lack of political will to provide safe water supply for the masses.

(e) Conclusion

The provisions of adequate water both in quantity and quality depend on the political will of the government and people of Benue State. Just like the provision of any other infrastructure, politics may come into play in the provision of sustainable water. As recommended by the National council on Water Resources in 1996, the federal government was to set aside 3% of the annual budget for the delivery of safe water to the people while each state government was to provide 1% of its budget for the same purpose (Udo, 2003). Considering the development trend in Benue State, it is difficult to assert with certainty that these provisions have been made. For instance investigation has shown that Makurdi and its environs need up to 21,000m³ of water per day considering the per capita consumption rate of 120 litres. But the installed capacity is for 18,000m³ and this only produces an average of 10,000m³ per day to satisfy the demand leaving a gap of 8,000 m³ per day. The capacity of the facility that existed long before Benue State was created has not been expanded to accommodate the increased in size of the town. In terms of boreholes, the gap is equally wide, as table 5 has shown. It
appears that both the federal and state governments have not been serious to see that the policies on water supply are implemented. This probably explains the reason for non-availability of water in the required quantity and quality. Lastly, the various tiers of government should live up to expectation in implementing the policies on potable water supply. The benefiting communities and individuals should be empowered economically to be able to participate effectively as other stakeholders.

(f) Recommendations

The planning of water supply in the state is devoid of base line data. Adequate information is needed for effective planning but unfortunately such information are lacking in the state. For instance, information on per capita consumption of water is misleading, as supply to all parts of the state is not the same. There are some local government headquarters that do not have pipe borne water at all. Worst still is the fact that the existing numbers of borehole points do not guarantee sustainable supply in terms of quantity and quality.

In view of the foregoing, this paper proffers the following measures to ensure effective sustainable water supply in the state. Since the sources, quality and quantity of water supply vary spatially, there is need to establish the actual water needs of the population local government by local government so as to generate the needed baseline data for effective planning. To achieve this, information on existing water sources, quantity and quality of existing sources as well as population served must be ascertained. Adequate information should be collected on the structure and capacity of the underground water system. Above all, there is need for effective monitoring of water quality from the numerous boreholes from time to time and from place to place.

As important as water is, it is easily contaminated at the slightest chance thereby causing harm to the human body. The contaminants such as microorganisms (bacteria, protozoa and worms) and chemical substances (lead, iron mercury, etc) can cause diseases and should not be permitted in drinking water. It thus appears that majority of the masses will have their water supply mainly from borehole. This is a dangerous development because apart from the fact that the water is not safe due to contaminants introduced into them during constructions, there is the possibility for the water table to be depleted and salt water intrusion occurrence especially during dry season when large volumes of water is pumped out for various uses. Many boreholes have heavy growth of faecal coliforms, which are responsible for many water borne related diseases such as typhoid fever cholera and dysentery. Laboratory analysis of borehole water quality in Makurdi and its environs revealed some levels of pollution because of non-treatment of borehole water supply (Atser and Mendie 2003). The health implication of continued extension of borehole water supply in the state is that the population is in high risk due to the consumption of contaminated water. Chemical substances are metabolic poisons that accumulate in the body. It is difficult to estimate the degree of loses in terms of death and monetary expenditure for medical attention or for funerals as a result of drinking water.
(REFERENCES)


RESIDENTS' SATISFACTION INDEX IN SELECTIVE REHABILITATION OF AN URBAN CORE RESIDENTIAL AREA IN OGBOMOSO, OYO STATE

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ABSTRACT

Urban planners and elected officials are often under pressure to utilize scarce financial and human resources on selective environmental rehabilitation programmes. Such investments are not best based on the guess and intuitive works of these officials. This study posits that correct priority programmes are best identified through the utilization of Resident' Satisfaction Index (RSI).

Data for the study was collected through the use of structured questionnaires administered using stratified random sampling. Residents' actual-aspiration and satisfaction levels on each of the twenty objective environmental attributes were measured and the index of each of the variables computed.

Deviations about the means of the Actual-Aspiration Index (AAI) and RSI, classified the twenty variables into four groups. The first group that represented the most important actual-aspiration of the resident but on which residents' satisfaction was low were with positive deviation about the mean of AAI but negative deviation about the RSI mean.

The standard deviation and co-efficients of variation of the two distributions revealed that the AAI spread more around its mean relatively to that of the RSI. They have respectively standard deviation and co-efficient of variation of 0.34 and 7.16 percent and 0.45 and 13.6 percent respectively.

The study recommends that priority should be placed on the provision of amenities related to the variables with higher AAI but lower RSI.

1. Introduction

Information on residents' satisfaction in relation to the different aspects of their residential environment has become a very useful tool in the hands of housing developers, analysts and policy decision makers for a long time now (Galster, 1987). This index of satisfaction is capable of being utilized in at least three main situations. These are where:

(i) the success of housing projects of either private or public sector or both is to be evaluated (Lansing et al, 1970; Onibokun, 1976; Rent, 1974; Cooper, 1975; Francescato et al 1977, 1979; Hourihan, 1984; Afolabi, 2001).

(ii) residents are moving from a residential environment and such mobility indicators are to be identified. The studies of Spare (1974) Speare, et. al.
(1974); Morris (1976); and Varady (1983) have found that Residents' Satisfaction Index (RSI) could be used in identifying these indicators, especially at the beginning of such movement.

(iii) public and/or private efforts (financial and human) are to be invested in the improvement of residential environment and such investments are to be prioritized based on the different degrees of the residents' perception of inadequacies on the existing facilities in their areas. The works of Sanoff and Sawhney (1971); Western et al. (1974); Graik and Zube (1975); Anderson (1983); Oladotun (1999) and Aboyade (2000) are good examples of such use of RSI. This is also the use to which it will be put in this work.

One of the zones in the Nigerian Urban scenery that needs greater attention in improvement is the urban core/traditional residential setting. Considering the squalid physical, poor economic and inadequate infrastructural conditions (Okediji and Aboyade 1967; Mabogunje, 1968; Onibokun, 1972; Oduola, 1987) the area deserves total clearance. This becomes extremely difficult if not practically impossible because of certain peculiarities which, according to Onibokun (1974) include:

(a) the large geographical size of the area which implied that many people would be displaced and thereby would have to be resettled.

(b) the social set up of the area. The area consists mainly of the natives or the indigenes (Mabogunje, 1968) who mostly are in poverty (Onibokun and Kumuyi, 1996).

(c) the non-availability of adequate finance to carry out the exercises that total clearance may involve.

(d) the social and political chaos which clearance might evoke.

(e) the traditional complications of family land ownership.

(f) the problem of accessibility to land at locations, which will be acceptable and economically advantageous to the displaced persons.

Despite all these, the area can still not be left to what Balchin and Kieve (1982) called the "do nothing approach" and watch the area go into further decay. This is because the area is still of significant importance to the people that reside in and outside it socially, economically and in the provision of housing especially for the low-income earners (Krapf-Askari 1969; Okewole 1977, Afon 1998). In essence, a viable and feasible option of raising the standard of the environmental quality of the core residential region and indirectly increasing the quality of life of residents therein is selective rehabilitation programme. A method of identifying the correct priority is the utilization of the RSI.

It is observed that the local government administrators, even under a democratic setting, are investing the public money on projects without taking into consideration the needs and aspirations of the residents. Furthermore, the various regimes of elected, appointed and career officers of the local government council are fond of embarking on projects similar to those of past regimes without a recourse to the satisfaction derived by residents from the past improvement exercises. In such cases, rehabilitation exercises are based on wrong priority.
It is therefore the goal of this paper to develop RSI which could be used by urban planners and elected officials who are pressurized to utilize scarce financial and human resources to maximize the well being of the people through selective rehabilitation programme.

2. Issues in Residents' Environmental Satisfaction

Two contrasting concepts on residents’ satisfaction in relation to their residential environment have emerged in the literature. These are the ‘purposive’ and “actual-aspiration gap” approaches. The purposive approach is a view that there exist certain definitive goals (purpose), which the people want to achieve through associated goal-directed activities and actions (Galster, 1987). In essence, three elements are identified in this approach, viz: the goals, goal-directed action and the objective environmental attributes. Both the goals and the actions directed towards achieving them are said to be subjective. This is because they are dependent on the individual socio-economic attributes. Canter (1982) and Canter and Rees (1982), observed that the objective environmental attributes have a great influence on the goal directed actions. Thus, the level of residents’ satisfaction is measured in terms of how the objective elements of the environment where one resides are perceived as facilitating the goal directed activities. It therefore, follows that where goal directed actions are inhibited by environmental attributes (natural and/or man-made), irrespective of the social and economic characteristics of residents, environmental satisfaction enjoyed is low.

In the “actual-aspiration gap” approach, the construct of satisfaction rests on the conceptual framework as developed by scholars such as Francescato, et al (1974, 1975, and 1979); Marans and Rodgers (1975) and Campbell et al (1976). As postulated, people are viewed to have a perception of the main attributes of their physical environment. These attributes are then evaluated based on certain standards on this aspiration (i.e. what people believe they may reasonably aspire to be or enjoy). In this sense, residents are seen as cognitively having a construct of reference conditions for each particular salient feature of the residential environment. Given an environment then, the quality and quantity of the environmental feature implied by the reference point is dependent on the individual self assessed needs and aspirations (Michelson, 1975).

The assessed needs and aspirations are also dependent on individual objective, social and economic attributes. If the existing situations of the residential environment are incongruence with (a reasonable portion of) the reference conditions, an affective state of satisfaction is manifested. There is also the possibility that the current environmental variables when evaluated are discovered to have fallen short of the reference situation to a degree of deficiency. In other words, there is a gap between the aspiration constructs and what the environmental attributes offer.

If and when this happens, two reactions are possible. On the first hand, residents may attempt to reconcile the incongruence by adaptation. This implies that needs have to be redefined and/or modified resulting in the generation of lower order aspirations. Second, if one cannot readily adapt to the emerging dissatisfaction, Rossi (1980) observed that options available to residents
include:
(a) alter conditions in their present dwelling units and general environmental conditions to reduce the degree of dissatisfaction.
(b) move to another more congruent residential area which could meet the set aspirations.

The two options above opened to dissatisfied residents may however be more or less feasible for different household types in different contexts. For instance, the ability to alter one residential unit and other environmental features is constrained by economic, social, legislative and cultural limitations. And indeed, effecting the decision to move to another residential district perceived to be more congruous to aspirations is also constrained by social, economic and informational factors. The issues raised so far have not helped us to identify what is to be done in the case where:
(a) residents' degree of dissatisfaction is high to the extent that adaptation is impossible;
(b) alteration to building unit is constrained and
(c) mobility to other areas is also constrained. What would emerge is a form of "forced adaptation". In such situation, people will be living under ‘tension’.

Residents could however, be eased out of their tension when the aggregate degrees of satisfaction on each of the main objective attributes of the environment are identified. Upon identification, resources are invested to improve these attributes qualitatively and quantitatively in a selective manner. These objective characteristics of the environment may include: physical quality of housing, locational suitability, adequacy and the efficiency of the social service (water and electricity), social interaction among neighbours and in the neighbourhood, security, economic opportunity, quality of environmental sanitation amongst others (Mabogunje, 1974; Onibokun, 1978; Oladotun, 1999, Aboyade, 2001). Some of the above named and other environmental attributes are used in the determination of the RSI of the core residential zone of Ogbomosho.

3. The Study Area

The study area is the core/traditional residential setting of Ogbomosho, the second largest urban centre in Oyo state, Nigeria. It is located between latitude 8°7' north of the equator and longitude 4°15' east of the Greenwich. The town consists of two local government councils created in 1991: the Ogbomosho North and Ogbomosho South local government councils. Their headquarters are at Kinira and Arowomole respectively. According to the census figure of 1991, the town had a population of 166,034. More than one third of this population resides in the study area. The area has a total of 16 traditional markets (day and night), 9 primary schools, 4 private hospitals, 2 maternity centres (1 private, 1 government), 3 government dispensaries and 1 government primary health care centre (Afon, 1998).

Two factors were utilized in delineating the study area from the rest of the town. These were (a) the historical and (b) physical structure and characteristics of the buildings and the environment. Historically, the area is believed to have been built prior to the advent of colonialism
of the 19th century (Mabogunje 1967; Okewole, 1977). Physically, the area is predominantly residential with aged buildings of mud walls. Houses are also closely built together with narrow paths connecting them.

4. Methodology: Data Collection and Method of Analysis

In an earlier work of Aton (2000), some variables with social, economic and environmental attributes were identified as Environmental Quality Indicators (EQI). They were those things the residents would use to judge the quality of their residential environment. They represented the needs and aspirations of the residents. These variables were termed the actual-aspiration of the residents in this study. The concern of this study is the measurement of satisfaction on each of the variables depicting the residents’ actual-aspiration in the environment they reside in.

The measurement is done through the analysis of data collected via structured questionnaires. In administering the questionnaires, the study area was stratified into the political wards used by Independent National Electoral Commission (INEC) in conducting elections. The portion of the political ward(s) that stretches outside the core area was disregarded. The first building to be sampled was selected randomly. The subsequent units of investigation were chosen at a uniform interval of every tenth building. A household is surveyed in each of the selected buildings. The household’s head was targeted (man or woman). However where this was not possible, any other person who was not below the age of eighteen in the household was sampled. This was based on the assumption that the possibility that a person under this age will have an input in the decision on where to live was very low.

Using this method, 219 questionnaires were distributed, out of which 179 (representing 81.74%) were recovered. Majority of the questionnaires not recovered fell into the hands of those who were literate. This set of respondents promised to get the questionnaires filled but failed. The twenty variables used earlier in the determination of the residents’ EQI were used in this study. Each of the variables was to be rated using Likhert’s (1961) scale as either “very much satisfied”, “satisfied” “Just satisfied” “Dissatisfied” or “very much Dissatisfied” to indicate the residents’ level of satisfaction.

During analysis, each of the ratings was assigned a weight value of 5, 4, 3, 2, and 1 respectively. To arrive at the RSI on each of the variables, the summation of the weight value (SWV) calculated was divided by the total number of questionnaires recovered. The SWV was calculated through the addition of the product of the numbers of responses to each of the variables and the weight value attached to each rating (See Aton, 2000 p. 118). The RSI can take any of the values between 5 and 1.

The mean of the RSI distribution was also computed. Furthermore, the deviation about mean of each variable, the variance and standard deviation of the distributions were also calculated to measure the scatter around the mean i.e. how large the observations fluctuate above it or how smaller observations distribute below it (Berenson and Levine, 1996). The coefficients of variation were calculated to measure the scatter in the data relative to
the mean in percentages.

5. Discussion

To identify the degree of importance placed on each of the variables in the determination of the environmental quality, the residents' Actual-Aspiration Index (AAI) was computed (Table 1), from the table, the highest AAI was 4.88 while the least was 3.59. The average AAI was 4.47. Some of the environmental variables with high AAI include “water availability”, “economic opportunities”, “clean, healthy environment (environmental sanitation)”, “electricity”, “good conditions of road” “nearness to health facilities”, “safety” among others. Indeed, the residents’ AAI on each of the above was higher than the mean value for the area. In essence, they had positive deviation about the mean of the AAI. Variables with low AAI include the “physical housing condition”, “nearness to place of work”, “availability of open spaces”, “amongst friendly people”, “proximity to public toilet”, “proximity to religious center” among others.

In order to detect the gap that existed between the residents’ actual-aspiration and the quality and quantity of the environmental features available to meet these needs and aspirations, the RSI was computed for each of the variables as shown in Table 2. The value of the RSI has a direct variation with the satisfaction derived from an attribute. From the table, the highest RSI was 4.13 with a positive deviation about the mean of 0.83; while the lowest was 2.56 and as usual, with a deviation about mean of −0.74. The mean of the RSI was 3.3.

For further discussion, the twenty variables were classified into four main groups. These are:

1. (a) variables with positive deviation about the mean of AAI (in table 1) but with negative deviation about the mean of RSI (in table 2). This implies that, the residents’ actual-aspiration on these variables was high. However the present levels of services and infrastructural facilities that could meet the needs and aspirations were
Table 1: Residents’ Actual-Aspiration Index (AAI) on the Core Area

<table>
<thead>
<tr>
<th>Environmental attributes</th>
<th>SWV (a)</th>
<th>AAI</th>
<th>(X'X)</th>
<th>(X-X)²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Availability</td>
<td>874</td>
<td>4.88</td>
<td>0.41</td>
<td>0.1681</td>
</tr>
<tr>
<td>Economic opportunity</td>
<td>861</td>
<td>4.81</td>
<td>0.34</td>
<td>0.1156</td>
</tr>
<tr>
<td>Clean, healthy environment</td>
<td>855</td>
<td>4.78</td>
<td>0.31</td>
<td>0.0961</td>
</tr>
<tr>
<td>Availability of Electricity</td>
<td>855</td>
<td>4.78</td>
<td>0.31</td>
<td>0.0961</td>
</tr>
<tr>
<td>Good condition of roads</td>
<td>848</td>
<td>4.74</td>
<td>0.27</td>
<td>0.0729</td>
</tr>
<tr>
<td>Nearness to health facilities</td>
<td>846</td>
<td>4.73</td>
<td>0.26</td>
<td>0.0676</td>
</tr>
<tr>
<td>Safety</td>
<td>841</td>
<td>4.70</td>
<td>0.23</td>
<td>0.0529</td>
</tr>
<tr>
<td>Accessibility to Transport Networks</td>
<td>829</td>
<td>4.63</td>
<td>0.00</td>
<td>0.0400</td>
</tr>
<tr>
<td>Accessibility to waste disposal facility</td>
<td>814</td>
<td>4.55</td>
<td>0.08</td>
<td>0.0064</td>
</tr>
<tr>
<td>Distance to primary school</td>
<td>813</td>
<td>4.54</td>
<td>0.007</td>
<td>0.0049</td>
</tr>
<tr>
<td>Absence of air pollution</td>
<td>801</td>
<td>4.47</td>
<td>0.000</td>
<td>0.0000</td>
</tr>
<tr>
<td>Physical housing condition</td>
<td>798</td>
<td>4.46</td>
<td>-0.01</td>
<td>0.0000</td>
</tr>
<tr>
<td>Absence of Noise pollution</td>
<td>792</td>
<td>4.42</td>
<td>-0.05</td>
<td>0.0025</td>
</tr>
<tr>
<td>Nearness to Secondary School</td>
<td>788</td>
<td>4.40</td>
<td>-0.000</td>
<td>0.0049</td>
</tr>
<tr>
<td>Nearness to place of work</td>
<td>784</td>
<td>4.38</td>
<td>-0.09</td>
<td>0.0081</td>
</tr>
<tr>
<td>Accessibility to Public Toilet</td>
<td>773</td>
<td>4.32</td>
<td>-0.15</td>
<td>0.0025</td>
</tr>
<tr>
<td>Amongst friendly people</td>
<td>771</td>
<td>4.31</td>
<td>-0.16</td>
<td>0.0256</td>
</tr>
<tr>
<td>Availability of open spaces</td>
<td>740</td>
<td>4.13</td>
<td>-0.34</td>
<td>0.1156</td>
</tr>
<tr>
<td>Nearness to Recreation Facility</td>
<td>665</td>
<td>3.71</td>
<td>-0.76</td>
<td>0.5776</td>
</tr>
<tr>
<td>Proximity to Religious Centres</td>
<td>642</td>
<td>3.59</td>
<td>-0.88</td>
<td>0.7744</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>89.33</td>
<td></td>
<td>2.2519</td>
</tr>
</tbody>
</table>

Source: Author’s Field Survey, 1996.

\[
X = \frac{\sum AAi}{20} = \frac{89.33}{20} = 4.47
\]

\[
\text{variance} = \frac{\sum (x-x')^2}{20} = \frac{2.2519}{20} = 0.1126
\]

\[
\text{Standard Deviation (S.D)} = \sqrt{\text{variance}} = \sqrt{0.1126} = 0.33555 = 0.34
\]

\[
\text{Co-efficient of variation} = \frac{(S.D \times 100)}{X} = \frac{0.34 \times 100}{4.47} = 7.61%\]
Table 2: Residents' Satisfaction Index (RSI) on the Objective Environmental Attributes

<table>
<thead>
<tr>
<th>Environmental Attribute</th>
<th>SWV (a)</th>
<th>a/179</th>
<th>(x - \bar{x})</th>
<th>(x - \bar{x})^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amongst Friendly people</td>
<td>740</td>
<td>4.13</td>
<td>0.83</td>
<td>0.6889</td>
</tr>
<tr>
<td>Proximity to religious centre</td>
<td>685</td>
<td>3.83</td>
<td>0.53</td>
<td>0.2809</td>
</tr>
<tr>
<td>Condition of roads</td>
<td>685</td>
<td>3.83</td>
<td>0.53</td>
<td>0.2809</td>
</tr>
<tr>
<td>Nearness to work place</td>
<td>680</td>
<td>3.80</td>
<td>0.50</td>
<td>0.2500</td>
</tr>
<tr>
<td>Accessibility to transport network</td>
<td>669</td>
<td>3.73</td>
<td>0.44</td>
<td>0.1936</td>
</tr>
<tr>
<td>Safety</td>
<td>668</td>
<td>3.73</td>
<td>0.43</td>
<td>0.1849</td>
</tr>
<tr>
<td>Physical Housing Condition</td>
<td>668</td>
<td>3.73</td>
<td>0.43</td>
<td>0.1849</td>
</tr>
<tr>
<td>Availability of opens spaces</td>
<td>612</td>
<td>3.42</td>
<td>0.12</td>
<td>0.1444</td>
</tr>
<tr>
<td>Distance of primary school</td>
<td>594</td>
<td>3.32</td>
<td>0.02</td>
<td>0.0004</td>
</tr>
<tr>
<td>Economic opportunities</td>
<td>593</td>
<td>3.31</td>
<td>0.01</td>
<td>0.0001</td>
</tr>
<tr>
<td>Distance to Water Disposal Facility</td>
<td>592</td>
<td>3.31</td>
<td>0.01</td>
<td>0.0001</td>
</tr>
<tr>
<td>Nearness to Secondary School</td>
<td>561</td>
<td>3.13</td>
<td>-0.17</td>
<td>0.0289</td>
</tr>
<tr>
<td>Availability of Electricity</td>
<td>558</td>
<td>3.12</td>
<td>-0.18</td>
<td>0.0324</td>
</tr>
<tr>
<td>Distance of health facility</td>
<td>552</td>
<td>3.08</td>
<td>-0.22</td>
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</tr>
<tr>
<td>Noise pollution</td>
<td>592</td>
<td>2.96</td>
<td>-0.34</td>
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<tr>
<td>Environmental Sanitation</td>
<td>512</td>
<td>2.86</td>
<td>-0.44</td>
<td>0.1936</td>
</tr>
<tr>
<td>Air pollution</td>
<td>495</td>
<td>2.77</td>
<td>-0.53</td>
<td>0.2809</td>
</tr>
<tr>
<td>Nearness to recreation</td>
<td>487</td>
<td>2.72</td>
<td>-0.58</td>
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</tr>
<tr>
<td>Accessibility to Public toilet</td>
<td>472</td>
<td>2.64</td>
<td>-0.66</td>
<td>0.4356</td>
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<tr>
<td>Water availability</td>
<td>458</td>
<td>2.56</td>
<td>-0.74</td>
<td>0.5476</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>65.99</td>
<td></td>
<td>4.0985</td>
</tr>
</tbody>
</table>

Source: Author's Field Survey, 1996.

\[
X = \frac{\sum AA \bar{I}}{N} = \frac{65.99}{20} = 3.30
\]

Variance = \[
\frac{\sum (x - \bar{x})^2}{N} = \frac{4.0985}{20} = 0.204925
\]

Standard Deviation (S.D) = \[
\sqrt{\text{Variance}} = \sqrt{0.204925} = 0.45
\]

Co-efficient of variation = \[
\frac{(SD \times 100 \%)}{X} = \frac{0.45 \times 100}{3.30} = 13.64\%
\]
inadequate. The variables represented services without which life would be uncomfortable and/or practically difficult. These variables were “water availability”, clean, healthy environment” (i.e. environmental sanitation) “availability of electricity” and “nearness to health facilities”. Their deviations about the AAI mean were respectively, 0.44, 0.34, 0.30, and 0.29. On the other hand, their deviations about the RSI mean were -0.74, -0.44, -0.18, and -0.22 respectively.

(b) the second group of variables is made up of those not considered to be of high priority in meeting the needs and aspirations of residents, but the satisfaction derived on each of them was very high. Each of these variables had negative deviation about the mean of AAI and positive deviation about RSI mean. Variables in this category include: “Amongst friendly people”, “nearness to place of work” “proximity to religious centre”, “physical housing condition” and “availability of open spaces”. Some of these variables were elements that have become part of cultural life, hence; they were not considered as important.

(c) the third set of variables have positive AAI and RSI deviations about their respective means. These variables are considered to be of reasonable importance. Moreover, the satisfaction derived from the associated facilities was also of a reasonable degree. The environmental attributes in this category are “economic opportunity”, “good conditions of roads”, “accessibility to transport network”, “safety”, “accessibility to waste disposal facility” and “nearness to primary schools”. Their deviations about the means of AAI and RSI were respectively: 0.34, and 0.01; 0.27 and 0.53; 0.20 and 0.44; 0.23 and 0.43, 0.26 and 0.01; 0.07 and 0.02. It could be observed that the satisfaction indices of some variables were higher than those of the actual-aspirations. This implied that facilities related to these variables were available in both quantity and quality that greatly satisfied the residents. For example, the road network and conditions in the core area of Ogbomoso were in good condition. Almost all roads in the area are asphaltic laid. The safety of life and property in the area was also ensured. However, there is a wide gap between the deviations of AAI and RSI on variables like “economic opportunity” and “accessibility to waste disposal facility”. This is an indication that there is the need for improvement on these in order that residents’ satisfaction might be maximized.

(d) the fourth group of variables observable in this study had both negative deviations about the means of AAI and RSI. Such variables include “absence of noise pollution”, with deviations of -0.05 and -0.34; “nearness to secondary school” (-0.09 and -0.17) “accessibility to public toilet” (-0.15 and -0.66); “nearness to recreation” (-0.76 and -0.58). These variables represented those that were not regarded to be of any significance in shaping the quality of their environment, and; the satisfaction derived from the existing services related to them was also low.
For example, there was no single secondary school in the core area of Ogbomosho, which reflected their RSI, yet this did not affect them much as there were secondary schools outside the area within a trekable distance. Moreover, there were public toilets located in the study area, yet it was not among the residents' indispensable needs and aspirations. This was so because: (i) some residents had toilets in their houses, (ii) the available open spaces were turned into toilets by those who did not have. (iii) the public toilets at the different locations in the area were not well kept, hence, many residents found it difficult to put them into use.

The scatter around the means of the two distributions (AAI and RSI) were small. This implied that the values of AAI and RSI of all the variables cluster around their respective mean. The computed AAI variance was 0.1089 with a standard deviation of 0.33. On the other hand, the RSI distribution recorded a variance of 0.2049 and a standard deviation of 0.45. The co-efficients of variation were 7.38% and 13.04% for AAI and RSI respectively. From these computations, it could be inferred that the scatter of the data relative to the means was higher in RSI than the AAI. This was so as the satisfaction enjoyed by residents from the environmental attributes was more varied as revealed by the range. The range of AAI distribution is (4.88–3.59) 1.29 while that of RSI is (4.12–2.56) 1.57.

6. Implication and Conclusion
Two of the above four groupings were of particular interest to this study. The first group of variables are those with positive and negative deviations about the means of AAI and RSI respectively. These were considered as elements in the residential environment that were crucial to the healthy living conditions of the residents, but related facilities were grossly inadequate.

For selective rehabilitation to really improve the living conditions of the residents of the area, attention must be focused on adequate water and electricity supply, improvement of environmental sanitation and health facilities in the area. These were true reflections of the environmental problems of the core area of Ogbomosho. For instance, only 1% of water requirements of the town could be supplied by the Water Corporation of Oyo State through the Urban Water Supply Scheme in 1998, and nothing has improved since (Afon 1998, p 97-99). People of the core area had to travel up to as far as 3km in search of well water at the outskirts. The indiscriminate sinking of wells has not solved the problems of water supply. It is suggested that the Water Corporation of Oyo State in collaboration with the two local governments in the town should carry out a rehabilitation work of the urban water supply scheme. Such rehabilitation fund could be sourced from agencies like Urban Development Bank, World Bank etc. However, effective financial planning and cost recovery methods from the consumers must be worked out.

Electricity supply to the town was also very poor. While National Electric Power Authority (NEPA) was in the serious move to improve power supply, the populace must also be educated on the need to pay promptly and to stop the act of vandalizing power supply equipment. The present low level of satisfaction derived from public
utilities by residents may be one of the reasons the people were unwilling to pay bills. The author is of the opinion that the local government can purchase electric power transformers, on terms to be agreed upon by NEPA and Local Government. This is considered far better than embarking on television viewing centres that were hardly patronized by people.

More public health facilities should be provided in this area. Presently, there is no single public hospital in the area. There is only one primary health centre in Ogbomoso South Local Government section of the area. The services of the private hospitals in the area are very costly and therefore out of the reach of the majority of the residents. All these selective rehabilitation work should be in the priority list of the state and local governments. When a substantial improvement has been recorded in these important areas, investment can then be directed to other environmental attributes that are unsatisfying to the residents.

The second group of variables that was of concern to the study were with positive deviations about the means of both AAJ and RSI. These variables can be further grouped into two. These were those that have fairly high and low positive deviations about the mean of the RSI. Included in the first category were variables like, “good road network and conditions”, and “safety”. It is suggested that roads must be maintained so that the condition will not depreciate and residents’ satisfaction reducing. The security apparatus put in place through the use of traditional hunters and vigilante groups should be integrated with the police patrol efforts to ensure a sustainable security in the area.

For variables like “economic opportunity”, “accessibility to waste disposal facility” and “distance to primary school” that had a relatively low deviations about the mean of the RSI, efforts should be made to increase the residents’ satisfaction on them. There is the need to have an organized daily market in Ogbomoso which will improve the economic opportunities of the residents. The existence of several small markets in the study area did not encourage economy of agglomeration, as the level of economic activities in each was low. Indeed, some of these markets are threats to free flowing of vehicular traffic during peak periods. The absence of an organized market is further robbing the two local governments of the opportunity to higher internally generated revenue (IGR).

The primary schools in the core area need to be maintained physically and equipped with instructional materials. Most of the primary schools in the area are mission schools built over a long period of time ago. Their present physical conditions are poor. The low level of satisfaction expressed relative to a higher actual-aspiration level indicated that this important level of education needs attention. The satisfaction derived from the solid waste management services of the local government in the core area was also very low. In some areas, refuse cans were provided, but the evacuation of their contents when full, by the local government for eventual disposal was poor. It is suggested that, a thorough financial planning for solid waste management be made and effective cost recovery strategies be put in place. This will allow the people to participate in the running of the affairs of the local government.
While this study opines that these two groups of variables in the core area should be pursued based on suggested priority, other existing areas where people were satisfied should not be allowed to deteriorate. The satisfaction enjoyed by residents from the social interaction should continue because that is the basis of the African communal existence. Even, environmental variables that were not considered to be of high priority in the determination of their environmental quality like the proximity to religious centres should not be tampered with considering the recent religious crisis in some parts of the country. Therefore in identifying priority areas when selective rehabilitation of core areas of Nigerian urban centres is to be embarked upon, the utilization of RSI becomes imperative not only to improve the quality of the environment but also the residents’ quality of life.

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A STUDY OF URBAN VIOLENCE AND INSECURITY IN ABUJA.

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1. Introduction

One of the very prime norms of good governance is the creation of safety and security through diverse means. Security is also crucial to the actualization of the conditions for the inclusive city. This is because every citizen has the right to life, liberty and security of person while insecurity has a disproportionate impact on further alienating the poor and the marginalized. Thus, freedom from crime, safety from violence at home and on the streets and observed and perceived feeling of security are viewed as uncompromising products of good governance.

In Nigeria, violence and criminal activities are assuming dangerous tendencies as they threaten life, property, the national sense of well-being, peace, security, social order and are, eventually, reducing the citizens’ quality of life. As the nation becomes increasingly urbanized, the traditional structures and value system that once served as buffer and restrict criminal behaviour have been severely undermined. Nigerians sleep with one eye open and tend to live one day at a time with grave uncertainty of tomorrow as dangerously armed bandits rampage the country with reckless abandon. There is no part of the life and aspects of the economy that are not affected in this criminal scourge. For example, financial houses spend huge sums of money protecting their properties with correspondingly high insurance premiums while many economic activities could not be operated far into the night.

Similarly is the incapacity of the conventional justice system in curtailing this menace. Information from the Federal Office of Statistics indicated that in 1996, 258,655 cases were reported to the Police throughout the country, compared to 216,119 cases in the following year (1997). The slightly reduced figure notwithstanding, serious crimes such as murder, assassination, armed robbery, etc. rose by 8.31 percent from 12,347 in 1996 to 12,450 in 1997 (FOS, 1998). According to a 1999 information from the Federal Office of Statistics (FOS), only 46 percent of the reported cases in 1998 were ever prosecuted while 48.5 percent were pending. There have been reported cases of collusion between the criminals and the law enforcement agents, thus compounding the misery and nightmare of Nigerians.

Nigeria is also under policed with an average of one policeman to 5,000 Nigerians, instead of the normal one...
policeman to 400 persons in most developed nations. In addition to the long delays and adjournments in law courts, many judges are alleged to be corrupt and are indeed said to be accomplices of criminals. These often make people take laws into their hands by lynching or burning alive their apprehended victims. Yet, Nigerian criminals are becoming more daring and they are mainly the young, the energetic and graduates of tertiary institutions. Newspaper reports show evidences of armed robbers telling their victims that they have gone to school and have now come out of the universities without jobs and with no discernible future. They are sorry for causing the victims the pain but they also want to taste out of the good lives around them. These armed robbers often operate in gangs of the same age of between ages 25 and 32.

All these create a feeling of insecurity among the Nigerian populace with no hiding place and no solace from any quarter. They are haunted by armed robbers at home, mugged on the streets by assassins and sometimes by the police and denied justice by the law courts. Urban violence has thus turned the fabric of the Nigerian society apart and has been threatening the very foundation of the nation’s nascent democracy as social exclusion continue to further segregate the society. The aftermath of these is a nation whose citizens are scared and which offers no positive signal to the international investment community. Yet, it is these investment factors which provide employment, prevent deprivations, homelessness and other forms of social exclusion that will also prevent crime and violence.

The global launching of the Good Governance campaign (with Nigeria showcasing for the whole of Africa in the year 2001) is considered vital to incorporate the Safer Cities element. This was the rationale for the preparation of the security profile of Abuja, Nigeria’s capital, as part of this good governance campaign.

This paper derives from this larger report sponsored by and prepared for the Safer Cities Programme of the UN-HABITAT. This paper discusses the identified safety and urban insecurity problems of Abuja, the responses of the Abuja residents and the opportunities in the communities for a safer city. It discusses the nature, characteristics and incidence of the insecurity problem and then evolves remedial intervention measures.

2. **Abuja: A Contextual Profile**

Abuja was planned with a vision of becoming one of Africa’s great capitals and one of the world’s great new cities. Its selection as Nigeria’s new capital city was the culmination of several years of informal consideration. The quest for a new capital city was based on the perceived real and imaginary inadequacies of Lagos. Thus, a New Capital was desirable that would be secure, ethnically neutral, centrally accessible, and possess adequate land/natural resources to provide a promising base for urban development. Accordingly, an 8,000 sq. km. of land area was acquired by the Federal Military Government in 1976 and designated as the Federal Capital Territory under the provisions of the FCT Decree No. 6 of 1976 (fig.1). The acquired
land area was divided into six administrative areas called Area Councils (Fig. 2).

The basic concept of the Abuja Master Plan is the "Neighbourhood Concept", a physical planning concept and it denotes a residential enclave with about 5,000 threshold population served with common facilities like primary schools, shops, postal agency, clinic, police post, etc. which would allow its inhabitants get the basic urban needs within the proximity of their varied homes. A group of neighbourhoods, however, form Districts and the Districts in turn are served by District Centres. Facilities in the District Centre include secondary schools, a 50-bed hospital, civic centers, police station, post office, etc. The beneficial element of this concept is that, in conra-distinction from the

**FIGURE 1: LOCATION OF ABUJA WITHIN NIGERIA**

![Location of Abuja within Nigeria](image)

FIGURE 2: THE FEDERAL CAPITAL TERRITORY AND THE SIX AREA COUNCILS

existing pattern in Nigerian cities, the concept supports the importance of permitting such factors that would reinforce traditional ties of social, cultural, occupational and administrative groupings all with a view to evolving a sense of community which can contribute to residential satisfaction, forestall urban violence and promote a good sense of security.

There is a planned incremental growth of Abuja according to the master plan. However, by a combination of many factors, the chief of which is administrative fiat, federal civil servants moved in droves to Abuja despite the unpreparedness of the infrastructural facilities to receive them and this contributed to the population explosion of Abuja. There is, however, no up to date data on the actual number of people in each of the administrative districts of Abuja and for the FCT as a whole. The available data from the Federal Office of Statistics (FOS) may not tell half of the population story. According to the FOS, the total population of Abuja in 1995 was only 415,567 (Table 1) when the planned population in the master plan was 1,005,800.

Table 1: Population of Abuja, 1991-1997

<table>
<thead>
<tr>
<th>Year</th>
<th>Population (Projected Estimates)</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991 (Base Year)</td>
<td>371,674</td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>393,008</td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td>404,131</td>
<td></td>
</tr>
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<td>1995</td>
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<td>1996</td>
<td>427,328</td>
<td></td>
</tr>
<tr>
<td>1997</td>
<td>439,421</td>
<td></td>
</tr>
</tbody>
</table>


In addition, most of the residents of Abuja are not found in the municipal area of the city but in the satellite towns. A satellite town in the Federal Capital Territory, as a policy, was created and developed to prevent the overpopulation of the Federal Capital City. The satellite town is controlled by the bigger town but at the same time it provides accommodation to the less privileged groups who provide the bigger town with all types of services. Many satellite towns or settlements abound in the Federal Capital Territory and they are of different origins. Some satellite settlements (towns and villages) were in existence before the creation of the Federal Capital Territory. Some of these towns and villages have now assumed greater significance because of rapid influx of immigrants into and from other parts of the country and these include: Gwagwalada, Karu, Nyanya, Gwagwa, Kwali, to mention a few (Fig.3). Some of these are now headquarters of area councils such as, Kuje, Abaji, Kwali (Fig.2). Some satellite towns sprang-up as a result of abortive resettlement exercises by the defunct Federal Capital Territory Administration.
(FCTA) during the civilian administration between 1979-1983. Other satellite towns included those established by the FCDA as a research town such as Sheda; resettlement of displaced persons such as Usuma Town; and educational center housing the Federal Technical College and the Federal Treasury Training Institute, etc. such as Orozo.

**FIGURE 3: THE POPULATION DENSITY IN THE FCT**

Thus, the satellite town as conceived, is a centre of population, which is larger than a village but smaller than a city. However, at the rate of expansion of these satellite towns through migration and strict control of the municipal area from influx of migrants through effective physical development control by the Federal Capital Development Authority (FCDA), the population of Abuja may be anywhere between three and four million people. Fig.3 shows the population distribution of the FCT. Notice that the heaviest densities are found in the satellite towns while the heavily controlled municipal areas have low population densities. These have implications for the security or insecurity of the city.

3. Methodology

The method of investigation adopted in the research necessarily relied on published and unpublished materials and sundry informal investigations from various stakeholders that affected and were affected by the insecurity problem. The research relied on official information from the criminal justice system regarding urban delinquency. More specifically, an in-depth examination of police reports and crime reporting trends and criminal justification were collected and synthesized while community policing component of police schedules was examined. These were complemented with the FCT's population's perception of the police and the predominant justice system in Nigeria.

With regard to crime prevention, existing information on crime preventive measures including an analysis of budget allocation/expenditure were examined. Similarly, the research identified key partners (local community and traditional leaders, elected local authorities, NGO’s religious leaders, etc.) who were able to provide information regarding insecurity in spontaneous or informal areas; groups at risk (in particular, women and youth; dangerous points, “hot spots” of the city; spontaneous reactions from inhabitants on insecurity such as apathy, lynching, organization of specific defense, etc. with a view to ameliorating the situation.

In addition, the research coalesced the experiences of government, local authorities, civil society, and inhabitants in addressing insecurity. Of particular importance in this regard are the activities and experience of the Abuja Command of the Nigerian Police. After a lot of persistence, the Public Relations Officer of the Nigerian Police provided valuable information on crime, hot spots and preventive measures within Abuja.

The results of this investigation are presented in this paper.

4. Research Results

4.1 Crime and Insecurity in Abuja

Violence is a social problem because it threatens life, property, sense of well-being, security, peace, social order and eventually reduces quality of life. In view of this, Harries (1974) observes that crime is not only a social problem but also the most serious of all social problems in the world. Urban crime statistics reveals that not only is the incident of violence becoming more frequent, but the nature of these crimes is getting more heinous. The situation is very depressing in Nigeria where the rapid growth of unplanned cities and population
pressures force impoverished inhabitants to live in cramped spaces, undermining social relations and increasing the propensity for conflicts and violence. This disorderly growth of urban areas is aggravated by poverty, the breakdown of traditional value structures and social norms, psychological disorientation, child abuse, street trading, unemployment and violence instance in television programmes. While urbanization uproots and dislocates communities thereby creating new inequalities between the haves and have nots, the traditional value system and structures that once served to restrict criminal behaviour are undermined, thus making people become isolated, alienated and less constrained by social norms. It is these traditional value systems which the neighbourhood design concept tried unsuccessfully to revive.

These are increasing number of literature investigating the various types of crime and insecurity in Nigeria with reference to their ethnic content (Albert, 1993; Suberu, 1996), intergenerational squabbles and the various political dimensions of such insecurity (Osalaghae et al, 1994). It is only of recent that such studies started to consider the impact of urban violence and insecurity on the built environment (Agbola, 1997; 2002). These researches have singly and or individually corroborated the rising tide of criminality in Nigeria while they also observe that the criminal justice system has not been at its best in curbing these criminal tendencies. For example, only 46 percent of cases reported in 1997 were prosecuted, while 48.5 percent were pending. As an increasing percentage of judicial cases are delayed, not less than 45 percent at any given time, many feel alienated and regard it as justice denied. The impact of urban violence on social and economic development is increasingly staggering. Violent crime is beginning to undermine the nation's economic growth and ultimately its ability to generate formal employment. In terms of investments and employment opportunities, the costs on the country’s image as being crime infested are immeasurable. Many commercial enterprises and banks have been forced to spend large sums of money on security and surveillance equipment, substantially pushing up operating costs. Insurance premiums are driven up by the high levels of crime induced claims.

Urban violence affects infrastructural development especially telecommunication, potable water as well as road networks. For example, armed robbers often cut telecommunication installations before embarking on their operations while resources that were to be used for other social services were often diverted to beef up security. Urban violence also affects small scale industry as well. Small traders and shops are robbed or coerced into paying “protection” money. In view of the waning confidence of Nigerians in the rule of law, more Nigerian urban residents are organizing their own defense as well as those of their communities. Since the most common type of crime is that involving property, self-defense is noticeable on commercial and residential properties. In Lagos, for instance, residents have resorted to designing and redesigning their physical environment for greater security (Agbola, 1997) but the effect of these measures seems to be
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minimal as urban violence has continued to rise. This is the pattern in most cities of the Federation, including Abuja.

4.2 Types and Characteristics of Crime in Abuja
There are some crime figures specific to Abuja. The number of armed robbery cases reported to the police over a five year period rose from 42 in 1993 to 70, 21, 36 and 14 in 1994, 1995, 1996 and 1997 respectively. As more people are forced by administrative fiat to move to Abuja, so also have the incidence of armed robbery risen between 1993 and 1994. The reduction in the number of cases reported after 1994 was due to the apathy of the people in reporting to the police seeing that not much succor was received.

These have been corroborated by the most recent data provided by the police as presented in Box 1. According to the Box, the Police was of the opinion that the three most prevalent crimes in Abuja in recent time are robbery, fraud and car theft with fraud being the most common. Another major offence which has been in ascendancy in Abuja is traffic accidents, many of which are fatal. This is because of the many wide freeways in the FCT; absence of effective road signs; and lack of effective policing. Table 2 presents a five year record of road accidents in Abuja.

The observed major causes of these crimes, whether serious or minor, are multifaceted. They range from poverty deriving from marginalisation and exclusion to dysfunctional families with uncaring, repressive and abusive parents, corruption, drug and women trafficking, prostitution, social acceptance of the culture of violence imported from foreign films and violent role models, discrimination and degradation of the environment. Much more significant is the collapse of the traditional ethos and morality which have acted as buffer in the past but which have become disused in contemporary times. Social exclusion and discrimination in urban social services supply, as visible in Abuja municipal and its satellite towns, often breed intra-urban violence as the poor and deprived feel alienated.

The generated anger and frustration is taken out on the rich and there thus ensues a perennial sense of insecurity by the rich and feeling of exclusion by the poor. This is particularly visible in Abuja between Karu and Nyanyan and Wuse. The poor live in satellite towns of Karu and Nyanyan, cross over to the rich areas of Wuse, Garki which is adjacent to them, rob them and disappear into the anonymity of the satellite towns. Similarly, children of violent parents are likely to be violent as violent families are the breeding grounds for future violent generation. This is why it is very important to know the extent and incidence of marital violence in the city but available data are incapable of unraveling this.
Box 1: Types of Crime in FCT as Reported by the Police

(i) Robbery: Residents of Satellite towns of the FCT especially Karmo, Gwagwa, Kubwa and Mpape are the most affected. The hoodlums lunch attacks on their victims at night in their houses carting away property and money, sometimes inflicting injuries on their victims with few deaths recorded. In most cases, the battle was been between the police and itinerant robbers. The number of cases reported to the police in 1999 and 2000 were 34 and 64 respectively.

(ii) Fraud: This includes obtaining money under false pretence, popularly called 419. Bank frauds and simple cheating which largely involve land cases. The number of cases reported between 1999 and 2000 rose astronomically from 24 to 306.

(iii) Car Theft: Stealing of cars is rampant especially around the Federal Secretariat Complex. This is as a result of the number of cars parked there on working days without good security system by the owners. This crime has been effectively checked and are on the decline. 67 and 40 cases were reported in 1999 and 2000 respectively.


Table 2: Reported Road Accident Cases and Casualties in Abuja, 1993-1997

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal</th>
<th>Serious</th>
<th>Minor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>74</td>
<td>35</td>
<td>119</td>
<td>228</td>
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<tr>
<td>1994</td>
<td>90</td>
<td>66</td>
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<td>427</td>
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<td>1995</td>
<td>8</td>
<td>13</td>
<td>8</td>
<td>29</td>
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<td>1996</td>
<td>11</td>
<td>6</td>
<td>18</td>
<td>35</td>
</tr>
<tr>
<td>1997</td>
<td>112</td>
<td>205</td>
<td>169</td>
<td>486</td>
</tr>
</tbody>
</table>


4.3 The Neighbourhood Design Concept and its Security Implications

The neighbourhood design of Abuja has a lot of equivocal security implications for the people of Abuja. In the first instance, the design of the city was based on the neighbourhood concept which tried to incorporate the traditional communal way of living of the people with the contemporary realities of city life. This design concept is particularly suitable for the security consciousness in that spaces can be territorialized and the total environment can be watched and or “policed” at all times. This would have the added advantage of scaring away would-be criminals and could assist in getting people to call for help should neighbours be attacked.

More often, the place where safety is sustained or eroded is within people's
neighbourhoods and communities. A safer community is created in a neighbourhood where: the youngsters or teenagers have a place to congregate and mingle while engaged in productive enterprise such as learning skills or other capacity building ventures; where women who are abused could get succor and support; and where there is a general feeling of neighbourliness such that each resident knows each other and their children such that strangers can easily be identified and questioned.

Only a more detailed study can reveal how much of the expected advantages of this design concept have been gained in Abuja. This is because the implementation process in the city design has been severely corrupted such that the actual realities on the ground, as observed by casual observers, do not match the expectations. For example, over 70 percent of the housing units in Abuja are government owned and allocated according to perceived need by workers in the various ministries. Thus, while the neighbourhood concept might have been followed in the design, in reality, the neighbours live as strangers since the allocation of allocation of housing units are not based on whom you want to live with but on some factors such as the ministry you belong to, etc. Accordingly, one may have a neighbour who is a stranger and could remain a stranger for long. Under this situation, it is difficult to reap the gains expected from this design concept.

Abuja is an administrative, indeed an artificial city. When the ‘ghost town syndrome’ problem is added to the above factor in the design, there is a recipe for criminality. For example, the literature is replete with various theories of crime and criminal tendencies and there is the “distance-decay effect” argument that shows that the bulk of the crimes are committed close to the offenders residence. Criminals will travel way out of their localities to operate depending on their motivation, type of crime, experience, level of organization and attractiveness of the target. In a place like Abuja, the structure of most of the residential buildings do not allow for surveillance of the public spaces and around the buildings and thus, when most of the residents are out to work, there is enough time for criminal behaviour and this may be why crime against properties is the most common in the city. There are many large free ways through which criminals can escape from arrest.

4.4 The Hot Spots in Abuja
As evident in section 2, Abuja and its environs are growing at a very fast rate and the population is cosmopolitan. Similarly, as observed in Section 4.3, not many people know their neighbours or even bother to interact with them. This explains the findings that most crimes are committed in medium and low income settlements, most of which are informal with spontaneous development. These include: Mpape (near Maitama), Dutsen-Alhaji, Kubwa, Kuchigoro and Lugbe, Mabushi, Karmo, etc. (Fig.4). Most criminals are found in these areas (Boxes 2 and 3). They take refuge in the old (core) settlements,
FIGURE 4: THE IDENTIFIED HOTSPOTS IN THE F.C.T.

Source: Nigerian Police, (2001)
which are not planned and are inhabited mostly by the low-income earners and move out to other areas at night to carry out their nefarious activities. The village heads and informal community leaders such as landlords and religious leaders can give information about security and measures taken to improve it in a security consultative forum, wherever that is found.

**Box 2: Identified Hot Spots in the FCT**

1. Idu-Karmo Axis
2. Area 1 Junction leading to Durumi Village/Garage
3. Berger Junction
4. Mpape Village
5. Nyanya
6. Deeper Life Junction
7. Tipper Garage
8. Wuse Old/New Market
9. Airport/Giri
10. Apo Mechanics Village
11. Mabushi Village
12. Kado Village
13. Gishiri Village
14. Danube Close
15. Gwarinpa Village
16. Deidei Junction
17. Karu Abbatoir/FHA Phase 1
18. Dutse Alhaji Village
19. Wazobia Garage Gwagwalada
20. Angwa Dodo Gwagwalada
21. Zuba Motor Park
22. Baharati Sabo/Lokoja Road Abaji
23. Rubochi Junction
24. Angwa Hausa Karshi
25. Rubochi Abaji Road


**Box 3: Areas that Give Police the Biggest Problems, Night and Day**

1. Asokoro/Maitama
2. Area 1/Garage Junction – Durumi 1, 2 & 3
3. Apo Village/Legislature Quarters
4. Federal Secretariat Complex
5. Berger Junction - Mabushi Roundabout
6. Karmo Village
7. Nyanya/Karu
8. Idu Forest
9. Airport Giri Junction
10. Ministers Hill
11. NASS Complex
12. Mpape Junction
13. Village Behind Abacha Barracks
14. Jabi Kubwa Pipeline Junction
15. Tipper Garage, etc.


Other major dangerous/hot points in Abuja are mostly those areas where development is not complete. Where you have uncompleted buildings, miscreants settle there. Most of these areas look innocent in the afternoon but at night, they are very dangerous. A major flash point is APO village where all sorts of criminals abound. All the major motor parks are dangerous at night. The shanty towns (baches) are also considered dangerous. An area of concern is the Gwarinpa Housing Estate from where a request had been made to the police by residents for extra surveillance because of cases of armed robbery which are on the increase. Most of these hot spots arise due to the presence of people who are basically idle.
and have no better things to do. Some are gainfully employed during the day but when night comes, they turn to criminals. Even the residents of the high brow Maitama, Asokoro and Wuse Districts are often terrorized by gangs of armed robbers who invade homes of the high/medium income people sometimes as early as 8.00 p.m. Some of the gangs are very rough as they rape women in the process as attested to by victims. Although there are no crimes relating to organized crime gangs, there are gangs specializing in car snatching. Currently, it is not safe to use jeeps and other expensive cars in Abuja at night.

4.5 Institutional and Societal Response to Crime and Insecurity in Abuja

In view of the various types of crime reported in this paper and the incapacity of the criminal justice system to serve as effective deterrents, some critical observations are inescapable as part of research findings. Available information showed that: the costs of crime in terms of human lives and materials are rising, the country does not have a coherent crime prevention policy neither is there a single agency responsible for crime prevention or management, the existing criminal justice system is geared towards processing offenders, and the responses of the government, the police and the civil society are largely duplicated, uncoordinated, conflicting and therefore largely ineffective.

4.5.1 Public Sector Reaction to Crime and Insecurity

Available evidences show that the Federal government, through the Nigerian police, is still the major crime watchdog in the city. According to the Nigerian police, about five different methods are used to police Abuja. The first category includes such methods as: **Stop and Search**; use of **Check points; Mobile patrols; Foot patrols; Joint Police-Military Patrol; Plainclothes Surveillance**. In the discharge of these duties, the FCT Police Command is segmented into Divisions, each headed by a Divisional Police Officer (DPO). The number of divisions in each Area Council depends on the population, level of development and other activities, the presence of hotspots, etc. The AMAC has ten Divisions while Bwari, Kuje and Gwagwalada Area Councils have two divisions each while Abaji and Kwali have one each. According to the Nigerian Police, Abuja Area Command has 2,451 police officers (Table 3). With an estimated population of 2,451,000, the police-citizen ratio in Abuja is 1:1000.

Since a safe environment is a prerequisite for an effective human settlements programme, the Federal Government did put in place a number of policies to serve as deterrent for criminal activities. These include, in the past: the promulgation of the Decree 47 of 1970 which legalized the public execution of armed criminals; setting up of police checkpoints to apprehend criminals; the setting up of different task forces on trade malpractices to
Table 3: Area Councils, Number of Police Divisions and Manpower Distributions by Divisions in FCT

<table>
<thead>
<tr>
<th>S/No.</th>
<th>Area Council</th>
<th>Division</th>
<th>SPOs</th>
<th>Inspectors</th>
<th>Rank &amp; File</th>
<th>Total</th>
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<td>Garki</td>
<td>6</td>
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<td></td>
<td></td>
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<td>10</td>
<td>14</td>
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<td></td>
<td></td>
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<td>9</td>
<td>12</td>
<td>212</td>
<td>233</td>
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<td></td>
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<td>Life Camp</td>
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<td>15</td>
<td>204</td>
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<td>Zuba</td>
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<tr>
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<td>ABAJI</td>
<td>Abaji</td>
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<td></td>
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<td>84</td>
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<tr>
<td></td>
<td></td>
<td>Grand-Total</td>
<td></td>
<td></td>
<td></td>
<td>2,451</td>
</tr>
</tbody>
</table>

Source: Abuja Police Command, 2001

combat fraud and the use of the criminal justice system. When it became apparent that these strategies were necessary but not sufficient, and with the wave of crime not relenting, the Federal Government, in 1999, paid the much-needed attention to the Nigerian Police since Nigeria is under-policed. Instead of the normal 1 policeman to 400 persons in most developed countries of the world, Nigeria has a ratio of 1 policeman to 5,000 persons. The Federal Government has, therefore, decided to recruit 40,000 policemen each year for the next three years (1999-2001). In addition, the Police would be equipped with modern sophisticated logistics and communication equipment to combat the rising wave and sophistication of crime in the country. State and Local Governments, as well as Private and Non-Governmental Organizations complement the efforts of the Federal Government in combating the increase in crime wave across the country. In November 2000, the Association of Local
Government of Nigeria (ALGON) donated 774 jeeps, one each to a Divisional Police Headquarters in the 774 Local Government Council Areas in the country. The morale of the Nigerian Police, which was at the lowest ebb, is boosted with a reviewed salary structure, renovated barracks and improved welfare package, to motivate and energize the force to action.

These efforts are being supplemented with community policing. Unlike the former situation when the petitioner becomes the victim, the police has sought the cooperation of the public in combating crime. There is now an emergency number to call for those in distress (01-99-999) while those with information on crime can reach the police through a P.M.B. 22 anonymously, even without a stamp.

4.5.2 Social and Economic Programmes Aimed at Crime Prevention

A cursory look at the crime profile of the perpetrators point to their young age. As one news magazine observed, they are the “children of terror” or “teenage robbers” and they are really wrecking criminal havoc on the nation and her residents. Paradoxically, however, young people are not only the future leaders, they are also present day partners of Governments, the public sector, the private sector and civil society. This is because the youths and especially children fall into the vulnerable group category whose special needs must be taken into consideration in the shaping of cities and other human settlements.

This is why the Federal Government has continued to initiate policies and programmes aimed at tackling the problems of Nigerian youths. Most prominent of such policy initiatives is the problem related to unemployment which has largely been responsible for most social vices. Such policies include: the establishment of the National Directorate of Employment (NDE) to offer credit facilities to youths and to also improve their vocational skills; there is also the Poverty Alleviation Programme of the Federal Government initiated in March 2000; establishment of Youth Cottage Industries in each of the 36 States and the Federal Capital Territory (FCT); establishment of Youth Centres in all the States of the Federation and the FCT to serve as rallying point for all categories of youths to socialize in an atmosphere of cordiality and mutual trust, learning various trades and skills. The Federal government is also planning programmes which would train youths for leadership and citizenship responsibilities for overall national unity and development. The formulation of a policy for Youth Development is in progress.

4.5.3 Police-Community Relations

One of the envisaged most effective means of combating crime is the evolvement and sustenance of a police-community relations system. The police itself has often recognized the need for better relations with the public and has set up the Police-Community Relations Committee which is an avenue for the inhabitants of the community can get to meet the police to exchange ideas, information, suggestions, etc. As evident from the experiment from the Lagos Area Command, the Committee sits usually, once or twice a month. It was gathered that the police rely heavily on
information from the inhabitants of the community, from vigilante groups (although their information could be tainted by other factors, e.g. tribal mistrust, jealousy, personal vendettas, etc.) and also from the community leaders or traditional rulers. As one policeman in Abuja enthused, the police do not consider themselves to be magicians and or mind readers. They need information in order to do a good job.

Luckily, it would seem from casual observation and informal interviews that the police in Abuja have great appreciation for the public’s assistance/help in crime prevention and in giving information, etc. There is thus a very low level of apathy here. This could be explained by the fact that most residents in Abuja belong to the productive sector with most of them engaged as workers, contractors, hawkers, etc. So, there is a high level of enlightenment among the populace.

5. Summary, Conclusion and Recommendations

In times past, the Nigerian society was dominated by the existence of virile civil society organizations which benefited society most significantly through the use of social capital and guided by societal ethos, norms and values. In this society of times past, violent behaviour was an anathema as family members jealously guided the family name. Consequently, individuals seldom misbehaved in the society. Indeed, the use of tribal marks in some Nigerian societies was an offshoot of this quest for good behaviour. With the tribal marks, it was possible to identify from whose family an individual came and any misbehaviour was promptly reported and erring family members disciplined.

With the long years of coercive rule of the military, these cherished societal heritage was ruthlessly bastardized in Nigeria. As the years rolled by, the age-long ethos of good behaviour were replaced by the quest for wealth. This in turn bred unbridled corruption and the insatiable demand for naked power so much so that those who ventured to live by the norms and values of the civil society were dubbed "old fashioned" and unsuitable for the 'modern' society. In effect, "modernity" was equated with abdication of societal responsibilities and respect for individuals. Even the custodians of these cherished traditional institutions - the Obas, Obis and Emirs - got themselves involved in one form of scandal and corruption or the other so much so that their subjects could no longer trust them to adjudicate justice impartially. Those who refused to be corrupted were either deposed and or fictitiously arraigned and sentenced. Thus, as the Nigerian nation becomes more capitalistic in its form and functions, the city dwellers became strangers of each other and are further separated by various forms of segregation and exclusively. As the segregations became more pronounced, the social networks and civil society organizations that once held the society together became disused and ineffective. With the anonymity of the city, young men and women, bubbling with energy and determination but almost effectively excluded from most societal opportunities, took to criminal activities. The result was a continuous rise in urban violence and higher level of insecurity (perceived or actual). Abuja is a "modern" city without a history of these traditional ethos.
Abuja is divided into six Area Councils with both traditional and modern institutions competing for dominance. Perhaps we could annex this dual nature of urban governance in the city for the city's advantage. Luckily, the traditional system still holds sway especially in some of the satellite towns. What is necessary now is to put in motion a process of identifying all necessary civil organizations in each of the area councils, identify their institutional structure and leadership profile and then establish an inter-organizational structure with clearly defined objectives and duties for curbing urban insecurity.

The import of this is that instead of relying only on the traditional institutional apparatus as in the days gone by, there must be effective integration of the traditional and modern system. This integration will have as its fulcrum the use of communities (however defined and or delineated) instead of family heads, etc. In this regard, there will be a catalogue of communities in each area council with definable structure. Inter-community structure must then be evolved that will liaise with each other. The various civil society organizations in each community (such as religious, tribal, ethnic, trade and professional unions/groups, etc.) would be inventoried and given clearly defined objectives in sourcing crime information and curbing insecurity. From these can evolve new urban ethos and community norms which may not be too far from those of the traditional societies. Care would then be taken that these repertoire of communities and civil organizations do not get bogged down in bureaucratic inefficiencies. The use of social capital in those urban communities would be revived, there will be trust and confidence between and among community members and the society will be the better for it.

This is not an esoteric suggestion as there are best practice cases in Germany. As observed by Anheier (2000), "bowling alone", a phenomenon that impoverishes social networks and bespeaks the extinction of communal activities is not a trend in Germany. These civic or city foundation groups, organizations or individuals join together into yet larger groups in order to solve local problems at the local level. If a developed country like Germany can re-discover and use the refined civil society organizations to their communities' advantage, surely, Nigeria with a heritage of such tradition should not find it difficult. In Nigeria also, the Ijebu-Ode Community in Ogun State has successfully used the traditional institutions and recourse to civil society organizations and social capital to curb urban violence and insecurity (Agbola and Sobanjo, 2002).

These may be a necessary but not sufficient strategy. While communities are being organized, the various tiers of government must work in tandem for the eradication of poverty, reducing unemployment and social disparities, creating an inclusive city where opportunities are created for all for self actualization. For example, the Federal government should pursue, with greater vigour, all the poverty alleviation programs, the State governments should assist in employment creation and make the cities liveable by the provision of social amenities.
without undue discrimination while the local government should be the front runner in creating effective communities. The rationale for the existence and sustenance of hotspots in the various Area Councils of Abuja should be examined with a view to addressing the root cause through existing or new programmes. If and when these measures are effectively implemented, crime and criminal activities will be significantly reduced in Abuja.

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ANATOMY OF “ILLEGAL STRUCTURES” IN AKURE METROPOLIS, ONDO STATE

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ABSTRACT

Cities in Nigeria are confronted with urban management problems. These range from inadequate provision of social and economic infrastructure, hectic traffic hold-ups, unsanitary disposal of waste to the development of illegal structures amongst others. This paper focuses on illegal structures and their effects on urban development of Akure metropolis, the Ondo state capital in Nigeria. It discusses the concept of “development control” and “illegal structures”.

Based on primary data, the paper identifies six major types of illegal structures and discusses their distribution in the city. It identifies various reasons responsible for the development of illegal structures and analyses the implications of the findings on the development of Akure metropolis. Finally, the paper among others calls for the re-equipping of the urban management agencies with qualified staff and up-to-date working tools. It further solicits political “back up” of the planning agencies to carry out effective enforcement of the relevant provisions of the planning laws and regulations in the control of the development of illegal structures.

KEY WORDS
Illegal structure, development control, planning approval

1.0 INTRODUCTION

The emergence of human settlement is based on a number of factors such as socio-cultural, economic, defence, administrative and educational factors among others. These factors play key role in the form, structure, growth pattern and spatial distribution of land uses and infrastructure in a number of settlements in Nigeria. The existing towns and cities in Nigeria were originally small settlements and their sizes were initially determined by
walking distance.

However, the development of these settlements over the years has been plagued by multifarious planning problems due to ineffective and poor urban management (Mabogunje 1976, Onibokun 1997). These planning problems range from the existence of illegal structures, incompatible land uses, poor quality housing, non-functional infrastructural facilities to insanitary urban environment just to mention but a few.

These problems are viewed in different perspectives. For instance, Mabogunje (1976) examined the problems of urban settlements under the title “Cities and Social Disorder”. He decried the high rate of disparity in accessibility among the Nigerian urban population to welfare services and employment opportunities and the failure of the Nigerian cities to meet the yearning of the people. Scared by the magnitude of urban management problems facing Nigerian cities, Egunjobi (1999), had no option than to describe the Nigerian cities as ‘cities at risk’, which are gasping to take their last breath.

These expositions continue to raise dust as to whether or not there is any planning agency charged with the management of Nigerian towns and cities. Afterall, an essential feature of any statutory planning system is the power of planning authorities (or agencies) to control development in the pursuit of implementing environmental policy (Prior, 2000). Enforcement powers have been an integral feature of the Nigerian planning system since 1863, when the Town Improvement Ordinance was enacted by the colonial government which was meant to control development and urban sanitation in Lagos (Lugard 1919; Olujimi, 1993). However, this enforcement power did not cover the whole country at the same time. It was not until 1946, when the Town and Country Planning Ordinance (No. 4) was enacted, which formed chapter 155 of the Nigerian Laws (Ola 1977). The 1946 Town and Country Planning ordinance was reviewed in 1992 and referred to as the Nigerian Urban and Regional Planning laws of 1992 (FRN, 1992). A recent court decision set aside same provisions of the law on the jurisdiction of the Federal and State Governments on development control. In spite of the long historical development of the Nigerian planning laws, the enforcement of its provisions has not checked the development of illegal structures in Nigerian settlements. Even in the Federal Capital Territory – Abuja that is being looked unto as “a pride of the nation” is ridden with the menace of illegal structures.

The concern of this paper therefore, is the assessment of the development of illegal structures and their implications in Nigerian towns with a focus on Akure metropolis, the Ondo State capital. In order to achieve this intension, the objectives of the paper are to:

(a) identify various types of illegal structures and factors responsible for their development in Akure,
(b) evaluate the effects of the illegal structures on their surroundings,
(c) assess the actions of the Ondo State government in curtailing the existence of illegal structures in the town and finally,
(d) give suggestions that could check their continuous development in the town.
1.1 THE STUDY AREA.
Akure was formerly a district under Ekiti Division during the early part of colonial administration in Nigeria. Akure lies on latitude 7° 15' North of the equator and longitude 5° 17' East of the Greenwich meridian. It is situated at 204 kilometres east of Ibadan the Oyo State capital and 168 km west of Benin – city, the Edo State capital. It is about 400km Southwest of Abuja, the Federal capital Territory of Nigeria (see Figure 1).

Fig 1: MAP OF NIGERIA, AKURE ONDO STATE CAPITAL.

In 1915, Akure became the Provincial Headquarters of Ondo Province as well as the District Headquarters of Akure District Council. Akure continued to play this dual role until February, 1976 when its provincial Headquarters role changed and it became the capital of Ondo State of Nigeria, a status it retains to - date. The change in the political and administrative status of Akure continues to create development in the economic, social, political and administrative aspects of Akure. These are in form of increasing growth in population and diverse human activities that reflect on the existing land uses. Akure whose population was about 93,945 in 1976 also occupied an area of about 17 square kilometres of land then. The creation of Ondo State in February 1976 witnessed significant influx of deployed civil servants, as well as influx of non- governmental organisations such as Banks, Insurance
companies and private enterprises from Old Western State in particular and other parts of Nigeria to Ondo State in general. This particularly led to increase in the population of Akure.

In order to cope with the need for accommodation at the creation of Ondo State in 1976; some of the existing residential structures were renovated for office uses while few existing residential buildings were renovated and structurally extended to accommodate more people and construction of new buildings was also undertaken. The shortage of accommodation for both residential and office uses encouraged the illegal conversion of existing uses (most affected was residential use to commercial and office uses) and construction of illegal structures, which the development control apparatus has not been able to put at bay. The population of Akure is projected at 325, 901 and it occupies an area of about 80 square kilometres. (Okoko, 2003). The existence of illegal structures continues to affect its urban form.

2.0 THE CONCEPT OF “DEVELOPMENT CONTROL” AND “ILLEGAL STRUCTURES”

2.1 DEVELOPMENT CONTROL

‘Development’ in relation to any land means the carrying out of any building, engineering, mining or other operations in, on, over, or under any land or making of any environmentally significant change in the use of any land or demolition of buildings including the felling of trees and the placing of free-standing erections used for the display of advertisement on the land (FRN, 1992). Development control therefore, regulates any building or rebuilding operations in, on, and under the land. It involves the regulation of the detailed aspect of development about which precise guidance cannot be given by the development plan so as to ensure convenience and sightly results (Olajuyin and Olayiwola, 1985). However, Agbola (1988) sees development control as a collection of interrelated para-legal and administrative techniques and instruments designed to safeguard, regulate, conserve and disburse land or part thereof in the interest of the overall community. Considering the tenet of the two definitions, it suffices to say that development control regulates the orderly planning and growth of settlement by stipulating adequate standards for all aspects of planning.

In order to prevent conflict and misuse of land as well as to promote harmonious interrelationship, development control ensures that residential, commercial, industrial, educational and other land uses are properly and carefully zoned, guided and developed. Furthermore, development control attempts to check the activities of real estate developers and land users by ensuring that they do not develop or use their property to the detriment of public interest in particular and the environment in general.

A development plan (or master plan) cannot work without development control (Oderinde, 1988). Development control therefore, serves as a crucial link in the chain of implementing planning decisions. The mechanism for the element of development control is usually in the hand of the town planning authority. The technical section of the planning authority is legally empowered to carry out the operation of
development control.

The intents and contents of development control are legally coded in such legal documents as urban and regional planning laws, subdivision regulations, zoning codes and building by - laws. Despite the availability of these legal instruments, the planning agencies were unable to check the increasing development of illegal structures in Nigerian towns and cities.

2.2 THE CONCEPT OF ILLEGAL STRUCTURES:

On this concept, illegal structures are unauthorized structures either permanent or semi-permanent that were constructed without the valid permit (i.e approved building plan) obtained from the building plan approving authority (Adeniji, 1982). The building plan approving authority or agency derives its power from the 1946 Town and Country planning ordinance that had been subsequently reviewed as contained in section 28 (1) of the Nigerian Urban and Regional planning law of 1992 which states that approval of the relevant Development Control Department shall be required for any land development. The status of the law after the supreme court judgement on June 13, 2003 in favour of Lagos State government clearly granted planning jurisdiction to State governments on land within their territories (Olomola, 2003). Therefore, not minding the ownership of any road within the State, planning permission for physical development activities or structures along such road would have to be granted by the state government through its planning agency. The development of unauthorized structures could be on a large scale, usually by illegal immigrants or urban poor that could result in the creation of spontaneous neighbourhoods within or at the periphery of a city (Dwyer, 1975). However, such a neighbourhood is without any social infrastructural facility or amenity, characterized by insanitary environment that reflects planlessness.

The second concept of illegal structure is applicable even when a valid permit (approved building plan) is secured for the construction of a building which deviates spatially and structurally from the approved plan. This act contravenes the Ondo State Building and Sub-division Regulations of 1984, and Urban and Regional Planning Decree 88 of 1992 (ODSG, 1984; FRN 1992). Often times, the developer of the unauthorized structure (i.e the contravener refused to observe the minimum setbacks to the abutting road and boundary lines to the unauthorized structure, and/or carry out structural modifications contrary to the approved plan (Sule, 1986). This results in overbuilding of the plot without adequate open space and creation of slum environment.

Another concept of illegal structure is noticeable when a validly approved structure, which had been constructed over the years, is structurally altered to accommodate an extension to the original use of the structure or effects a complete change in the original use (Sule 1981; Adeniyi 1998). This promotes the stretching of the household infrastructure originally provided on the one hand, and results in the development of incompatible land uses on the other hand. The effect of the three identified concepts of illegal structures is inimical to the health of the users and the urban environment. These are situations that
call for planning attention. However, the three concepts of illegal structure are particularly relevant to Akure metropolis, our case study.

3.0 RESEARCH METHODOLOGY

Two sets of questionnaires were designed for the collection of primary data which were complemented by secondary data obtained from other relevant sources. The first set of questionnaire was designed for the developers/users of identified illegal structures in Akure. The questionnaire, among other questions, probed into reasons for the construction of the structures, efforts made in securing planning approval, benefits derived as well as problems encountered in the usage of the structures.

The town was divided into three zones. The first zone covers the Central Business District (CBD). This is bounded by Arakale road/Ondo road via the Catholic Cathedral, down to Aferi Street. It extends to Oja Oshodi up to Ijomu via Ilemo Street connecting back to Arakale road (Figure 2). The second zone starts from Hospital road to Iro street through Isikan to Champion road via Ilesa road to Owo road. It extends through school of Agriculture road connected back to Nigeria Police A-Division Station (Figure 2). The third zone covers all other areas outside the second zone to the periphery of the town (Figure 2)

FIG 2: AKURE: THE ZONES AND MAJOR ROADS

Source: Ministry of Lands and Housing, Akure, 2003
4.0 RESEARCH FINDINGS.

4.1 TYPES AND PATTERN OF ILLEGAL STRUCTURES IN AKURE:

Like any other Nigerian settlement, illegal structures in Akure are made up of either permanent structures otherwise constructed with sandcrete blocks or mud; or temporary structures constructed with woods or galvanized-roofing sheets. These two classifications notwithstanding, there were six major types of illegal structures in Akure. These are:

(1) Structures whose uses were illegally converted from one use to the other(s) such as residential to commercial use;

(2) Structures that were illegally extended and/or structurally modified;

(3) Structures that were both illegally converted and extended;

(4) Structures constructed on road setbacks, river banks/floodable plains and open spaces;

(5) Rolls of shops constructed directly in front of existing buildings without observing adequate setbacks; and

(6) Structures without approved building plans.
Table 1 Types of Illegal Structures in Akure (% in parenthesis)

<table>
<thead>
<tr>
<th>Type of Illegal Structure</th>
<th>Zone I</th>
<th>Zone II</th>
<th>Zone III</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illegal Conversion of uses</td>
<td>27(31.8)</td>
<td>10(14.3)</td>
<td>2(3.6)</td>
<td>39(18.5)</td>
</tr>
<tr>
<td>Illegal Extension of Structures</td>
<td>20(23.5)</td>
<td>18(25.7)</td>
<td>14(25.5)</td>
<td>52(24.8)</td>
</tr>
<tr>
<td>Illegal Conversion &amp; Extension of Structure</td>
<td>6(7.1)</td>
<td>5(7.1)</td>
<td>5(9.1)</td>
<td>16(7.6)</td>
</tr>
<tr>
<td>Structure Constructed on road setback/ River Banks and Open Space</td>
<td>12(14.1)</td>
<td>20(28.6)</td>
<td>20(36.4)</td>
<td>52(24.8)</td>
</tr>
<tr>
<td>Roll of shops constructed directly in front of Existing buildings without adequate setbacks</td>
<td>3(3.5)</td>
<td>4(5.7)</td>
<td>2(3.6)</td>
<td>9(4.3)</td>
</tr>
<tr>
<td>Buildings without approved plan</td>
<td>17(20.0)</td>
<td>13(18.6)</td>
<td>12(21.8)</td>
<td>42(20.0)</td>
</tr>
<tr>
<td>Total</td>
<td>85(40.5)</td>
<td>70(33)</td>
<td>55(26.2)</td>
<td>210(100.0)</td>
</tr>
</tbody>
</table>

Sources: Authors’ Fieldwork, 2002.

(i) Structures whose Uses were Illegally Converted:

Illegal conversion of uses is very predominant in zone one which constitutes 31.8 percent of the samples in the zone. It covers the Central Business District of Akure. Most of the structures in the zone are very old and were formerly used as residential buildings. The high intensity of commercial activities in the zone was responsible for the conversion of most of the buildings into commercial uses. In zones two and three, only 14.3 percent and 3.6 percent of the samples were illegally converted. The conversion of uses in these two zones was mostly from residential to public uses such as places of worship and educational use. Overall, about 18.5 percent of illegal structures in Akure metropolis were illegal conversions of uses as indicated in Table 1.

(ii) Illegal Extension/ Modification of Structures:

In zones two and three, about 25 percent of the sample were illegal extensions of structures. These are situations where originally approved and constructed buildings were extended by constructing more rooms, thereby increasing the built-up area. In zone one, illegal extension of structures constituted 23.5 percent of the sample. Overall, the study revealed that illegal extension of structures constituted 24.8 percent, which happens to be one of the highest types of illegal structures in Akure (Table 1).

(iii) Illegal Conversion of Uses and Extension of Structures.

About 7.6 percent of the sampled illegal structures in Akure were made up of both illegal conversions of uses as well as illegally extended additional rooms to the original structures. This type of illegal structures seem to be uniformly distributed in the three zones; where zones one and two had 7.1 percent each, while zone three
had 9.1 percent of its illegal structures belonging to the group.

(IV) **Illegal Structures Constructed on Road Setbacks/River Banks and Open Spaces.**

Ala is a river in Akure metropolis which flows through Odo-Ijoka, Isolo, Oke-Ijebu, Araromi, Adegbola, Leo and part of Ikeshi road areas while Elegbun, a major stream flows through Osinie and Otuteyi areas (Olanrewaju and Fadairo, 2003). According to Ayeni (2000), about 182 buildings were constructed along riverbanks and floodable plain of Ala river in Akure. The existence of illegal structures is not peculiar to Ala river bank and floodable plain alone, but the widths of carriage ways of some major streets in the core area of the metropolis have been reduced by the erected illegal structures along the roads. These streets include Oja Oshodi and part of Isolo Street. About 24.8 percent of the illegal structures in Akure metropolis were constructed on road setbacks, river banks and open spaces. In zone three, 36.4 percent of the sample were illegal structures on riverbanks and road setbacks while 28.6 percent and 14.1 percent were in zones two and one respectively (Table 1).

(V) **Rolls of Shops Constructed Directly in Front of Existing Buildings without Adequate Setbacks:**

Besides the fact that most of the conversions of uses and extensions of structures were intended to accommodate commercial activities, particularly in the informal sector of Akure; the emergence of the construction of shopping complexes and rolls of shops since early 1990s has continued to create more opportunities for new entrance into commercial activities in the state capital. The frontage parts of fence around most of the residential buildings were often converted to rolls of shops. The rolls of shops directly in front of existing buildings reduced available open space thereby encouraging overcrowding. The data in Table 1 reveals that 3.5 percent, 5.7 percent and 3.6 percent of the sample in zones one, two and three correspondingly are rolls of shops that were considered as illegal structures in Akure.

VI **Buildings without Approved Building Plans**

Another group of illegal structures is made up of buildings without valid approved building plans. It is necessary to stress that while few of the buildings observed necessary setbacks, some deviated from the required setbacks. This group of illegal structures constitutes 20 percent, 18.6 percent and 21.8 percent of the sampled buildings in zones one, two and three correspondingly, and on the whole it constitutes 20 percent of illegal structures in the metropolis (Table 1).
4.2 REASONS FOR THE CONSTRUCTION OF ILLEGAL STRUCTURES

Table 2: Reasons for the Development of Illegal Structures in Akure.

<table>
<thead>
<tr>
<th>Major Reasons</th>
<th>No of Respondents</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>To generate more income (Rent)</td>
<td>117</td>
<td>55.7</td>
</tr>
<tr>
<td>Bid to accommodate extended family/relations</td>
<td>30</td>
<td>14.3</td>
</tr>
<tr>
<td>Not aware of the need for planning permission</td>
<td>26</td>
<td>12.4</td>
</tr>
<tr>
<td>No need for planning approval</td>
<td>21</td>
<td>10.0</td>
</tr>
<tr>
<td>Delay in granting planning approval</td>
<td>16</td>
<td>7.6</td>
</tr>
<tr>
<td>Total</td>
<td>210</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Sources: Authors’ Fieldwork, 2002.

During our fieldwork, every sampled developer of illegal structures was instructed to indicate the most important reason responsible for the construction. As presented in Table 2; 55.7 percent of the developers claimed that it was intended towards generating more income in form of rents. This often takes the form of illegal conversion of uses from residential to commercial; illegal extension of structures by building additional rooms to existing structures, and constructing rolls of shops directly in front of existing buildings.

Besides the economic reason, the developers equally gave a social reason. This is a bid to accommodate extended family members or relations in form of providing residential or commercial accommodation without necessarily collecting rents from them. More than 14.3 percent of the developers anchored their reasons on this. About 12.4 percent of the developers of illegal structures in Akure metropolis claimed not to be aware of the need to obtain planning permit for change of use of any approved existing structure; extension or modification of structure, and for the construction or erection of any structure. This group of developers equally believed that they could use or develop their landed property the way they liked, even when such development conflicted with the surrounding uses or injuriously affected their neighbours. This act contradicts the provisions of both the urban and regional planning law and the State Sub-division regulations. Although some of the developers were aware of the fact that planning permission was required for the construction of buildings but they believed that the nature of their development did not require seeking planning permission. This group constituted 10 percent of the developers of illegal structures in Akure metropolis.

The frustrating delays in granting planning approval for development applications by the building plan approving agency lured 7.6 percent of developers of illegal structures in Akure metropolis into erecting their structures illegally. However, the officer in-charge of the Akure South Area Urban and Regional Planning Office gave reasons for possible delay in granting planning permission such as inability of the applicants to submit necessary documents and drawings for processing of the application; falsification of site and delays
in carrying out the site inspection due to pressure of work on the few available staff in the office. The alleged delays might have been introduced in order to press for financial gratification from the applicants.

4.3 OTHER REASONS FOR THE EXISTENCE OF ILLEGAL STRUCTURES IN AKURE.

Investigation revealed other reasons that were responsible for the existence of illegal structures in Akure. These include the involvement of non-professionals in the building plan approving activities, the ineffectiveness of the development control mechanism, and the overlapping roles of governmental agencies in the management of urban environment.

(i) The Involvement of Non-professionals in the Building Plan Approval Activities:

The infiltration of non-professionals into the building plan approval activities in Nigeria in general and urban centres in particular poses a lot of threat to functional development of our environment. Site plans prepared on inaccurate survey plans produced by incompetent surveyors make charting on the town cadastral base-map impossible. This might promote improper coordination of physical development.

At times, the agents present developers with falsified approved building plans, on which they based their construction. The falsified approved building plans might not (in any case) necessarily carry the falsified signature of the approving officer or the Authority's stamp but mere stamp and signature of the draughtsman, who presents such to his "ignorant client" as approved plan. The structures built with such falsified approval become illegal structures.

(ii) Ineffectiveness of the Development Control Mechanism:

Sections 27 to 74 of the Urban and Regional Planning Law (Decree 88 of 1992 and sections 1 to 20 of the Ondo State Building and Sub-Division regulations) give legal power to the Town planning Authorities (TPAs/Agencies) for the control of physical development and indicate the required procedure for carrying out the development control activities.

Despite the existence of the provisions, the Area Urban and Regional Planning Office (AURPO) Akure, is still constrained in the functional control of development in the town. These constraints, among others, include inadequate staffing of the AURPO at Akure and the inadequate equipment of the AURPO. The planning jurisdiction of the AURPO, Akure, covers the entire towns and villages in Akure South Local Government area with a population of about 403,446. The entire Staff in Akure AURPO includes two town planners; two higher technical planning officers; six site – inspectors; one clerical staff, one typist/ secretary; one messenger/cleaner and one security night guard. Besides the fact that a building plan approving agency of this status needs to have on its staff roll an Architect, an Estate Surveyor and Valuer, a Builder and a Land Surveyor, the number of town planners should be at least ten (Onibokun, 1981) with other supporting staff.

The Akure AURPO has neither an official vehicle nor a motorcycle that could be used to undertake site inspection and monitoring of physical development in the town. The practice by which development applicant provides vehicle for the movement
of Site-Inspectors to the applicant's site for inspection exposes the Site - Inspectors to the mercy of the applicant. This could be negatively abused by luring Site-Inspectors to recommend sites, which ordinarily should not have been recommended for approval. This ineffectiveness in the development control mechanism promotes the emergence of illegal structures in Akure metropolis.

III Overlapping Roles of Governmental Agencies in the Management of Urban Environment:

By implication, the three levels of government (Federal, State and Local) are involved in physical planning particularly in areas of formulating planning legislations and management (Decree 88 of 1992, sections 1 to 4). The Federal government through its physical planning agency (Federal Ministry of Works and Housing (FMWH) from which Federal Ministry of Housing and Urban Development (FMHUD) was recently established (i.e. 2003), Town Planning Division, and Federal Housing Authority (FHA) are to control development on federal government land; the state government and its agencies (Area Urban and Regional Planning Offices; State Planning Board and Housing Corporation (ODSHC) and Ondo State Capital and Urban Development Authority (CUDA), are to control development on State land. However, the local government and its agencies (TPAs), Local Government Councils (Town planning Division) are to do the same on local government land.

In Ondo State, the Federal Ministry of Works and Housing (FMWH) regards land abutting both sides of the federal roads in the State as federal government land and it statutorily believes that it is to control physical development along these roads. Building structures validly approved by the AURPO along Owo-Ilesha road in Akure metropolis are often regarded by the FMWH as contraventions and illegal structures marked for demolition. However, the Supreme Court judgement between Lagos State government and the Federal government on June 13, 2003 in favour of Lagos State government has put to rest this controversy. Therefore, Federal Government Planning Agency can only control physical development activities in the Federal Capital Territory (FCT) whereas all the land owned by the federal government in the state, would have to be subjected to the approval of the State Development Control Agency (Osibajo, 2004). The activities of the Akure South Local Government Council (AKSLGC) in granting approval for the erection of market-stalls around the major markets in Akure – Oja-Oba, Isikan, and Mojere markets also contravene the planning standards and plans of the state planning agency (Akure, AURPO). This in no small measure particularly promotes the erection of make-shift and temporary structures in the core area of Akure.

5.0 THE PLANNING IMPLICATIONS OF THE FINDINGS ON URBAN DEVELOPMENT IN AKURE METROPOLIS.

This section of the paper examines the planning implications on the urban form. Our survey reveals that most conversions of building uses and extensions/modifications of building structures occur at the core of Akure to take advantage of
the business potentials. However, most home-owners in this part of the town who were older family members with low income were keenly interested in increasing their household incomes. It is necessary to stress that where extensions take place, the original dwelling units were increased in size. Thus, their occupancy ratio is increased for rental purposes without necessarily providing for additional household facilities and services such as toilet, water supply and increase in electricity voltage required.

On the one hand, this has been responsible for the overstretching of household facilities and services, which promoted incessant blockages of toilet facilities, excessive generation of wastes which were improperly (insanitarily) disposed of, and overloading of the electricity supply facilities leading to regular low voltage and incessant power fluctuation. On the other hand, the overstretching of the household facilities and services led to insanitary environment capable of causing epidemics. Thus, it encourages slum development particularly in the core area of Akure.

The conversion of structures originally used for residential purpose, particularly in the core area of Akure, to commercial uses increased the day-time volume of traffic. The narrow carriage way around the core area of the town (e.g. Arakale road, Ijomu, Isolo, Erueba among others were not originally designed to accommodate this high volume of traffic. Besides the increase in the volume of traffic generated, the encroachment of illegal structures particularly the roll of shops on the road setbacks meant for pedestrian walkways reduced the already narrow carriage way.

All these resulted incessant vehicular traffic hold-ups which equally hindered pedestrian movement during the day-time.

The effects of traffic hold-ups on the engine of the vehicles involved also created physiological tension for the people, while the man-hour lost in the hold-ups created negative effect on the economic base of the town. One cannot rule out the environmental effects resulting from the incomplete combustion of hydro-carbon released by the vehicles in traffic hold-ups into the atmosphere (Ogunjumo and Akeredolu, 1987).

The construction of structures on flood plains of river Ala and Elegbin stream in Akure and the blockage of drains with make-shift structures used by petty-traders were known to be responsible for incessant flooding whenever it rains (Olanrewaju and Fadairo, 2003). In 1979, it was recorded that 20 houses collapsed along Ala river valley while other 13 buildings collapsed in 1980. Besides the collapsed buildings, about 70 houses were affected to the extent that the tenants had to vacate them and seek alternative accommodation (Ayeni, 2000). In the year 2000, our survey revealed that along Ala river valley, 10 buildings collapsed during the rainy season while about 90 houses were flooded and temporarily abandoned. Properties estimated at about N30 million were destroyed while four people were killed. The abandoned channelisation project on Ala river around Oke–Aiyedun area of Akure aggravated the destructive effect of the floods on the surrounding houses.

6.0 THE ACTIONS OF Ondo STATE GOVERNMENT ON THE EXISTENCE OF ILLEGAL STRUCTURES AND
THE PEOPLE'S REACTIONS

Akure AURPO identified and served contravention notices on developers of illegal structures, no demolition of such illegal structures was carried out for four years. It will be erroneous to see the "inaction" of the AURPO on the part of the Ondo State government as a "booty of democracy" to developers rather, it was a "planning ignorance" that was exhibited in seeking "cheap political popularity". This calls for appropriate planning education of the policymakers in the state.

However, the change of baton in the administration of Ondo State on May 29, 2003 to the People's Democratic Party (PDP) controlled government witnessed a change in attitude towards the existence of illegal structures in Akure metropolis. Having made public the intention of the government to demolish all illegal structures in Akure by Akure AURPO, necessary contravention notices were served and sufficient deadlines were given to the developers to either remove, rectify or perfect necessary approval permits where applicable. On April 20, 2004, the Akure AURPO swung into action and started the demolition of illegal structures in Akure metropolis (Adeniyi, 2004).

The demolition exercise that lasted for one week was restricted to Akure metropolis and the exercise was faced with stiff resistance from the developers followed by condemnation of Ondo State government by the people (plate 1). Having realized the extent of dent the demolition exercise would cause, the government quickly made a public statement promising payment of compensation to developers of illegal structures whose structures might have been wrongfully demolished. The implication of the statement was that barely two weeks after the demolition exercise, most of the demolished illegal structures were reconstructed at their original sites.
7.0: CONCLUSION AND RECOMMENDATIONS.

Despite the existence of a master plan prepared for the development of Akure metropolis in 1982, which was reviewed in the year 2000; the use of development control as a major tool to implement its provisions was unable to check the development of illegal structures among others in the town. Therefore, the human factor and the political will to make the implementation of the master plan functional and effective seemed to be absent.

It is therefore imperative that the people (i.e. developers) should be collaboratively involved, particularly, in the implementation of the Akure master plan. Thus, a city consultation approach is suggested for the promotion of the involvement of the people in the development of Akure metropolis. City consultation is a process whereby the key actors of a city (i.e. decision – maker, civil society, community and private sector) come together to examine the problems of a city and agree on the solutions to be applied. The problems of illegal structures and their implications on the people as well as on the environment, among other environmental problems, would be demonstrated for the people to appreciate the extent of the damaging effects. This is to stimulate their supportive participation in measures designed to check the development of illegal structures in the town.

Furthermore, this will lead to the proper enlightenment of the people on the environmental effects of illegal structures (i.e. in form of environmental education at different levels – residential quarter basis, Community-Based Organizations and Club and Societies). These among others would include the need to seek planning approval for all physical development proposals, the need for the engagement of qualified professionals in the performance of professional services in the development of building structures rather than the use of quacks in the design of buildings, surveying of land, planning the use of land and processing the approval of plans.

To check the continuous development of illegal structures in Akure metropolis, the overlapping roles of the physical planning agencies (i.e. FMWH, FHA, AURPO, CUDA, AKSLGC) involved in the urban management of Akure metropolis need to be properly harmonized. It is therefore suggested that, Akure Urban Management Agencies Consultative Committee should be inaugurated. The Committee should comprise the State Director of Physical Planning of the FMWH, Director of Urban and Regional Planning, Ondo State Ministry of Lands and Housing; Executive Planning Officer of Akure AURPO; General Manager CUDA, Director of Physical Planning, Ondo State Housing Corporation and the Town Planning Officer of Akure South Local Government Council. The forum would provide opportunities to brainstorm – storm on physical planning problems (World Bank 1990) confronting Akure metropolis and allow for functional resolutions of conflicts resulting from overlapping roles in their physical planning activities and in checking the existence of illegal structures in particular.

The understaffing and the inadequate equipment situations in Akure Area Urban and Regional Planning Office deserve attention from the state government. Therefore, additional town planners and other supporting staff should be recruited.
Field vehicles, a motorcycle for each of the Site – Inspectors, and up-dated cadastral base-maps of Akure metropolis should be provided. Also required is the application of Geographical Information System (GIS) in the coordination of data on approved building structures in the town. This will make the monitoring of physical development in Akure metropolis in general and the checking of the erection and construction of illegal structures in particular, to be effective. The establishment of Town Planning Authorities at the local government level in compliance with Section C 5(c) of the Nigerian Urban and Regional Planning Law (Decree 88 of 1992) would promote grassroots participation in physical planning. This would give the people the opportunity of being represented in the Board at the state level and in the planning authorities. This will avail developers the opportunity of knowing what are expected of them as landed property developers; particularly, the need for, and how to seek, planning approval through consultation with their representatives in the TPA and the Board.

The use of floodable plain and river banks along river Ala and Elegbin stream in Akure metropolis for waste disposal, and encroachment on same by illegal structures should be redressed. It is therefore suggested that Open Space Management Division should be established in the Ondo State Capital and Urban Development Authority. The Division should be staffed with Landscape Planners, Horticulturists and other supporting staff. The Division is to be saddled with the responsibility of landscaping and management of open spaces and adjoining land along riverbanks and streams in Akure Metropolis.

The contention of this paper therefore, is that an aggressive involvement of the people at the implementation stages of the master plan will also create conducive environment for the use of development control to check the development of illegal structures in Nigerian towns in general. Nonetheless, the findings of this study mirror the situations that exist in other Nigerian towns and cities relating to the development of illegal structures. The recommendations suggested herein are adaptive to effective control of illegal structures in any Nigerian town or city.

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LAND VALUE DETERMINANTS IN MEDIUM DENSITY RESIDENTIAL NEIGHBOURHOODS OF METROPOLITAN LAGOS

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ABSTRACT

Residential land use in urban areas is of different categories. Three broad classes can be identified in any urban area. They are high density, medium density and low density residential neighbourhoods. The study area, metropolitan Lagos, is no exception as the city is made up of all these residential areas. The nature of planning problems existing in the different categories sometimes varies in dimension. Therefore, this is a research into the values of residential land use in the medium density residential neighbourhoods in metropolitan Lagos. A total of 20 medium density neighbourhoods exist in the city. Ten of these neighbourhoods have been selected for questionnaire administration during which data were obtained from 200 respondents on socio-economic, physical and environmental factors influencing residential land values. The prices of residential land values which the study categorised into rent, cost of purchase of residential apartment and cost of purchase of residential plot of land were obtained from estate surveyors operating in each neighbourhood. The study employed principal component analytical technique. Out of the six prominent factors influencing residential land values in the study area namely accessibility, transport improvement, rent, quality of neighbourhood, government policy and infrastructure, the most significant are infrastructure and rent.

Key words: Residential Land Use, Land Value, Neighbourhood, Determinants, Rent, Cost, Plot of Land.

INTRODUCTION

The place of priority deserved by residential land use in urban studies has been confirmed by the outcome of studies of urban scholars. These are recent studies of Oiaore (1991) on Kaduna; Morenikeyi (1997) on Minna; Okewole (1998) on Bodija, Ibadan; Adindu and Ogbonna (1998) on Owerri; Adedibu, Opeloyeru and Ibraheem (1998) on Ilorin; Okeke (2000) on Enugu; Onyebuke (2000) on Enugu and Olayiwola (2000) on urban areas in Osun State, Nigeria. The fact that residential land use among the various competing urban land uses is the largest consumer of land in urban areas was stressed by these urban scholars.

This study therefore is an attempt to present the situation of medium density residential land values in Metropolitan Lagos. The growth of the economy generates physical development of which residential area is critical. This most often results in increase in values of land in the market. This
situation therefore require adequate commercial nerve centre of the country. All research into residential land values in order to guide policy directions of government immigration into the city from the hinterland institutions and individuals, resulting into high demand for residential apartments and land for housing.

The study examines the values of residential land use in medium density Lagos metropolis lies generally on low areas of metropolitan Lagos. The values of lands, with about 17,500 hectares of built-such land use are classified into cost of residential area of which residential areas occupy residential apartments, cost of rent and cost of the single largest proportion of 8939 of vacant medium density residential plots. 821 hectares (51.9%), commercial 821 Analysis of determinants medium density Hectares (4.8%), industrial 1444 Hectares residential land values are also presented. Hectares (8.4%), institutional and special use 2366 Suggestions are presented based on Hectares (13.7%), open spaces 453 (2.6%) research findings. The approximate population of this area is more than 9 million people. The estimated western part of Nigeria. It lies Two dominant religious groups in Lagos are approximately on longitude 2°42'E and 54 Christians which constitute, about 3°22'E respectively and latitude 6°22'N and 6°52N (Odumosu, 1999). It is the largest 44.33 percent. The balance of 1.67 percent metropolitan area in Nigeria (Ayani, 1979). represent the percentage population of other religious groups. Today Lagos exert area in the west are Ojo and Iljaninkin influential and central roles in Nigeria out settlements. Lekki settlement form the proportion to its land area. The eastern boundary. It is bounded in the north by Ikorodu in Ikorodu Local Government Area and Alagbado in Ifako-Ijaye and Alimosho Local Government Areas. Metropolitan Lagos boundary in the west is made up of Oto and Iljaninkin in Ojo Local Government Area (see Figures 1 and 2). The study area is about 60 kilometers to Sagamu in Ogun State about 80 kilometers to Aboakuta and 100 kilometers to Ibadan. Lagos is endowed with many modern and socio-economic development facilities. The city has two airports, two sea ports, two universities, two polytechnics and a university teaching hospital. It is the most industrialised part of Nigeria. It is also the

THE STUDY AREA

Metropolitan Lagos is located in the southwestern part of Nigeria. It lies on Two dominant religious groups in Lagos are approximately on longitude 2°42'E and 54 3°22'E respectively and latitude 6°22'N and 6°52N (Odumosu, 1999). It is the largest 44.33 percent. The balance of 1.67 percent metropolitan area in Nigeria (Ayani, 1979). represent the percentage population of other religious groups. Today Lagos exert area in the west are Ojo and Iljaninkin influential and central roles in Nigeria out settlements. Lekki settlement form the proportion to its land area. The eastern boundary. It is bounded in the north by Ikorodu in Ikorodu Local Government Area and Alagbado in Ifako-Ijaye and Alimosho Local Government Areas. Metropolitan Lagos boundary in the west is made up of Oto and Iljaninkin in Ojo Local Government Area (see Figures 1 and 2). The study area is about 60 kilometers to Sagamu in Ogun State about 80 kilometers to Aboakuta and 100 kilometers to Ibadan. Lagos is endowed with many modern and socio-economic development facilities. The city has two airports, two sea ports, two universities, two polytechnics and a university teaching hospital. It is the most industrialised part of Nigeria. It is also the

LITERATURE REVIEW

It is widely recognized that many theories have been formulated in the study of urban systems. These theories are both descriptive and quantitative in nature. In the area of urban land values, the concept of accessibility has been adopted by scholars to structure the value of urban lands. These efforts had their origins in the early works of von Thunen and Ricardo.
(Herbert and Thomas, 1982). Most studies confirmed that the nature of city's land uses is a process that changes with the economy. This has also been confirmed with recent literature on urban land uses with particular reference to case studies of Nigerian urban centres. For example, Mabogunje (1968) undertook the ecological analysis of Lagos and the growth of residential districts in Ibadan. In his discussions, he identified and classified the major residential districts in Lagos and Ibadan. He concluded that the growth of these cities was due to growth by fission and spatial expansion. Ayeni's studies (1968) and (1979) were on Ikere-Ekiti and Lagos respectively. He attempted the residential location model of Lagos metropolis during which he established the general framework that could be used for the planning of Lagos metropolis.

Other studies on urban structures in Nigeria include that of Okpala (1981); study of Onitsha and Enugu focused on residential mobility. Recent studies are those of Olaore (1991) in which he studied values of land and rentage of shelter in Kaduna. Okeowo's (1998); research highlighted some of the socio-culturally based characteristics of the core areas of Yoruba towns. He discussed the environmental modifications made by the inhabitants of Bodija Estate, a planned residential area in Ibadan. The modifications he stressed were adapted by the inhabitants in their quest for personal environmental satisfaction. Omirin (1998) studied accessibility to residential land in Lagos, while Morenikeji (1998) studied the growth pattern of residential land use and how they affect rental values in Minna. Adedibu et al. (1998) studied pattern of urban growth in Ilorin.

It is therefore evident from the literature reviewed above that there exist very few studies which address the relationship between land use and land values in Nigerian urban areas. None of the available literature have dealt specifically in the recent time with the factors influencing residential land values in the study area. It is on this note that this study attempts an investigation into the rentals, sales and factors influencing residential land values in medium density residential areas of metropolitan Lagos.

**Determinants of Residential Land Values**

There are many factors influencing urban residential land values. These factors can broadly be classified into four. They are socio-economic, environmental, infrastructure and institutional factors (Litchfield, 1974). Socio-economic factors influencing urban land values can be viewed from the sociological, geographical and economic perspectives. To the sociologist, it is the human being with his psychology, which is the key to the process of urban structure and pattern. Other specific social factors influencing land values are quality of neighbourhood, security, prestige, taste, ethnic and social factors. The geographer places emphasis on such things as relief, elevation, climate, location and geology. The economist suggests that it is the economies, which are to be obtained from using a particular piece of land, for example, from its accessibility, and centrality that influence land values. The economist also considers the issue of scarcity, demand,
nature of use, agglomeration economies, expected revenue, speculation and intervening opportunities.

Environmental factors influencing residential land values are nature of environment, climate, soil, topography, drainage and quality of water bodies. For example, topography affect amenity ranking though this could vary from family to family depending on their composition and preference. Topography could have a bearing on land use and land values through its effects on development cost. Also the nature of existing land uses such as seaport, airport, institutions and business areas which generate employment increase demand for land and therefore property value. Critical to urban land use decision is also the level of infrastructural facilities in different parts of the city (Litchfield, 1974). The influence of these factors have been supported by Ayeni (1979), in his study on Lagos during which he attempted a study on the spatial interaction and structure of Lagos. Also in a study by Olaore (1981), during which he established the land value trend in Kaduna, the influence of infrastructural facilities was also confirmed. Basically the following facilities are critical to determination of urban land values, namely, access roads, good drainage, electricity, public water supply and telephone. Where these facilities are adequately available, the land values will be high in such areas. Institutional factors affecting urban land values include local customs, traditions, laws, organizations and other institutions of human society. Among planning instruments which influence land values are the master plan, zoning regulations, rent laws, land acquisition policies, sources of title and type of tenure.

**METHODOLOGY**

The data used were from both primary and secondary sources. Lagos metropolis has 215 political wards (Independent National Electoral Commission, 1998). Each of the wards is characterized by a dominant residential classification in this study. Types of residential densities identified in the study area are High Density, Medium Density and Low Density Residential Neighbourhoods details of which are shown in table 1.

**TABLE 1: RESIDENTIAL NEIGHBOURHOOD TYPES IN LAGOS**

<table>
<thead>
<tr>
<th>Type of Residential Neighbourhood</th>
<th>Number</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Density</td>
<td>184</td>
<td>85.58</td>
</tr>
<tr>
<td>Medium Density</td>
<td>20</td>
<td>9.30</td>
</tr>
<tr>
<td>Low Density</td>
<td>11</td>
<td>5.12</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100.00</td>
</tr>
</tbody>
</table>


From Table 1 there are 184 high density residential neighbourhoods representing 85.58 percent of the total, while 20 (or 9.30%) are of medium density type, with only 11 (or 5.12%) of the total being low density residential neighbourhood type.
Twenty percent of the total of 215 residential neighbourhoods were selected for general sampling and questionnaire administration. This represents fairly well all the residential neighbourhoods both in terms of spatial spread, quantity and quality of information required, since the focus of the research is to investigate land use and land values in the different categories of residential area types in the study area. This is because stratified random sampling method was adopted to group the residential areas into categories first before the final selection of those sampled in the different categories. After the classification of the residential neighbourhoods in the study area into three types of identifiable residential categories namely: high density, medium density and low density types, the selection of 20% of the total of 215 residential neighbourhoods was done through systematic random picking from a list of neighbourhoods in each of the three stratified residential neighbourhood types. To achieve this the list of the twenty neighbouring was drawn and consideration was also given to spatial spread within the study area, in order to have a fair spread of the neighbourhood picked for questionnaire administration.

Out of the 43 neighbourhoods selected for sampling, 27 are in the high density category which represent 63 percent of the total of 215 residential areas selected for questionnaire administration. The figure of 27 also represents 14.6 percent out of the total of 184 high density residential neighbourhoods in Lagos metropolis. Also in the medium residential density category, 10 neighbourhoods were selected for sampling (see Figure 3). This represents 50 percent of the 20 medium density residential neighbourhoods in the study areas. In the low density category, 6 numbers were selected representing 55 percent of all the low density neighbourhoods in Lagos metropolis.

In the medium density residential areas a total of 200 questionnaires were administered and returned. In this category of residential area, it was discovered through field study that about 360 houses exist in a typical medium density neighbourhood. Since 10 of such neighbourhoods were selected for sampling it means that a total of about 3,600 houses exist in the 10 neighbourhoods selected for sampling in the medium density category. In each neighborhood every 18th house (or 5.56%) was selected for sampling. Thus 20 houses were selected for questionnaire administration in each medium density neighbourhood.

Data collected were analysed through the use of correlation analysis with the aid of Spearman's correlation to establish the relationship between socio-economic characteristics of respondents and land values in the study area. The chi-square was used to check the validity or otherwise of the proposition that accessibility is a major determinant of residential land use in Lagos metropolis. Further analysis on the determinants of residential land values was done with the use of principal component technique. The outcome of the analysis shows that out of the six (accessibility, price/rent, transport improvement, quality of neighbourhood, services/facilities and government regulations) residential land values determinants, two of them renamed
infrastructural facilities and economic are the major determinants of residential land values in medium density residential neighbourhoods in Lagos metropolis.

ANALYSIS OF RESIDENTIAL LAND VALUE DETERMINANTS IN METROPOLITAN LAGOS

In order to establish the level of association between socio-economic attributes and the residential neighbourhoods, the Spearman's rank correlation technique was adopted. It is important to state that the use of Spearman correlation is based on the assumption that 91 percent efficiency which it is capable of achieving would be satisfactory for a research of this nature. The sample size of 200 questionnaires administered is also relatively large enough to obtain satisfactory result. Also, it is assumed that the adoption of random sampling must have taken care of underlying continuity. The result based on the use of computer is stated in Table 2.

TABLE 2: SPEARMAN’S CORRELATION ANALYSIS BETWEEN SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENTS AND THE RESIDENTIAL LAND VALUES

<table>
<thead>
<tr>
<th>SOcio-ECONOMIC VARIABLES</th>
<th>CORRELATION COEFFICIENT</th>
<th>SIG. (2-TAILED)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>0.003</td>
<td>.927</td>
</tr>
<tr>
<td>Age</td>
<td>0.200**</td>
<td>.000</td>
</tr>
<tr>
<td>Marital status</td>
<td>0.117**</td>
<td>.001</td>
</tr>
<tr>
<td>Household size</td>
<td>0.038</td>
<td>.295</td>
</tr>
<tr>
<td>Occupation</td>
<td>-0.011</td>
<td>.759</td>
</tr>
<tr>
<td>Religion</td>
<td>0.022</td>
<td>.541</td>
</tr>
<tr>
<td>Education status</td>
<td>0.148**</td>
<td>.000</td>
</tr>
<tr>
<td>Income</td>
<td>0.135**</td>
<td>.000</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>-0.011</td>
<td>.758</td>
</tr>
<tr>
<td>Prestige</td>
<td>-0.004</td>
<td>.918</td>
</tr>
<tr>
<td>Place of work</td>
<td>0.298**</td>
<td>.000</td>
</tr>
<tr>
<td>Amount Ready to pay</td>
<td>0.289**</td>
<td>.000</td>
</tr>
<tr>
<td>Composure/Personality</td>
<td>0.247**</td>
<td>.000</td>
</tr>
<tr>
<td>Nature of Guarantor</td>
<td>0.282**</td>
<td>.000</td>
</tr>
</tbody>
</table>

Source: Field Survey by the Author (2002).

Note: *Correlation is significant at 0.05 level (2-tailed)
**Correlation is significant at the 0.01 level (2-tailed)
As indicated in Table 2, the Spearman’s rank correlation which measures the association between residential land values and socio-economic variables have figures which indicate that positive significant relationships exist between residential land values and the socio-economic variables with the following figures age (0.2000), marital status (0.117), educational attainment (0.148), income (0.135), place of work (0.298), amount ready to pay for residential properties (0.289), composure/personality of prospective tenant or buyer (0.247) and nature of guarantor in a property transaction (0.282). Insignificant and inverse relationships are indicated for occupation, ethnicity and prestige, while there is no significant relationship between type of residential land values and religion. Also, the Spearman’s rank correlation which measures the association between the characteristics of buildings and the residential land values revealed that the following have positive significant relationships with the neighbourhood; with the following correlation coefficient figures recorded, namely, nature of mixed-use (0.166), approximate size of site (0.294), and approximate percentage of land area occupied (0.111). Building materials recorded a negative insignificant association of –0.042 which means that the type of building materials do not have influence on residential land values in the study area.

The research surveyed the respondents’ views and perceptions about the quality of the environment and availability of basic infrastructural facilities which include electricity, water supply, telephone lines and police protection. The respondents were also asked to indicate what they like or otherwise about the neighbourhood they resided in and the types of prevalent environment problems in their neighbourhoods. The outcome of responses on available basic neighbourhood residential facilities is shown in Table 3.

<table>
<thead>
<tr>
<th>FACILITIES</th>
<th>% SCORE</th>
<th>AVAILABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>61.53</td>
<td>Adequate</td>
</tr>
<tr>
<td>Police Protection</td>
<td>49.86</td>
<td>Inadequate</td>
</tr>
<tr>
<td>Telephone</td>
<td>46.89</td>
<td>Inadequate</td>
</tr>
<tr>
<td>Pipe Borne Water</td>
<td>40.92</td>
<td>Inadequate</td>
</tr>
</tbody>
</table>

Source: Field Survey by the Author (2002).

Generally, the interpretation of Table 3 is that except electricity, all other basic neighbourhood facilities are not adequate. This means Lagos metropolis is poorly provided with basic services for good communal life.

When the Spearman’s rank correlation techniques was employed to examine the relationship between residential land values and the basic facilities, it revealed that telephone availability and police protection have 0.318 and 0.134 positive correlation which are significant at 0.05 levels. On the
other hand, telephone and water supply have −0.142 and −0.015 negative correlation coefficients which showed moderate negative and weak correlation respectively.

The result of the correlation analysis with the aid of Spearman’s rank correlation revealed the nature of associations of the variables on the nature of environments as they influence residential land values. It shows that there exist significant positive associations between residential land values and the following variables with the figures indicated respectively: intensity of land use (0.136); and nature of adjoining properties (0.136). Areas liable to flooding indicated insignificant association level of 0.012 with residential neighbourhoods. This means that residential properties were constructed without fear that their values could be negatively influenced as indicated by the responses of the respondents in which 69.80 percent indicated that area liable to flooding has serious influence on residential land values.

### TABLE 4: SPEARMAN’S CORRELATION ANALYSIS BETWEEN RESIDENTIAL LAND VALUE DETERMINANTS AND RESIDENTIAL LAND VALUES

<table>
<thead>
<tr>
<th>Land Value Determinants</th>
<th>Correlation Coefficient</th>
<th>Significant (2-Tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessibility</td>
<td>0.347**</td>
<td>.000</td>
</tr>
<tr>
<td>Transport Improvement</td>
<td>0.177**</td>
<td>.000</td>
</tr>
<tr>
<td>Price/Rent</td>
<td>0.186**</td>
<td>.000</td>
</tr>
<tr>
<td>Quality of Neighbourhood</td>
<td>-0.092*</td>
<td>.020</td>
</tr>
<tr>
<td>Government Regulation (Zoning)</td>
<td>-0.066</td>
<td>.094</td>
</tr>
<tr>
<td>Infrastructural Facilities</td>
<td>-0.120**</td>
<td>.002</td>
</tr>
</tbody>
</table>

Source: Field Survey by the Author, 2002.

**Note:**
- *Correlation is significant at 0.05 level (2-tailed)
- **Correlation is significant at 0.01 level (2-tailed)

From the data in Table 4, accessibility has the highest level of association with correlation coefficient of 0.347. Even though this is the highest, the figure can be regarded as being at moderate level on a general scale. Other variables with positive and significant levels of association are transport improvement (0.177) and rent (0.186), quality of neighbourhood and infrastructural facilities recorded negatively weak and moderate levels of association with residential neighbourhood with figures of −0.092 and −0.120 respectively. The correlation shows that as the level of infrastructural facilities improves the quality of residential neighbourhood reduces and in the case of quality of neighbourhood as a variable correlated against residential neighbourhood, the Spearman’s rank correlation results shows that as the quality
of neighbourhood improves land use problems increases thus the negative significant correlation result. The case of government regulations recorded a correlation coefficient figure of -0.666 which is not significant. This shows that the expected improvement of the quality of the residential areas when government regulation is employed as land use mechanism has not yielded expected positive effects.

Based on this revelation above, hypothesis testing which states that "There is no significant relationship between accessibility and land values" in the study area was done. The chi-square test was employed. This was done to check the validity of the hypothesis at 0.05 significant level. This is to say that we are 95% confident that the results are valid. At 95% confidence level the calculated value of 693.448 is greater than the expected figure of 247.3 obtained. Then since the calculated value is greater than the expected value, we can conclude that at 95 percent confidence level accessibility is a major determinant of residential land values in the study area.

Further analysis was done on the determinants of residential land values with the use of principal component analytical technique (see Table 5). Since the principal component technique produces components in descending order of importance, therefore its adoption in this study is an aid in reducing the variables into fewer numbers which account for as much as possible of the variations among the original variables. The results of the application of these techniques are discussed in the following section of this paper.

**TABLE 5: VARIABLES USED IN FACTOR ANALYSIS**

<table>
<thead>
<tr>
<th>VAR 30</th>
<th>Accessibility as a factor influencing Residential Land Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAR 32</td>
<td>Price/Rent as a factor influencing Residential Land Value</td>
</tr>
<tr>
<td>VAR 31</td>
<td>Transport Improvement as a factor influencing Residential Land Value</td>
</tr>
<tr>
<td>VAR 38</td>
<td>Quality of Neighbourhood as a factor influencing Residential Land Value</td>
</tr>
<tr>
<td>VAR 39</td>
<td>Services/Facilities as a factor influencing Residential Land Value</td>
</tr>
<tr>
<td>VAR 48</td>
<td>Government Regulation (Zoning) as a factor influencing Residential Land Value</td>
</tr>
</tbody>
</table>

*Source: Field Survey by the Author, 2002.*

Table 6 shows the correlation matrix of the linear association between the variables. The coefficient that is ±500 or greater shows a high level of co-variation between the variables involved. Also, coefficient ranging between ±300 and ±400 shows moderate level of correlation, while those between ±100 and ±200 indicate a weak level of correlation. Those lower than ±100 show little or no linear correlation.
TABLE 6: MATRIX OF CORRELATIONS

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>30</th>
<th>32</th>
<th>31</th>
<th>38</th>
<th>39</th>
<th>40</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td></td>
<td>.719</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>.874</td>
<td>.732</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>.541</td>
<td>.572</td>
<td>.595</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>.509</td>
<td>.594</td>
<td>.563</td>
<td>.695</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>.541</td>
<td>.599</td>
<td>.557</td>
<td>.731</td>
<td>.697</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Source: Field Survey by the Author, 2002.

First, it is necessary to state that 95 variables were used for the analysis. For the purpose of this paper, the six variables have been isolated as basis of analysis in this study, thus the moderate level of correlation observed in Table 6.

The results obtained in the matrix of correlation in Table 6 shows that all the variables have high degree positive relationships with one another. This is a confirmation of the validity of the theoretical framework. The score on the relationship between accessibility and transport improvement shows the highest positive association with a figure of .874. This means that improvement in transportation facilities especially roads brings about improved accessibility in the study area. Also the relationship between the following recorded very high degree of positive relationships: transport and rent (.732), quality of environment and zoning regulation (.731) and accessibility and rent (.719). The implication of the above is that improvement in transportation and accessibility will be expected to bring about higher rents, while improved quality of environment is as a result of effective implementation of planning regulations, especially zoning regulations. Also the correlation matrix revealed that there is high positive relationship between quality of basic facilities and quality of environment in which the correlation matrix figure of .695 has been obtained while the relationship between facilities and zoning recorded .697. This means that the better the facilities provided the more improved is the quality of the environment, while application of zoning also enhances the effective provisions of basic facilities.

Generally the lowest correlation interrelationship figure recorded as .509 is for the relationship between facilities and accessibility. This is still within the range of high coefficient level of co-variation. This means that all the factors identified as basic to influencing residential land values have high level of co-variation relationships.

A further analysis of these variables was done through the application of principal component technique aimed at making each factor independent of each other.
TABLE 7: EXTRACTION OF INITIAL FACTORS (COMPONENTS)

<table>
<thead>
<tr>
<th>FACTOR NUMBER</th>
<th>EIGEN VALUE</th>
<th>% OF VARIANCE</th>
<th>CUMULATIVE % OF VARIANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.175</td>
<td>59.638</td>
<td>59.638</td>
</tr>
<tr>
<td>2</td>
<td>1.151</td>
<td>16.441</td>
<td>76.079</td>
</tr>
</tbody>
</table>

Source: Field Survey by the Author, 2002

Table 7 shows the result of the extraction when the six variables (determinants of residential land values) were subjected to principal component analysis. The six factors have been reduced to two which give accounts of all the other factors. The first component is renamed infrastructural facilities and the second component renamed economic factors. It can be observed in Table 7 that the first factor has an Eigen value of 4.175 which is the relative magnitude of variance accounted for by the first variable. Usually the first eigen value accounts for the highest variance in the data set. The first component also explains 59.638 percent of the variance in the data, while the first two components account for 76.079 percent of the variance in the data. As discussed earlier that the aim of the principal component is that of data reduction, thus not all the components or factors influencing residential land values are retained in the final rotation solution. The first two components which account for 76.079% of the variance in the data are retained. This is based on the criterion that the two factor components have at least 5% of the total variation based on Spence’s specification (Spence, 1968).

Table 8 revealed the component loading for each primary variable of each of the two components when they are subject to varimax rotation.

TABLE 8: COMPONENT LOADING FOR EACH PRIMARY VARIABLE

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>FACTORS</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAR 31</td>
<td>Infrastructural Facilities</td>
<td>.867</td>
<td>.249</td>
</tr>
<tr>
<td>VAR 32</td>
<td>Economic Factors</td>
<td>.844</td>
<td>.146</td>
</tr>
<tr>
<td>Eigen values</td>
<td></td>
<td>4.175</td>
<td>1.151</td>
</tr>
<tr>
<td>% of Total Variance</td>
<td></td>
<td>59.638</td>
<td>16.441</td>
</tr>
<tr>
<td>Cumulative % of Total Variance</td>
<td></td>
<td>59.638</td>
<td>76.079</td>
</tr>
</tbody>
</table>

Source: Field Survey by the Author, 2002.

Note: Loading that are equal or greater than 0.40 are considered to be high.
The interpretation of the loading is the same as it was done in the correlation coefficients. Factor loadings of 0.40 and more are considered to be high. This is also in agreement with Spence (1968) who considered 0.40 as a cut off level for high factor loading. Based on this, the first factor which accounts for 59.638% of the total variance loads highly on both infrastructural facilities and economic factors, whereas the second factor which accounts for 16.441% of the total variance loads relatively low on both infrastructural facilities and economic factors with figures .294 and .146 respectively. The implication of these figures is that infrastructural facility improvement and economic factors are highly related in factor 1, while they are weakly related in factor 2. The implication of this is that where there is improvement in infrastructural facilities there is expected to be improvement in economic variables, usually in form of increase in rent and prices of residential land properties. Thus, it can be concluded that these factors or components can be used to describe the spatial variations of residential land use in metropolitan Lagos.

CONCLUSION

The paper has analysed the major factors influencing residential land values in the study area. The factors specifically analysed are accessibility, technical infrastructure, price/rent, quality of neighbourhood, transport improvement and government regulations. The chi-square was employed to check the validity of the observed and expected frequencies of the respondents on the effect of accessibility on residential land values in the study area. With the use of principal component technique, it was possible to identify the most prominent of the factors influencing residential land values. The use of principal component technique also made it possible to conclude that two major factors named infrastructural facilities and economic factors can be accepted as the main determinants of residential land use and land values in Lagos metropolis.

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