Assessment of Public Compliance with Development Control Regulations in Auchi, Edo State, Nigeria

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Abstract
The spatial structure of modern settlements is organized based on development control. The compliance of urban residents with development control regulations makes it possible for cities to be well structured for physical, aesthetic, and economic developments. The study aims to assess public compliance with development control in Auchi. A sample of 378 residents of Auchi was used in the study. The study area was divided into six strata, and samples were selected from the strata based on their population sizes. The instrument was a 5-point Likert-type option, which was administered to the respondents. The findings revealed that there was low compliance with development control standards in Auchi. There was awareness of developers on compliance but did not translate into compliance. The building coverage specified by development control regulations was grossly violated. There was a medium correlation (0.55) between education and level of non-compliance; the variability of development control non-compliance in the six quarters of Auchi was statistically significant, and the eta squared effect was also large. It was recommended that the town planning regulations be reassessed for a better practical effect; monitoring of developments to encourage compliance should be strengthened; and town planning manuals should be used to monitor and control developments.

Keywords: compliance; development control; enforcement; plot coverage; setbacks

1. Introduction
Physical planning over the years had evolved several strategies aimed at achieving its goals, and fundamental to these strategies is the concept of development control. Development control is simply the pattern and way by which physical or land use development is controlled (Osinbajo, 2004). In physical planning, development control regulations provide the guiding instrument. During construction, they prevent builders/developers from deviating from the permit that has been granted them (Ogundele, Ayo, Odewumi, & Aigbe, 2011). Development control is a must for both the public and private sectors. The imposition of development control on both private and public developments is to achieve safety and healthy living and the betterment of all (Dissanayake, 1987).

Development control regulates various land uses in an urban area to ensure convenience. It optimally promotes resources to secure the most significant improvements, promote the segregation of incompatible uses, and associate compatible land uses (Ngetich, Opata, & Mulongo, 2014). Moreover, development control has been the platform on which urban planning professionals regulate and implement a design on the ground via the arts and science that tend to arrange and order living and nonliving things to achieve harmony (Ogundele et al., 2011). Mechanisms of enforcement compel developers to implement and comply with development regulations. Specific tasks during enforcement may include inspecting buildings during construction for adherence to the building standards, assessing building plans for compliance with...
the standards, detecting buildings without permits, and prescribing appropriate corrections for non-compliance (Boamah, 2013). In non-compliance, sanctions such as fines, stop-work orders, and demolition notices are sometimes used to enforce compliance. In Auchi, two primary legal documents are used to guide the development and enforcement of development control regulations. The legal documents are the Urban and Regional Planning Law Cap 138 LFN2004 (Act 1992) and Edo State Urban Development and Physical Planning Regulations Gazette, 2014. These tools ought to have been able to regulate the space of Auchi, which is about 123,896 persons and can be described as a mesoscale in settlement distribution in Nigeria. However, the use of development control standards has not fostered well-ordered physical development (Ahmed & Dinye, 2011). The problems of spatial disorder found in large cities like Lagos and Kano are also found in Auchi, which dispels that not much has been achieved with development control standards even at a small scale. Stressing further the apathy of no concern in addressing development control problems at a small scale, Avo, Wedam, & Attakora- Amiampong (2018) claimed that developing countries wait for building collapse, flooding, and other disasters to happen before they respond. In their study conducted in a low-income estate of Madina, North-West Accra, the majority of the survey respondents were aware of building regulations, but they developed based on their resources and not regulations. Thus, the demand for total compliance to development control and building regulations among poverty-stricken developers would be an uphill task.

Jimoh, Al-Hasan, Imimole, & Ahmed (2017) worked on the contravention of development control measures in Auchi. The study established that developers contravened development control regulations in areas such as the construction of buildings without approval, exceeding plot coverage, violation of setback regulation. The absence of planning schemes and inadequate planning staff in the Auchi office accounted for these contraventions. Ogunde & Al-Hasan (2011) explained that his interaction with the planning officials established such obstacles as lack of equipment and planning tools, inadequate financing, shortage of qualified staff, inefficiency in the control of development, unavailability of a medium of enlightenment, and the act of collecting bribe from developers by planning officials as serious. The study recommended adequate financing of the control department and disciplining of erring staff members to address some of the challenges caused by non-compliance.

Olaoye & Rotowa (2011) identified some challenges in controlling development, including an unavailable urban development policy, ineffective control of development, unavailable spatial data and information, and lack of a master plan to regulate settlements growth. The study advocated for the dire evolution of urban development policy coupled with a series of legislations and regulations to facilitate development control. The study on the problems of development control in urban centers in Kenya by Koech (2001) established that laxity in approving plans, poor policy implementation, inadequate council capacities (finances, technical and human), political interference, inadequate enforcement machinery, and lack of public awareness of the existence of planning and development control regulations were among the factors militating against development control.

Osinbajo (2004) stated three significant ways the problems of development control non-compliance could arise. First, it could be a consequence of insufficient laws or inadequate development control regulations, which leaves landowners some room to do with the land as they wish. The second possibility is for two different authorities attempting to regulate the physical development of land within the same territory. The two may be working at cross-purposes, enabling individual landowners to play one against the other. The third cause of development control problems could arise from the non-enforcement of relevant laws.

Omutu & Onokerhoraye (1985) stated that development control operates in two levels, the macro and micro levels. At the macro level, its primary goal is to control the subdivision of land as new sites are brought under the urban influence and use; they form an essential part of the present overall urban setting and fit into the future setting. At the micro-level, its primary goal is to regulate the development of the individual plot and structure within the subdivision (Okosun, 2000). Land subdivision regulations are used to plan at the macro level to secure socially desirable minimum development standards for the community. Eapen (2007) stressed that the primary aim of this control is to promote community development by avoiding defects in land subdivisions such as awkward shape and size of plots, narrow streets, and insufficient community services and facilities. He further claimed that development control became more important in the present context due to advancements in technology and science and increasing urbanization. The growth of urban centers has made it vital to convert more rural land into urban uses and intensify existing urban sites. It is worthy of note that cities are more shaped by the enforcement of regulations that control development instead of implementing development plans within their framework.

Adedibu (1995) identified reasons why there is always resistance in development control exercise. According to Adedibu (1995), human beings are homocentric, ethnocentric, egocentric and anthropocentric. He asserted that as a result of these features, developers are often self-centered rather than public-centered. In other words, the tendency for people to carry out developments to satisfy their present personal needs and ego is more likely than those that will satisfy the public interest.

Non-compliance with development control regulations is a common phenomenon in Nigerian towns and cities. Fekade (2000) asserted that the primary cause of non-compliance with development control exercise is unplanned demographic factors. It involves in-migration, rural-urban drift, and high birth rate, which are signs of population growth. He explained that the challenges had been worsened by environmental degradation, social and political instability, and poor economic performance in many world developing nations. These made people move from rural to urban areas for greener pasture, social
facilities, and employment. He stated that hoarding and land speculations can lead to illegal subdivisions and land fragmentation, making it difficult for the developer to comply with plot area standards. Fekade (2000) focused more on demographical factors, which measure the growth rate in the number of people that live in a particular area concerning the pattern and capacity of the habitable settlement.

Rakodi (2003) stated that for compliance with development control, such factors as personnel training, public awareness, and commitment are needed. He also claimed that good governance is an essential factor that ensures compliance with development control standards. This will make possible an efficient and effective urban development control. The work of Kombé (2005) showed that people's low standards of living and continuous increase in penury promote the increase of informal developments. According to him, penury is the leading cause of non-compliance with development control standards in most third-world nations.

Ainsour & Meaton (2009) asserted that compliance with development control standards varies due to the socioeconomic attributes of the housing developers. They classified the factors that affect compliance with development control standards into socioeconomic features, including awareness of the public, household size, and household income. Sarkheyli, Sharifi, Rafieian, Bemanian, & Murayama (2012) established the root causes or factors that affect compliance and then developed a model using awareness level, level of income, and economic reasons and as significant factors of non-compliance. The study revealed that the most crucial factors for non-compliance with control regulations are level of awareness, income level, and economic reasons.

Balfour Awuah & Hammond (2014) examined ignorance or lack of public awareness concerning the profit of compliance with development control regulations and the destructive effects of non-compliance, using information from a community in Ghana. The result of the study discredited the hypothesis that non-compliance with development control regulations was found generally to be intentional in the study area. It revealed that the high level of compliance among the elites was because the approval documents can serve as collateral for obtaining loans. Moreover, the research proved that development regulations and policies should entail effective strategies to actualize a high level of compliance. Vivian, Kyom, & Balasom (2013) made a significant observation that development control exercise should not be oriented only towards revenue generation, but its proceeds should be channeled towards improving the physical conditions of settlements.

Developing countries' development control is partial because the law exempts some violators because of their status. Many un-awesome developments have been ignored because some politicians have the status of a sacred cow that cannot be touched. This challenge was amply demonstrated by Kidlawson, Duru Marcus, John, & Eebee (2016) in four capital cities of the Niger Delta Region in Nigeria. Do the following questions demand an explanation in this study: (1) What are the reasons for non-compliance with development control in Auchi? (2) Is there variability in compliance with development control among the quarters in Auchi? (3) what measures can be put in place to address the non-compliance with development control regulations? The study will address the issues related to non-compliance with development control regulations using a survey design.

2. Research Methods

2.1 Study Area

The study area is Auchi, the administrative headquarters of Etsako West Local Government Area of Edo State, Nigeria. It lies between latitudes 7° 14' North and 7° 34' North of the equator and longitudes 6° 14' East and 6° 43' East of the Greenwich Meridian. Auchi is bounded on the East by South Ibje, on the North-East by Jattu, on the North by Ayua, Iyuku, and Imeke, and on the North West by Ikpesi Iheivbe Ogben, on the South Ivbiaro and Warrake and the South–East by Aviele. Figure 1 is Auchi showing its quarters.

2.2 Data

The target population for this study is property owners in the six significant quarters in Auchi. Google earth was used to determine the number of houses in the different strata because it captures the number of houses. The distribution is as follows: Akpekpe (1151), Iyekhei (1093), Utsogun (1035), Igbei (920), Abotse (805) and GRA (748). The total number of houses is 5,752.

2.2.1 Sample Size

In determining the sample size for this study, the sample size formulae of the Institute of Food and Agricultural Sciences, University of Florida, by Israel (2008) was adopted. The computed sample size is 378. The sample sizes for the different strata were based on the different number of houses in them.

2.2.2 Sampling Technique and Administration

Stratified random sampling was used to select respondents in each of the six quarters in Auchi, including Igbei, Akpekpe, Iyekhai, Abotse Utsogun, and GRA. This is because the elements exist in the spatial framework. Questionnaires were administered to landlords or caretakers, and six trained field assistants were used to administer the questionnaires. A respondent was interviewed in every 5th house.
2.2.3 Method of Data Analysis

The data collected for this research were subjected to descriptive and inferential statistical analyses. Tables of frequencies and percentages were used to analyse the data obtained from the field. Spearman correlation was used to test the relationship between the level of awareness of residents to development control and compliance; and ANOVA was used to test the variability of compliance among the stratified quarters in Auchi.

*Figure 1. Auchi Showing the Quarters*
(Source: Edo State Ministry of Land and Survey, 2017)
3. Result and Discussion
3.1 Reasons for Non-compliance

The reasons for non-compliance were based on the conditions that existed that were perceived by the respondents. The income earned by urban residents has been adduced by many researchers as an essential variable influencing non-compliance with development control (Alnsour & Meaton, 2009). Table 1 presents the views of respondents.

Table 1: Monthly Income

| S/N   | Income (N) | Frequency | Percentage |
|-------|------------|-----------|------------|
| 1     | Below 20,000 | 8         | 2.1        |
| 2     | 20,001 – 40,000 | 120     | 31.7       |
| 3     | 40,001 – 60,000 | 104     | 27.5       |
| 4     | 60,001 – 80,000 | 88      | 23.3       |
| 5     | 80,001 and above | 58      | 15.4       |
| Total |            | 378      | 100.0      |

About 2.1 percent of the respondents earned less than N20,000.00 a month. The majority of the respondents claimed that they earned between N20,001.00 and N60,000.00 every month. The other categories of income are indicated in Table 1. Judging by these relatively low levels of income, meeting the requirements of compliance with development control regulations may be challenging. The low-income level of some developers was confirmed by Avogo et al. (2018) as a potential factor in non-compliance.

3.1.1 Approved Building Plans of Respondents

The possession of an approved building plan is a significant indicator of a developer’s compliance with development control. On the aggregate, 31.5 percent had approved building plans, while 68.5 did not have approved building plans. This indicates a high level of non-compliance because building plans are needed and used during construction and for ownership purposes. Table 2 shows how the various quarters in Auchi fared in terms of possession of building plans.

Table 2: Approved Building Plans

| S/N   | Awareness | Akpeke | Iyekhei | Usogun | Igbeti | Abotse | GRA | Total  |
|-------|-----------|--------|---------|--------|--------|--------|-----|--------|
| 1     | Yes       | 11(2.8) | 13(3.4) | 22(5.8) | 15(4.1) | 18(3.5) | 40(13.4) | 119(31.5) |
| 2     | No        | 61(16.1)| 59(15.6)| 46(12.2)| 45(11.9)| 35(9.3) | 9(2.4)  | 259(68.5) |
| Total |           | 72      | 72      | 68      | 60      | 53      | 49  | 378(100.0) |

The absence of approved building plans means that such developers built out of control of town planning regulations. The study confirmed the assertion of Jimoh et al. (2017) that the lack of approved building plans by many developers is an essential aspect of non-compliance in Auchi. The absence of approval plans may be due to the high cost of processing as advanced by some experts like Balogun, Adeyewa, Balogun, & Morakinyo (2011).

3.1.2 Awareness of Respondents on Development Control

An essential prerequisite for the compliance of residents with development control practice is the issue of awareness. Awareness of development control counts if residents of a settlement are to comply or not with development control. Table 3 indicates residents’ awareness of development control practice in Auchi.

Table 3: Awareness of Respondents

| S/N   | Awareness | Akpeke | Iyekhei | Usogun | Igbeti | Abotse | GRA | Total  |
|-------|-----------|--------|---------|--------|--------|--------|-----|--------|
| 1     | Yes       | 44(11.6)| 32(8.5) | 34(9.0) | 30(7.9) | 41(12.7)| 48(20.9)| 229(60.6) |
| 2     | No        | 32(8.5)| 40(10.6)| 34(9.0) | 30(7.9) | 12(3.2)| 1(0.3) | 149(39.4) |
| Total |           | 76      | 72      | 68      | 60      | 53      | 49  | 378(100.0) |

On an aggregate basis, 60.6 percent of the sample agreed that they knew development control practice in Auchi. Based on disaggregation, it is in the GRA that the highest number of aware people were found, which is 20.9 percent of the total respondents. In the GRA, nearly all the residents, that is, 97.9 percent of the respondents, claimed that they were aware of development control, and the quarters of least awareness was Igbeti (7.9%). The awareness levels of the other quarters are shown in Table 3. Many researchers confirmed that many developers are aware of development control regulations, but they deliberately do not follow them because of their self-interest (Adedibu, 1995). However, Sarkheyli et al. (2012) found awareness level on the part of developers as a decisive factor in non-compliance.

3.1.3 Monitoring of Development

A vital aspect of compliance with development control is the monitoring of developments. The respondents were asked if they have experienced monitoring of developments by Physical Planning and...
Urban Development officials. Table 4 indicates their responses. About 69.0 percent of the respondents said that they have witnessed it.

Table 4: Monitoring of Development

| S/N | Awareness | Akpeke | Iyekhei | Usogun | Igbei | Abotse | GRA | Total |
|-----|-----------|--------|---------|--------|-------|--------|------|-------|
| 1.  | Yes       | 49(12.9) | 48(12.6) | 41(10.8) | 32(8.4) | 42(11.1) | 46(12.2) | 261(69.0) |
| 2.  | No        | 27(7.1)  | 24(6.4)  | 27(7.1)  | 28(7.4) | 11(2.9) | 3(0.8) | 117(31.0) |
| Total |           | 76(20.1) | 72(19.0) | 68(18.0) | 60(15.9) | 53(14.0) | 49(13.0) | 378(100.0) |

On a disaggregated basis, Akpeke had 12.9 percent followed by GRA with 12.2 percent of the respondents who experienced monitoring during development. On a relative basis, 46 out of the 49 (94.0%) respondents claimed that developments were monitored in GRA. The least monitored quarter was Igbei, which is 8.4 percent.

The monitoring of development ought to be systematic at the foundation, lintel, and roofing levels. Monitoring ought to reduce non-compliance, but it is not so because of the ulterior motive of planning officials in charge of monitoring. There is a growing consciousness among the public that monitoring is mainly used to amass wealth by some planning officials (see Ogundele et al., 2011). This connivance encourages non-compliance because non-complying developers have been officially endorsed to go along with whatever things they are doing.

3.2 Non-Compliance with Development Control

The survey’s thrust is on compliance with development control by developers in Auchi. The respondents were presented with various aspects of standards to evaluate, and the results are shown in Table 5. After the general considerations of the extent of compliance with development control, a sub-topical analysis of aspects of development control at especially micro-level is followed. Table 5 shows the variation of the degree of compliance with development control at the quarters of Auchi.

Table 5: Compliance with Development Control Regulations in Quarters

| S/N | Compliance | Akpeke | Iyekhei | Usogun | Igbei | Abotse | GRA | Total |
|-----|------------|--------|---------|--------|-------|--------|------|-------|
| 1.  | Totally complied |   | 5(1.3)  | 4(1.1)  | 2(0.5)  | 7(1.9)  | 3(0.8) | 21(5.6) |
| 2.  | Partially complied | 40(10.6) | 36(9.5) | 45(11.9) | 32(8.5) | 20(9.3) | 11(2.9) | 184(48.7) |
| 3.  | Moderately complied | 29(7.6) | 26(6.3) | 19(4.5) | 20(5.3) | 15(4.0) | 8(2.1) | 120(31.7) |
| 4.  | Partially complied | 2(0.5) | 8(4.3) | 4(2.1) | 1(0.3) | 5(1.3) | 30(7.9) | 50(13.2) |
| 5.  | Complied |    |    |    |    |    |    |    |
| Total |           | 76  | 72  | 68  | 60  | 53  | 49  | 378(100.0) |

About 54.4 percent of the developments did not comply with development control on cumulative basis. In terms of disaggregation, the variation in compliance is low except in the GRA, where non-compliance is not a marked characteristic. The level of compliance of developers with development control was relatively low, as indicated in the quarters. There was no stratum of the study where compliance was total.

3.2.1 Setbacks of Buildings

Setbacks measure the distance between property boundaries from either the road or other boundaries. These can be used to indicate part of spatial density which is essential in operationalizing development control. The interviewees were asked to perceive these in where they live in. Table 6 indicates the setbacks. However, these responses constitute a nonexpert view.

Table 6: Set-backs of Buildings

| S/N | Awareness | Akpeke | Iyekhei | Usogun | Igbei | Abotse | GRA | Total |
|-----|-----------|--------|---------|--------|-------|--------|------|-------|
| 1.  | Yes       | 59(15.6) | 58(15.3) | 56(14.8) | 38(10.4) | 38(10.4) | 40(10.8) | 287(75.9) |
| 2.  | No        | 17(4.5)  | 14(3.7)  | 12(3.2)  | 22(5.8) | 15(4.0) | 9(2.4) | 91(24.1) |
| Total |           | 76  | 72  | 68  | 60  | 53  | 49  | 378(100.0) |

The respondents believed that the setbacks are adequate. On an aggregate basis, 75.9 percent affirmed that there were adequate setbacks. In terms of variability, Akpeke (15.6%) and Iyekhei (15.3%) experienced the highest degree of setbacks, and the lowest affirmation of setbacks was found in Igbei (10.4%), and Abotse (10.4%). Variability in setbacks was also observed by Ngetich, Opata, and Mulongo (2016) in the Kenyan city of Eldoret.

3.2.2 Setback from Road to Building

The setback of the building from the road to the boundary line is also known as the front setback. This setback is very important in the operationalization of development control. It helps in shielding the
residents of the house from vehicular accidents. The estimation of the length of the setbacks are in Table 7.

Table 7: Set-back from Road to Building

| S/N | Set-back in m | Akpeke | Iyekhei | Usogun | Igbei | Abotse | GRA | Total |
|-----|---------------|--------|---------|--------|-------|--------|------|-------|
| 1.  | Less than 4m  | 38(10.3)| 47(12.4)| 31(8.2)| 53(14.6)| 26(6.9)| 2(0.5)| 197(52.1) |
| 2.  | 4 – 4.4       | 33(8.6)| 25(6.6)| 20(5.3)| 3(0.8)| 17(4.5)| 3(0.8)| 101(26.7) |
| 3.  | 4.5 – 4.9     | 2(0.5)| -      | 1(0.3)| 2(0.5)| 6(1.6)| 8(2.1)| 19(5.0)   |
| 4.  | 5 – 5.4       | 3(0.7)| -      | 8(2.0)| 2(0.5)| -     | 15(4.0)| 28(7.4)   |
| 5.  | 5.5 and above | -     | 8(2.1)| -     | 4(1.1)| 21(5.6)| 33(8.7)|         |
| Total|               | 76    | 72     | 68     | 6     | 53     | 49   | 378(100.0) |

The minimum setback from the house to the road is 5.0 meters, and in the survey, about 83.8 percent of the houses had less than the minimum setback. Thus, the regulation on minimum road setback is seriously violated in Auchi. However, only in the GRA that a substantial number of houses had above the minimum setback of 5.0 meters.

3.2.3 Right Set-back

Next, the interviewers estimated the right setbacks of building in the different strata. The observed setbacks are shown the Table 8.

Table 8: Right Set-back

| S/N | Set-back (M) | Akpeke | Iyekhei | Usogun | Igbei | Abotse | GRA | Total |
|-----|--------------|--------|---------|--------|-------|--------|------|-------|
| 1.  | Less than 1.0m| 24(6.4)| 33(7.4)| 12(3.2)| 29(7.7)| 15(4.0)| -   | 113(29.9) |
| 2.  | 1 – 1.5      | 40(10.6)| 27(7.1)| 50(13.2)| 26(6.9)| 33(8.7)| 0   | 176(46.6) |
| 3.  | 1.6 – 2.0    | 8(2.1)| 10(2.6)| 4(1.1)| 3(0.8)| 2(0.5)| -   | 27(7.1)   |
| 4.  | 2.1 – 2.5    | 4(1.1)| 3(0.3)| 1(0.3)| 2(0.5)| 1(0.3)| 30(7.9)| 41(10.8) |
| 5.  | 2.6 and above| -     | -     | -     | -     | 2(0.5)| 19(5.1)| 21(5.6)   |
| Total|              | 76    | 72    | 68    | 60    | 53    | 49   | 378(100.0) |

The minimum side setback operationalized by Edo State Government is 2.0m. From the sample, about 76.5 percent of the buildings fell short of this standard. The effect of this deficiency is that most of the buildings seem to be joined together and do not have readily identifiable space separating them.

Regarding disaggregation, the setbacks in the quarters are shallow except the GRA that is excluded from these categories. Thus, in terms of side setbacks, the level of compliance in Auchi is about 25.5 percent, which is relatively low.

3.2.4 Building Coverage on Plot

Building coverage on a plot is a measure of urban density and on how spaces are covered. Urban occupancy of buildings is significant in a city’s level of congestion and liveability. Table 9 describes how individual buildings occupy plots.

Table 9: Building Coverage on Plot

| S/N | Coverage (%) | Akpeke | Iyekhei | Usogun | Igbei | Abotse | GRA | Total |
|-----|--------------|--------|---------|--------|-------|--------|------|-------|
| 1.  | 80 – 90      | 20(5.3)| 20(5.3)| 6(1.6)| 30(7.9)| 16(4.2)| -   | 92(24.3) |
| 2.  | 70 – 79      | 30(7.8)| 25(6.6)| 15(4.0)| 26(6.9)| 21(5.6)| -   | 117(31.0) |
| 3.  | 60 – 69      | 20(5.3)| 17(4.5)| 20(5.3)| 2(0.5)| 10(2.7)| -   | 69(18.3) |
| 4.  | 50 – 59      | 6(1.6)| 10(2.6)| 20(5.3)| 2(0.5)| 6(1.6)| 37(9.8)| 81(21.4) |
| 5.  | 40 – 49      | -     | 7(1.8)| -     | -     | 3(0.8)| 10(2.6)| -   |
| 6.  | Less than 39 | -     | -     | -     | -     | 9(2.4)| -   | 9(2.4)   |
| Total|              | 76    | 72    | 68    | 60    | 53    | 49   | 378(100.0) |

In terms of aggregate basis, about 73.6 percent of the buildings occupied more than 50 percent of their plots. In the town planning regulation of Edo State 2014, the maximum coverage of buildings is 45 percent. If this is followed, it means about 90 percent of the plots were over-built in Auchi. This implies a gross violation of space standards. It is only in the GRA that appreciable compliance was achieved in-building coverage on plots.

3.3 Correlation of Awareness with Non-Compliance

The link between awareness and compliance with development control was tested. The non-parametric correlation of Spearman (rho) was 0.55, indicating an average positive correlation between awareness and compliance with development control. The coefficient of determination is 0.55 x 0.55(0.3025) 30.25%, which indicates the extent to compliance with development control can be explained with awareness. Table 10 showed the coefficient of correlation and was significant at 0.001 alpha level.
Table 10: Correlation of Awareness with Compliance

| Correlations | Compliance with all the regulations of development control | Level of awareness |
|--------------|-----------------------------------------------------------|--------------------|
| Spearman's rho | Correlation Coefficient | 1.000 | 0.554 |
| Level of awareness | Sig. (2-tailed) | .000 |
| N | 378 | 378 |

**. Correlation is significant at the 0.05 level (2-tailed).

Awareness is not a strong determinant of compliance with development control regulation in Auchi.

3.3.1 Variability of Building Coverage on Plots in Quarters

A one-way between-groups analysis of variance was conducted to find the variation of building coverage area in the six strata in Auchi. There was a statistically significant difference at the p < .05 level in the building areas among the strata: F(5,377) = 66.791, p=.001 (Table 11).

Table 11: Source of Variance

| ANOVA |
|-------|
| Building coverage area | Sum of Squares | DF | Mean Square | F | Sig. |
| Between Groups | 262.248 | 5 | 52.450 | 66.791 | .000 |
| Within Groups | 252.122 | 372 | .785 | |
| Total | 554.370 | 377 | |

To confirm whether this significance has any substantive, practical value, the eta squared statistic (i.e., a statistic that measures the magnitude and practical meaning of significance) was calculated.

\[
\text{Eta squared} = \frac{\text{sum of squares between groups}}{\text{Total sum of squares}} = \frac{262.248}{554.370} = 0.47
\]

The value of 0.47 indicates a substantial effect. Thus, there is really substantive difference in the variability of building coverage among the quarters of Auchi.

4. Conclusion

The first major conclusion is that development control compliance among the residents of Auchi is generally weak, except at the GRA. Although awareness of the residents on development control was reasonably high, this has not been translated into high compliance. The plot sizes were small, and building coverage was high, far above the 45 percent specified by Edo State Government. Thus, there is the need to address these lapses in compliance with development control in Auchi in order to channel the physical development of Auchi as it grows appropriately.

The town planning regulations in Edo State need to be reassessed to reflect reality because certain aspects of the regulations cannot be implemented. For example, the building coverage on a maximum of 45.0 percent on the plot is impracticable. Urban land is expensive, and no developer will buy a plot at an exorbitant rate and develop at a very low density. This provision of approval is presently grossly trivialized.

The prospective developers should be educated on the essential fact that town planning regulations on development control are for convenience and economic growth. Practical issues should be introduced into such enlightenment on development control that touches on the residents’ compliance emotions. Government should regulate the design of layouts as a starting point for regulating space.

The developers have to be monitored and supervised to comply with regulations. The monitoring of development has not been regular and systematic as was observed in Auchi. The use of red-letter 'X' to mark contravening developments has not much bearing on compliance. There is a need for the provision of vehicles, equipment, and staffing for monitoring development. Also, the development control unit staff should have a manual for controlling development and be adequately trained to do so. When these are done, urban planning will not be seen as a corrupt and opportunistic practice but rather a practice addressing Nigerian cities’ physical developmental and environmental ills.

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