

Locational Variation of Compliance with Building Law According To Level of Awareness of Building Owners in Calabar Planning Area

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ABSTRACT

Widespread compliance with building Law is an uphill task where the people, for whom the law was made are not aware of the existence let alone its importance. This has serious consequence on the sustainability of the environment, especially, the urban environment. This study was developed to determine the locational variability in the level of compliance with building law according to the developers or building owners' level of awareness in the Calabar Planning Area. The study was carried out in the Calabar Planning Area and data generated through direct measurement of physical variables of Buildings and copies of questionnaire administered to developers-owners of the buildings studied. The physical measurements were to determine the level of compliance with ten sets of Building variables that have direct bearing with the safety and health of people living in, and around Buildings. Questionnaires were administered to owners of seven hundred and ninety four buildings, representing five per cent of total number of Buildings on separate stand in the study area. Information in the questionnaire captured the awareness level of respondents as well as the structural status of buildings along the ten sets of building variables measured. The resulting data were analysed using Statistical Package (SPSS) version 20.0, employing an Analysis of Variance (ANOVA), to test for the level of significance for the variation in the level of compliance across 13 districts that make up the study area. The result of the ANOVA derived, shows an f ratio of 19.58 at a degree of freedom of 802, hence giving the researchers the power of rejecting the null hypothesis whilst upholding the alternative hypothesis, which states that there exist a variation in the level of compliance with building law across the 13 districts according to the level of awareness of the respondents. It was recommendation that environmental education not only as to the existence of Building standards but also as to their importance, must be promoted by allocating more funds directed at improving level of awareness in the study Area. Improved resource allocation of improving the level of Environmental awareness of people in the planning area will impact positively on compliance.

Keywords: Compliance; Awareness level; Building law; Planning Area; Physico-Structural status; Environmental Education; Improved Resource Allocation

1. INTRODUCTION

The need to attain environmental sustainability and urban development has made Government of different nations to put together planning laws and policies for the achievement of their respective environmental goals. Nigeria is one of such nations whose Government has deemed it fit in throwing its weight behind environmental sustainability and has adopted environmental

policies and regulations specifically, those pertaining to Building standards and this is evident through Bills which were passed into Law (Offiong, 2018). Example of such laws is The Urban and Regional Planning Decree of 1992 (Decree No. 88). Respective States have followed suit. Cross River was not left out. Specifically the Government of Cross River State passed into Law the building regulations of 1984, as amended in 1987 aside other laws, in order to ensure regulatory standards regarding building constructions. For this purpose also, the government, had marked out five planning areas to include, Ogoja, Ikom, Obudu and The Calabar Planning Area under consideration (Offiong 2018). These five, with respective urban Development Authorities are meant to work with the Planning Authority to ensure safe and liveable environment as part of government Urban Renewal effort. However, irrespective of the planning scheme and mandatory provisions formulated by the state law making body, there are still widespread cases of violations in the Planning Areas. More worrisome, particularly, in Calabar is the fact that Calabar is the metropolitan Tourism city of Cross River State. These persistent violations have been observed over the past 31 years, and are bound to continue in the coming years, if nothing is done about them. What could be deduced from these widespread violations are that compliance with Planning Law and Policies, specifically those relating to Building standards are very unpopular, despite the increasing cases of building demolitions, leading to loss of huge amounts of money to developers or building owners as well as reduced revenue to government. But the question that should be on the minds of sensible citizens and Government officials in the Country and State is, why,` irrespective of the copious number of laws available, there are still gross cases of violations littered over court's Dockets? This has called for the need to look beyond these extant laws and take a deep investigation into the intricate web of characteristics that make up the citizens in the country, and one of such web of characteristics is the Awareness level of the citizens, generally and narrowed down to those of Building Developers.(Offiong 2014) This study therefore examined variation relationship between awareness level of building owners in Calabar Planning Area and compliance with building law. To achieve this objective, first a relationship was tested for significance and thereafter tested for Geographic spread across the sample residential Areas that make up the Planning Area.

2. STUDY METHODOLOGY

2.1 Material and Method



Figure 1 Map of Nigeria Showing Cross River State

Source: Office of Surveyor- General Ministry of Lands, Housing and Urban Development Calabar

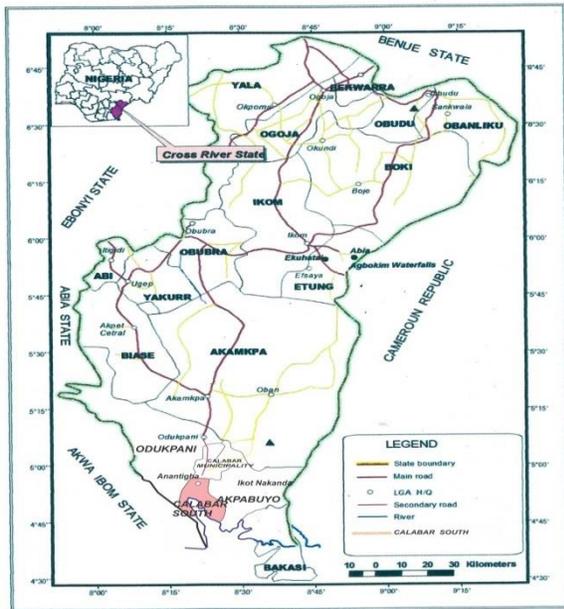


Figure 2 Map of Cross River State showing Metropolitan Calabar

Source: Office of Surveyor- General Ministry of Lands, Housing and Urban Development Calabar

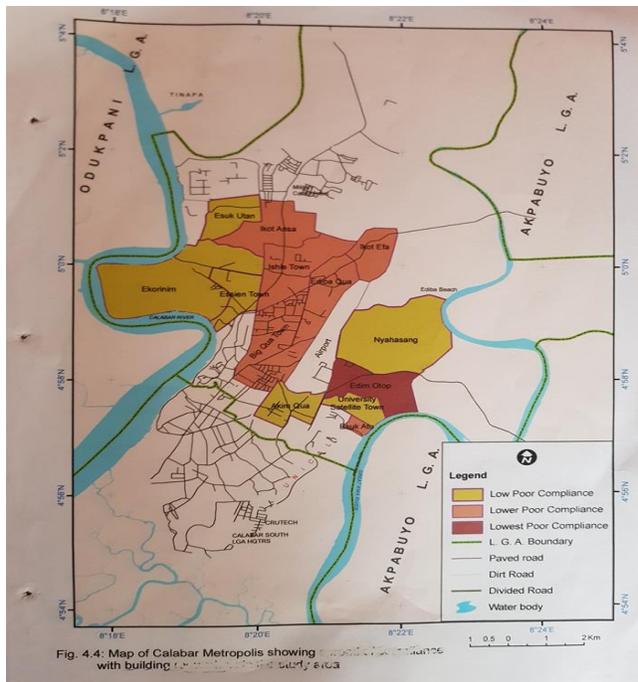


Fig. 4.4: Map of Calabar Metropolis showing building compliance

Figure 3 Map of Metropolitan Calabar

Source: Office of Surveyor- General Ministry of Lands, Housing and Urban Development Calabar.

2.2 Study Area

Calabar as depicted in figure 3 is the tourism capital city of Cross River State. The city, located in the southern part of Cross River State as shown in figure 2, lies between longitude $08^{\circ} 26$ East of the Greenwich meridian and latitude $04^{\circ} 58$ North of the equator and longitude $08^{\circ} 22$ East with a total surface area of 159.65 square kilometres. It is bounded by two rivers which are the great Qua River and Calabar River. Also the city is bordered by Odukpani Local Government Area of Cross River at the North, Akpabuyo Local Government Area at the East, The Atlantic Ocean at the South and Akwa Ibom State at the West. Calabar was the first city in the then Eastern Nigeria and has remained more than 300 years in Nigeria (Figure 1 is map of Nigeria showing Cross River State) as an urban centre (Offiong, 2018). According to the 1996 population projection, the population of Calabar was 379,605. The population had grown to 461,796 according to Geographical Database based on the 2006 Nigeria population census, making its growth rate more than 3 per cent. The city had a population density of 134/ sqkm in 1991 and in 2006, the population density rose to 293 sqkm, obscured and a rather grave situation in Calabar (NPC 2006). As at 2016, the number of buildings on separate stand/yard in the metropolitan Calabar had grown to 15,894 according to Nigeria's population and Housing census drawn from the thirteen (13) metropolis residential areas being studied.

As rightly observed by (Ebong (1983), housing in Calabar has become the thorniest problem facing its inhabitants. In an attempt to contend with the housing problems, houses are springing up in disregard to the requirement as to building plan, with attendant consequences on land use planning. One unique characteristics of the study area is that it is contiguous to the completely built areas in the municipal capital but whether or not these built up area complies with government approval is another question. A greater percentage of completed houses are done without prior consideration of access to roads. However, it can be easily observed that more than 50% of districts already designated as residential locations are yet to be fully built up. These include settlements and suburbs such as Ikot Ekpa, Ikot Effiom, Eyamba, Obot Okoho, Bacoco, Awkada, Adebyo Ikot Omin, Ekaobo, Ikot Nkebre, Ikot Enobong, Ikot Omin, Ine Udo, Ndito Okobo, Ine Akpan Ufana, Ine Udo, all surrounding the completely built up area but hindered by a near absence of access roads. Making matters worse is that, although designated as a tourism capital, the city is the capital city of a civil service state with residents who are hardly aware of the existence of provisions of the extant law on buildings let alone their importance or significance. This has grave consequences on compliance with building standards as people are more likely to avoid violating the laws which they are aware of with dire consequences.

2.3 Types of Data

In order to achieve the objective of this study, both Primary data and Secondary data were employed. The primary data used in the study were based on education status of respondents (owners of buildings). To test for awareness, respondents were asked ten sets of simple questions bordering on Building Regulations provisions, which would ordinarily betray ignorance or non-awareness of the requisite law. This information was needed to establish the relationship between awareness of property owners prior to the time of the building construction and their level of compliance to satisfy the objective of the study. While the secondary data used in the study were data on building regulations derived from the Cross River State Building Law of 1984 as amended in 1987, as well as the population data from the National Population Commission of Nigeria.

2.4 Sources of Data

Sources of data included Primary and Secondary sources of data. Primary sources of data included questionnaires and direct physical measurement used for the study while Secondary sources of data included Cross River State building regulations of 1984 as amended in 1987 where data was elicited on building law as well as Nigerian National Population and Housing Census of 2006 where I obtained data on existing residential districts that make up the study area.

2.5 Data Collection Procedure

Data collection was done using seven hundred and ninety four questionnaires administered on 794 respondents owners of the five per cent of buildings on separate stand measured with the help of trained field assistants. After measurement of each variable I and my field assistants recorded the data on the counterpart part of the questionnaire provided for that purpose.

2.6 Population of study

The population of study was made up of Metropolis Residential buildings/houses on separate stand and their owners in the thirteen residential areas of Calabar Metropolis. There are about 15,894 completed buildings on separate stands in the 13 residential districts of the study area.

2.7 The Sample

The study sample was made up of 794 residential buildings selected from the 13 residential districts of the study area. The 13 residential districts captured the metropolis residential areas contiguous to the completely built up area in Calabar metropolis. The 794 buildings selected represent five per cent of total number of buildings on separate stand. Measurement of buildings was done considering 5percent of buildings on separate stand selected using systematic random sampling technique in each of the 13 metropolis residential districts that made up the study area. Copies of the questionnaire were distributed to owners of the buildings measured. From Table 3.1, out of 794 buildings measured, 742 copies of the questionnaire representing 93 percent were successfully retrieved. This number was considered representative enough for the study.

Table 1: Residential districts and number of buildings measured in the Study Area

S/N	Residential Districts	No. of Buildings	No. of buildings measured/ questionnaire administered.	Questionnaires Retrieved.	Percentage retrieved
1.	Akim Qua Town	2020	101	99	98
2.	Ediba Qua Town	1837	92	82	90
3.	Big Qua Town	2361	118	117	99
4.	Essien Town	1942	97	97	100
5.	Ishie Town	2627	131	112	85
6.	Ikot Ansa	1722	86	73	84
7.	University Satellite Town	750	38	38	100

8.	Ikot Efa	414	21	18	85
9.	Esuk Utan	204	10	10	100
10.	Ekorinim	441	22	22	100
11.	Esuk Atu	240	12	12	100
12.	Nyangasang	720	36	36	100
13	Edim Otop	616	30	25	83
	Total	15, 894	794	742	93

Source: 2006 Population and Housing Population Data Bank, Nigerian's National Population Commission

2.8 Sampling Technique

The sampling technique adopted in this study was multi-stage sampling technique. At stage 1, purposive sampling of residential districts was done, to satisfy the researchers' desire to study only buildings within the metropolis residential districts which are contiguous to the completely built up area in the Calabar Municipality. The following districts were captured Akim Qua Town, Ediba Qua Town, Essien Town, Ishie Town, Ikot Ansa, University Satellite Town, Ikot Efa, Esuk Utan, Ekorinim, Nyangasang and Edim Otop; secondly, to capture only buildings on separate stand/yard. This housing type, apart from forming the highest percentage (57.2percent) of dwellings for regular households in Calabar municipality (2006, Nigeria's National population and housing census), it also guaranteed the probability of measuring all the ten building variables used for the study. Other types of housing unit include; informal improvised dwelling (0.6percent), semi-detached (7.3percent), flat in block of flats (10.4percent), Traditional Hut structure (9.5percent), others (0.4percent). At Stage 2, systematic sampling was done. A sample frame was defined for each street at the interval of 20 buildings according to the number of buildings on separate stand/yard with a target of not less than 5percent in mind. Stage 3 involved repeated systematic sampling in districts where the minimum 5percent was not met at first time due to repeated absence or outright refusal to allow measurement or supply needed information by owners of buildings within the sampled frame and grid.

TABLE 2: Provisions of the Cross River State Building Regulations, 1984 Used For The Study

S/N	Sections	Long Title
1.	S.2(A) (4)	Building Plan: Building must be with approved building plan
2.	S.5	Building line: At least 12 meters from road centre.
3.	S.13 (6)	Ceiling height: Minimum dimensions shall be 2.88meters
4.	S.6(3)	Set Back: Minimum permissible distance between a bungalow and other building not less than 4.5 meters.
5.	S.7	Building size restrictions: Not more than 50percent of land size should be built up.
6.	S. 13(b)	Size of living room: Shall be 12.96 square meters with width not less than 3.00 meters

7.	S. 16(3)	Height of ground floor: Shall not be less than 0.15 meters above the level of adjacent ground.
8.	S.19(1) (2)	Ventilation: Buildings shall have adequate cross ventilation with windows size not less than $\frac{1}{8}$ of the flow area of the room.
9.	S. 6 (1)	Space around buildings: A minimum distance of 1.5 meters shall be allowed from the property boundaries not facing any road.
10.	S.13 (d)	Corridor dimension: The minimum width shall be 1 meter.

Source: Cross River State Building Law 1984 as amended in 1987.

Table 3: Ranking of Educational Status of owners of building at the time of the Building Construction.

Level of Awareness (Building Regulations)	Mean grouping	Ranking
Low	0-49	1
Fair	50-89	2
High	90-100	3

Source Researcher's Field Work 2017

TABLE 4 Compliance Classification Standard

Compliance		
Mean grouping	Ranking	Classification
1 – 59.4	1	Poorest
59.5 – 79.4	2	Poorer
79.5 – 95.4	3	Poor
95.5 – 100	4	Good (Full compliance)

Source: Researcher's Field Work 2017

2.9 Analytical Procedure for Testing of Hypotheses

This research employed two statistical approaches in studying in order to achieve the objective of the stated hypothesis: There is no significant variation in the level of compliance with Building Law across the 13 residential districts according to the education status of property owners' prior building construction.

The 13 residential districts represent the independent variable while the level of compliance and awareness level of property owners across the 13 districts is the dependent variables. An Analysis of Variance (ANOVA) was applied in showing the variation of the level of compliance across the 13 residential districts according to the level of awareness of the property owners.

4. RESULT AND DISCUSSION

The results of the analysis and data presentations are discussed in this section of the study. The data presented here were achieved from the analysis carried out by the researchers based on the objective of the study.

The variable considered for the study was the awareness level of the building owners at the time of Building Construction. The awareness level of the building owners represents the Independent variable while compliance with Building regulations represents the Dependent variable. The Building Law variables are shown on Table 2, the awareness level rankings, which represents the independent variable is shown in Tables 3 while Compliance classification standard used for the study is shown in Table 4

TABLE 5: Level of Compliance with Building Law Factored by Level of Awareness Respondent’s In Calabar Planning Area

Level of Awareness (Building Regulations)	Mean	N	Std. Dev	Compliance classification
Low	54.08	82	29.71	Poorest
Fair	76.19	495	15.06	Poorer
High	87.7	215	12.25	Poor
Total	77.02	792	18.94	Poorer

Source: Researchers’ fieldwork, 2017.

Table 5 shows the mean level of compliance and the standard deviation from the mean level of compliance with Building Law according to the awareness level of Developers or Building owners at the time of Building construction. The result from of the descriptive statistical analysis carried out in Table 5, shows that, the lower the level of awareness, the lower the compliance level with the Building Law. Based on the findings, Building owners with low awareness level, have the lowest compliance level, while Building owners with high awareness level have the highest level of compliance with the Building Law

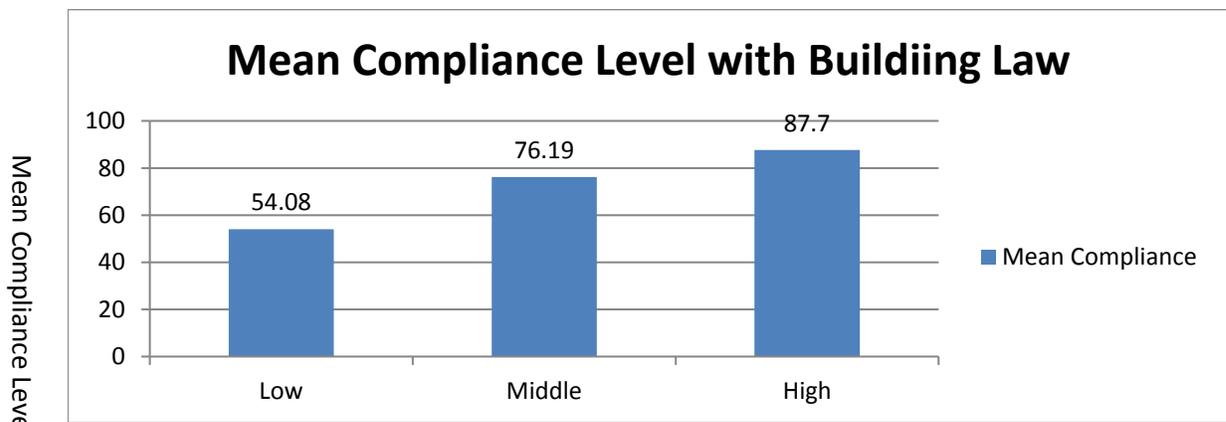


Figure 4: Mean Compliance with Building Law

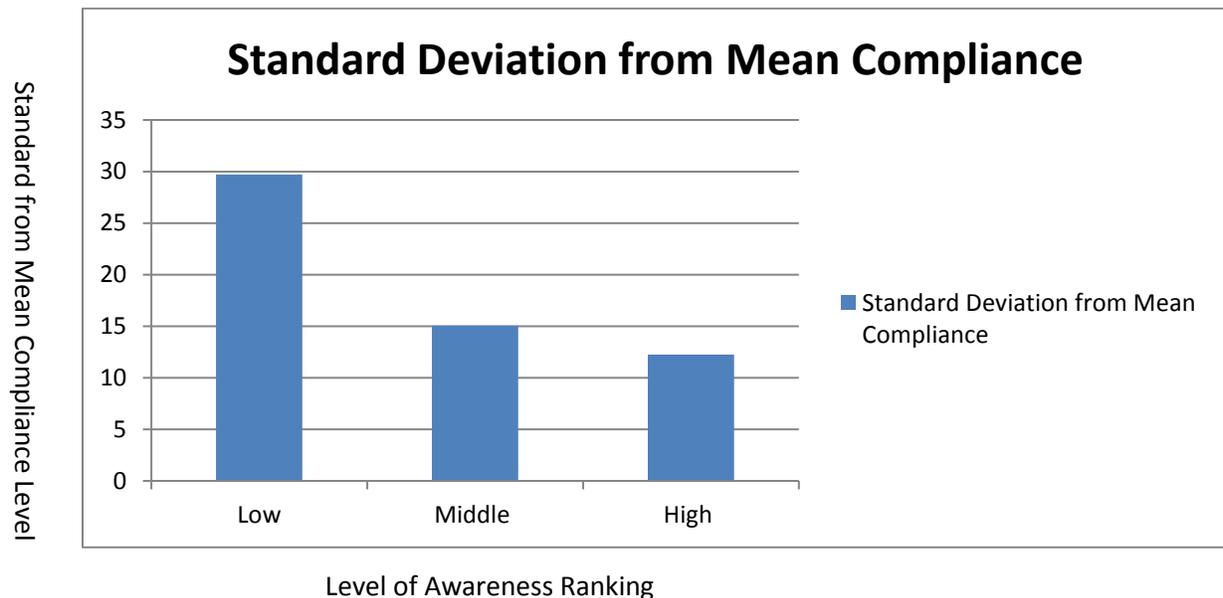


Figure 5: Standard Deviation from Mean Compliance

Figure 4 and 5 show the mean compliance and standard deviation of the Buildings across the 13 residential districts in Metropolitan Calabar. Based on the chart in figure 4, Developers or Building owners with high level of awareness have the highest mean compliance value, while those owners with middle level of awareness have the second highest mean compliance and lastly others with low level of awareness have the lowest mean compliance. Hence, the more aware a Building owner is, the more compliant the Building owner is with Building Law.

Test of Hypothesis

Hypothesis

H_0 : The level of compliance with building regulations does not vary across the 13 districts according to the awareness level of owners of buildings prior to the time the building was built in Calabar planning area.

H_1 : The level of compliance with building regulations varies across the 13 districts according to the awareness level of owners of buildings prior to the time the building was built in Calabar planning area.

ANOVA for the Variation of the Level of Compliance with Building Regulations across the 13 Residential District According to the Education Status of Property Owners Prior to the Time the Building was built in the Study Area

From the ANOVA result in Table 6, the f-ratio of 19.58 is derived with a degree of freedom of 802. This f-ratios at 802 degrees of freedom is significant at $p < 0.001$. Since, $P < 0.001$ is lower than the 0.05 confidence limit set for the study, the null hypothesis is rejected in favour of the alternative hypothesis, which states that the level of compliance with building regulations varies across the 13 according to the awareness level of owners of buildings prior to the building construction.

Table 6: ANOVA Summary of the Variation of Compliance with Building Law across the 13 Districts In the Study Area According to the Respondents Awareness Level

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	77191.903	12	6432.659	19.580	.000
Within Groups	259545.228	790	328.538		
Total	336737.131	802			

Predictor = District in the study area

Dependent= Level of Compliance

5. CONCLUSION AND RECOMMENDATION

Level of compliance with Building law in Calabar in relation to the Awareness of the Building owners varies according to the residential districts and this conclusion can be applied to other residential districts outside of the study Area where compliance of less than 100 per cent was recorded. This calls for the need for Town Planning Authorities to step up to their responsibility in ensuring that Building Owners comply with Building standards across the 13 residential districts. In order to ensure this, the following recommendations are given addressing stakeholders involved in building construction. To the Building owners, the responsibility to self and towards the occupiers of a built up environment, is not only to provide Houses for occupation, but to ensure the safety of the occupiers. Therefore complying with Building law is a must if the Building owners are to ensure the continuous flow of money into their pockets whilst protecting the people living in and around their Buildings. In order to achieve this aim, Building owners are advised to ensure that they follow up every single requirement provided in the Building Law without any compromises. Building owners must be kept updated about any extant laws on building so as to ensure that their Buildings comply strictly with the law.

In addressing the issue of compliance, ignorance of the law, even though never considered an excuse has been the major contributor to the present level of compliance in the Study Area. Therefore, a systematic reduction in the level of ignorance will mean an increase in the level of compliance. Residents should by themselves, seek enlightenment not only as to the specified minimum building standards, under the law, but also as to the importance of especially those ones that they do not understand or do not seem to agree with. Often, it is ignorance, not only of the existence of the law, but also of the relevance of the law that constitutes the major challenge. This aspect is very interesting especially because when a building is found to be non-compliant with standards the architects and supervisors are not usually blamed. The blame goes to the owner of the building whether or not he has the ability to determine when the service rendered meets the required legal standards. The wise thing for developers to do, therefore, is to hire the services of qualified personnel. At least, if not for any other reason, an ignorant person ought to consult an expert or seek the advice of one more knowledgeable in the field as an indication that he is indeed willing to do what is right and lawful. Perhaps it is on this ground that ignorance indeed ought not to be an excuse.

Town Planning Authorities must remember that Awareness of Building Owners as to Building Standards is their priority by law. As a result, they should ensure that they carry out awareness programs to get would-be Building owners informed on the required Regulatory standards. Also,

the Town Planning Authorities should set up a consultancy Department, offering consultation services to Building owners in the Planning Areas, towards compliance with Building Law. Supervision of Building site in order to ensure that building owners comply with Building law should be adopted. This is to ensure that Building owners who do not complying with the building law but are aware of the Law are apprehended and penalized, while those that are unaware should be guided. Deployment to this unit should be such as to include persons who can speak and interpret in Dialect of different ethnic/cultural groups, as effective awareness requires effective communication. All these require funding and must be provided by government if compliance is to be improved in the Study Area.

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