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Articles

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An Open Access Journal Available Online

Comparative Cost Analysis of using Conventional Blocks and Interlocking Bricks for Mass Housing in Nigeria

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Abstract: House is the third topmost need of individuals next to food and clothing. The production of this essential human shelter is in deficit in Nigeria. The managing director of the Federal Mortgage Bank of Nigeria (FMBN) reported recently that the housing deficit in Nigeria is 22 million units. Despite numerous government policies and housing reform programmes, housing remains an illusion to an average Nigerian. The solution to this generic problem is a production of mass housing through the use of affordable local materials and interlocking brick is one of such materials. The study compared the cost of producing mass housing using conventional (sandcrete) blocks and interlocking bricks as walling material. A prototype building plan of a three-bedroom apartment was used for the analysis using percentile. Historical costs data were collected from specialist interlocking bricks manufacturer while costs data on conventional blocks and labour were collected through a market survey. The result also indicates that the labour cost for the conventional block was ₦1,025.64/m^2 while the labour cost for the interlocking block was

₦1,709.40/m^2. The overall cost for the conventional block was ₦17,782.19/m^2 while the overall cost for interlocking brick was ₦10, 378.06/m^2. This implies that there is a 58% cost saving in using interlocking bricks. The study recommended that the government should encourage the use of interlocking bricks for affordable mass housing in Nigeria because of its several advantages such cost-effectiveness, reduced construction time and easy access to the raw materials from the local environment. The study recommended that a regulatory body should be set up to implement compliance with the standard specified by the Nigerian Standard Organisation, to ensure production of quality interlocking bricks for mass housing in Nigeria.

Keywords: Affordable materials, Construction time, Conventional blocks, Interlocking bricks, Mass housing.

1.0 Introduction

According to United Nations estimates the current population of Nigeria is 199.88 million (2019). Dangiwa (2018) asserted that the country housing deficit that would satisfy this teaming population is about 22 million units. Isaiah (2019) indicated that a total of another 2 million homes per year will be required to meet this deficit for a 10-year term. Isaiah (2019) also submitted that it is expected that in the next 25-30 years the government will need about $400 billion funding for the housing sector to address this deficit. Isaiah (2019) concluded that the deficit bridging will cost the World Bank approximately ₦50 trillion, nearly matching the cost estimates of ₦56 trillion of the Federal Mortgage Bank of Nigeria.

There are several challenges to the achievement of housing for all by the government for more than 30 years in Nigeria. They include Land Use Acts of 1978 which resides the ownership of the land in the state governor, the tedious property registration process, the high cost of building materials, un-abating rural-urban migration and associated planning development policy which focus on urban development to the detriment of rural areas. There is also a failure of the Mortgage institutions to fulfil their core mandates.

Adedeji (2002) acknowledged the high cost of housing in Nigeria as one of the main problems in introducing the efficient housing system in Nigeria. The researcher claimed that shelter in Nigeria was easily affordable in the earlier period as construction materials come from human immediate environmental costs. Nigerians, though, also developed a great taste for expensive construction materials such as marble, granite tiles for walls, etc. Most of these goods are manufactured or produced locally but with imported equipment and technology (Obi and Ubani 2014). Ideally, the solution to this generic problem is the production of mass housing through the use of affordable local materials and interlocking brick is one of such materials. This study compared the cost of sandcrete blocks and interlocking bricks as walling for a three-bedroom residential building in Nigeria.

2.0 Literature Review

Product quality is one of the main elements of a healthy construction, according to Okwesilieze, Ekweremadu and Emmanuel (2015). The study further demonstrated that proper selection of construction materials can be achieved by taking account of their entire lifecycle span, costs and social requirement such as thermal efficiency, power, longevity, environmental effects, aesthetics and capacity to rapidly build with them. The statement that material preference is based on cost, commodity supply, longevity, aesthetics and climate conditions is backed by Raheem, Momoh and Soyingbe (2012). Based on these assertions, Okwesilieze et al (2015) suggested that the housing development phase should be based on the principles of sustainability that can be implemented in the design, creation and use of buildings. Danso (2013) indicated that the high cost of conventionally manufactured products such as cement and steel created an extreme lack of affordable housing in Africa. In the report of Danso (2013), a policy was formulated which will promote the use of local materials in order to reduce housing deficits.

Baiden and Tuuli (2004) observed that more than 90% of Nigeria's physical structure is constructed with sandcrete blocks. Anosile & Oyebade (2012) also suppoted this claim that sandcrete is a building material of great importance and widespread in Nigeria, Ghana, and other countries in Africa as load-bearing and non-load bearing walling units. Sadly, in Nigeria, sandcrete block is being produced without reference to building standard requirements or good quality works in many parts of the country (Oyekan and Kamiyo 2008). Anosile and Oyebade (2012) claimed that the NIS 87: 2007 specification defined by a Nigerian Standard Organisation (NSO) was not consistent with products from sandcrete block manufacturers. The analysis also suggested that the poor quality sandcrete blocks lead to cracks in the walls and sometimes culminated in structural failure or at worse, collapse in the structure.

To avert this problem, building materials should be produced from locally available raw materials and interlocking brick is an alternative to the conventional sandcrete block. Raheem (2006) observed that technically enhanced use of laterite interlocking blocks was led by people because cement mortar is not required while joining bricks to further reduce costs during building. Raheem et al. (2012) found that the Nigerian Building and Road Research Institute (NBRRI) introduced interlocking blocks to the Nigerian construction industry because a very small amount of cement is needed for it and because laterite is readily accessible in Nigeria. Danquah, Abrokwah, Twumasi and Ankrah (2015) has verified the consistency and durability of brick as an alternate building material for a thousand years in terms of its total life cycle costs. Okwesilieze et al. (2015) proposed that the interlocking of masonry is a good substitute for typical forms of Nigerian housing construction, due to lower prices, reduced building duration and energy efficiency. Adedeji (2011) concluded that appealing facial brick finishes are

available in a variety of natural colours which contributes to aesthetic view of the material.

3.0 Methodology

The study adopted quantitative and case study approaches to establish a comparative cost analysis between interlocking bricks and sandcrete blocks. A typical three-bedroom floor plan was used for comparative cost analysis of the selected two walling materials as shown in Appendix 1. The total floor area of the building is 116.89 m^2. The overall cost estimate of measured 303 m^2 walling was determined using a market survey of the unit price of the two materials for the three-bedroom at Akure, Ondo State. The measurement of the wall of the three-bedroom was calculated from the foundation to the roof level. The data collected were used to estimate the cost of the elements as shown in Calculations 1 and 2.

3.1 Calculations

Calculation 1 Cost estimate for interlocking bricks walling

According to Raheem et al. (2012), the mix ratio for the production of interlocking brick is 1: 19 (that is, one part of ordinary Portland cement: nineteen parts of laterite).

A 4-litre plastic container was used as a gauge in measuring the composition of laterite interlocking brick. There are 4 number of a plastic containers (each 4-litre capacity) in 1 head- pan. Since there are two head-pans in one bag of cement, this means that 8 number of plastic containers (each 4-litre capacity) are contained in one bag of cement (Raheem et al. 2012).

Cost of 1 cement bag of laterite = ₦400.00 (6.4m^3 cost ₦20,000.00, 6.4m^3 contains 100 head-pans, therefore 1 head-pan = ₦20,000.00/100 = ₦200.00).
Cost of 1 bag of ordinary Portland cement = ₦2, 600.00
Cost of one, 4 litre plastic container of Laterite = ₦400.00 / 8 = ₦50.00
Cost of one, 4 litre plastic container of Cement = ₦2,600.00 / 8 = ₦325.00

19 parts of laterite @ ₦50.00	= ₦950.00
1 part of cement @ ₦325.00	= ₦325.00
Polythene sheet for curing (say)	= ₦250.00
Cost of materials used	= ₦1,525.00
₦1,525.00 produced 40 bricks	
Cost of producing 1 unit of laterite interlocking brick	= ₦38.13
Labour cost (say 35%)	= ₦13.35
Machine cost (say 75%)	= ₦28.60
Cost of 1 unit of laterite interlocking brick	= **₦80.08**

Cost per square metre of laterite brick

Elevation area of laterite interlocking brick = 0.225m x 0.115m = 0.025875m^2
Number of interlocking bricks in one square metre = 1.00 / 0.025875 = 38.65
Approximately = 39 Bricks
Number of laterite interlocking bricks in 303m^2 wall for the three-bedroom

= 303 x 39
= 11,817
Add 5% waste = 591
Total =**12,408**
Cost 12,408 laterite interlocking bricks @ ₦80.08 = ₦993,632.64
Cost labour for laying 12,408 bricks
According to Geoff (2015) a bricklayer ca lay 300 -500 bricks per day
(Gang of one mason and one labour). Average = 400 bricks per day
Therefore number of days that will be used = 12,408/400 = 32 days
Cost of Mason = 32 @ ₦3,500.00 per day = ₦112,000.00
Cost of Labour = 32 @ ₦1,500.00 per day = ₦48,000.00
Cost of polishing (say) @ ₦200.00 per m^2 (303m^2) = ₦60,600.00
Total cost of Walling the three- bedroom residential building = **₦1,214,232.64**
Cost per m^2 = ₦1,214,232.64 / 117 = ₦10,378.06/m^2

Calculation 2: Cost estimate for sandcrete block walling

According to Raheem et al. (2012) the mix ratio for the production of sandcrete block is 1: 9 (that is, one head-pan of ordinary Portland cement to nine head-pan of sharp sand). This implies that a bag of ordinary Portland cement to eighteen head-pans of sharp sand because there are 2 head-pans in a bag of cement.

Cost of 1 bag of ordinary Portland cement = ₦2, 600.00
Cost of 1 head-pan of sharp sand (same as laterite) = ₦ 200.00
Cost of 18 head-pans of sharp sand @ ₦ 200.00 per head-pan = ₦3,600.00
Cost of 1 bag of cement = ₦2,600.00
Total = ₦6,200.00
₦6,200.00 produced 25 block of 225mm thick
Cost of production of 1 unit of 225mm block = ₦248.00
Cost of labour (say) 15% = ₦37.20
Machine cost (say 25%) = ₦62.00
Cost of 1 unit of sandcrete block = **₦347.20**
Elevation area of sandcrete block = 0.450m x 0.225m = 0.10125m^2
Number of interlocking bricks in one square metre = 1.00 / 0.10125 = 9.88
Approximately = 10 Blocks
Number of sandcrete blocks in 303m^2 wall for the three-bedroom = 303 x 10
= 3,030
Add 5% waste = 152
Total = **3,182** No.
Cost 3,182 sandcrete blocks @ ₦ 347.20 = ₦1,104,790.40
Mortar (1:4)
1 bag of cement laying 50 blocks
Number of cement = 3,182 / 50 = 64 bags
Add 5% waste = 3 bags
Total = 67 bags

Cost of 67 bags of cement @ ₦ 2,600.00 = ₦174,200.00
Sharp sand: 4 parts 200kg (50kg x 4)
200kg x 67 bags = 13,400kg
1 m^3 = 1000kg
Therefore 13,400 x $1m^2$ = $13.4m^3$
1000
$6.4m^3$ = ₦20,000.00, $1m^3$ = ₦20,000.00/6.4 = ₦3,125.00
Add 5% waste = ₦ 156.25
Total cost per m^3 = ₦3, 281.25
Cost $13.4m^3$ of sharp sand @ ₦3,281.25 per m^3 = ₦43,968.75
Water for work @ (say) ₦1,500.00 per m^3, $13.4m^3$ = = ₦20,100.00

Cost labour for laying 3,182 blocks

According to Jackson, Mustapha, Aburam & Quuayson (2018) the standard is 80 blocks per day for one mason and one labour.
Therefore, the number of days that will be used = 3,182/80 = 40 days
Cost of Mason = 40 @ ₦3,500.00 per day = ₦140,000.00
Cost of Labour = 40 @ ₦1,500.00 per day = ₦60,000.00

Cost estimate for rendering

Mix ratio was 1: 4 (One part of ordinary Portland cement to six parts of soft sand)
12mm thick (C. & S.) rendering = 303 x 2 = $606m^2$ @ ₦ 550.00 = ₦333,300.00
Ditto returns and reveals = 77m @ ₦190.00 = ₦ 14,630.00
Emulsion paint $606m^2$ @ ₦305.00 = ₦ 184,830.00
Ditto returns and reveals = 77m @ ₦61.00 = ₦ 4,697.00

The total cost of walling the three-bedroom residential building
= ₦2,080,516.15

Cost per m^2 = ₦2,080,516.15/$117m^2$ = ₦17,782.19/m^2

4.0 Calculations and Discussion

The result shows that the cost per unit for interlocking brick was ₦80.08 while the cost per unit of sandcrete block was ₦347.20. However, the prevailing price of 225mm sandcrete blocks in the study area was between ₦220.00 and ₦240.00. This is because the manufacturers produced about 35 blocks per bag of cement against 25 blocks produced in this study as specified by NIS. The current market price of interlocking was ₦450.00 per unit (including delivery to the site) which is higher than the calculated amount because of the monopoly of the manufacturers of bricks. There is no single manufacturer of interlocking brick in Ondo State. The overall material cost for interlocking bricks was ₦1,214,232.64 whilst the material cost for sandcrete blocks was ₦2,080,516.15. This indicates that materials cost for interlocking bricks was ₦10,378.06/m^2 whereas the materials cost for sandcrete block as ₦17,782.19/m^2. This implies that the overall cost saving for using interlocking brick is about 58%.

The duration for the laying of interlocking bricks was 32 days for a gang of one mason and one labour while the period for laying sandcrete blocks was 40 days for the same gang.

This result also indicates that the cost of labour for laying interlocking bricks and sandcrete blocks was ₦120,000.00 and ₦200,000.00 respectively. This suggests that the labour cost for interlocking bricks and sandcrete blocks are ₦1,025.64/m^2 and ₦1,709.40/m^2 respectively. This implies that labour cost saving for using interlocking brick is about 67%. The result has shown that it was cheaper to construct a three-bedroom residential building with the use of interlocking bricks than sandcrete blocks. The use of interlocking bricks saves about 35% without rendering and painting whilst the overall cost saving is about 58%. The cost-saving for labour is about 67%. The finding on material costs agreed with Adedeji (2002) and Okwesilieze et al. (2015). Considering the time required to complete the three-bedroom apartment, the result also revealed that more time was saved with the use of interlocking bricks. This was also in line with Okwesilieze et al. (2015).

5.0 Conclusion and Recommendations

The study concluded that the government should encourage the use of interlocking bricks for affordable mass housing in Nigeria because of its several advantages such cost-effectiveness, reduced construction time and easy access to the raw materials from the local environment. The government should also encourage the use of a machine designed by NBRRI for mass production interlocking bricks in every part of the country as presently obtainable in the case of sandcrete blocks. The study recommends that a regulatory body should be set up to implement compliance with the standard specified by Nigerian Standard Organisation for the manufacturing of interlocking bricks, to ensure production of quality interlocking bricks for mass housing in Nigeria.

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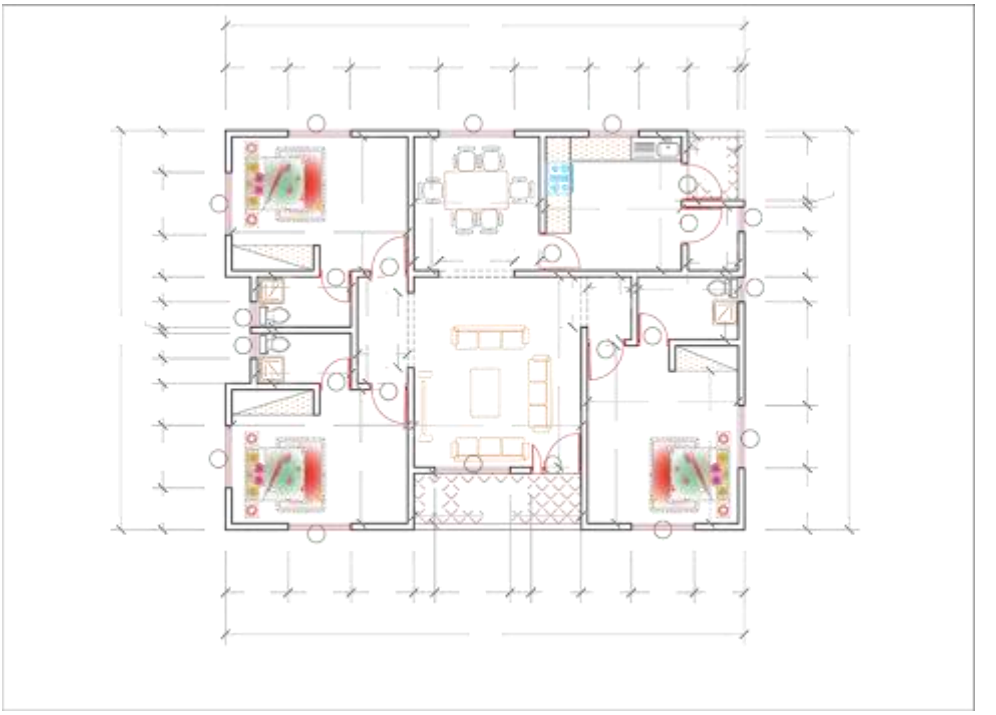

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A Study of the Effect of Personality Characteristics on the Effectiveness of Construction Project Managers Performance

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Abstract: The study is aimed at studying the effect of personal characteristics (extraversion) on the effectiveness of construction Project Managers with a view to determining whether personality has any effect on the Project Managers' performance. The study was carried out using two sets of questionnaires consisting of Eysenck Personality Questionnaire (EPQ) Adult Form and structured questionnaire to sample respondents' personality and measure their effectiveness respectively. The study revealed that personal characteristics is a feature of every construction project manage in the study. However, extraverted construction project managers constitute 64% of the respondents while introverted construction project managers constitute 36%. It was revealed that the three areas where the respondents are more effective in order of ranking are effectiveness of meeting clients' requirements in term of functionality of projects; effectiveness in terms of delivering the projects in terms of required quality standard; and effectiveness in terms of resolving

conflict after occurrence before threatened project objectives which ranked first, second and third respectively. The study found out that there is a negative relationship between extraversion and effectiveness. The test of statistical significance using standard error and t-test showed no relationship between the variables. The t- value calculated (-0.297) is less than the t-tabulated (6.314) held at 0.05 significant level. Also, the alpha value (0.769) is greater than the – p value (0.0). It is recommended that another research should be carried out to find out if they have impact on Construction Project Manager's effectiveness.

***Keywords*:** Personal Characteristics, Extraversion, Introversion, Construction Project Managers.

1.0 Introduction

A typical project can be described as a temporary endeavour undertaken in order to achieve a particular objective (PMI 2000). Ogunlana, Siddiqui, Yisa, Olomolaiye, (2002) describe construction projects as a strategic aspect of man civilisation. The rapid progress made in the field of technology in the last centuries gave rise to a number of complex construction projects. Due to diverse and complicated state of project system, Ogunlana et al (2002) picks project integration as one of the important functions of the project manager. Project integration as defined as the system of bringing together project components such as tasks, subsystems and individuals to form a whole so as to meet project objectives.

In the process of carrying out project integration, Ogunlana et al (2002) noticed that Project Manager performs three tasks. The first task is the implementation of an operational scheduling and monitoring structure for the tasks that are involved in the project. Second, is the establishing and maintenance of internal and external communication within the project. Third, the Project Manager resolves in-house and outdoor skirmishes through project integration before they threaten the objectives of the project. Kezrner (1979) cited in Ogunlana et al (2002) likened him to a conflict manager. The Professionals due to schedule of activities interact with many people on site including the extrovert, the recluse, the aggressor the achiever, the quiet, the passive who need different handling. Project Managers are individuals responsible for managing projects on behalf of clients right from inception to completion aimed at meeting clients' requirements so that the project will be completed on time, within an authorised cost and to the required quality standards (PMI 2000). Project Management is about managing people. The code of Practice for Project Management for Construction and Development put it thus: it is about the problems of motivating the project team, middle management and the work force and of gaining their commitments.

Of all the resources at the Project Manager's disposal, people stand out as the most important. A firm can exploit new technology to have technological advantage which can be acquired by other firms to cancel the competitive advantage. Conway and Johnson (1992) describe leadership as

the directing of the actions of individuals and groups towards the achievement of a common goal. Therefore, given that projects largely happen through and by the efforts of people, the definition given above accurately describes a project manager. The success of a project will unavoidably be determined by the project manager's type of leadership and influence over subordinates. The authors are of the opinion that a leader must be concern about tasks and human relationship. This is where personality or personal characteristics become relevant.

2.0 Behaviour Trait Structure

Robbins (1989) defines personality as the sum total of ways in which an individual reacts and interacts with others. Adebakin and Gbadamosi (1997) describe personality as the total behaviour of an individual but particularly to those enduring and consistent aspects that cause us to resemble others in some ways and to be totally different and unique in other ways. However, Robbins (1989) made reference to a definition regarded as the most widely used produced by Gordon Allport more than 60 years ago which define personality as the dynamic organisation within the individual of those psychophysical systems that determines his unique adjustment to his environment.

The basic structure of personality is similar all over the world as corroborated by the findings of the study carried out by Yoon, Schmidt and Illies (2002). The study was on cross-cultural validity of the Five-Factor Model of personality among Korea Employees. A finding from the study proved that personality structure transcends cultural differences. Yoon et al, (2002) observed that the conclusions of this study are in line with these recent findings. Smith et al (2001) observed that advocators of the Model argue that personality qualities are classified according to various criteria into layers with very specific (slight bandwith) qualities that can be classified into one of the widely used five broad dimensions. Dunn et al (1995) citing (Digman, 1990 and Goldberg 1990) revealed that researchers are in unison about the five-factor that can be used as a significant classification for persona characteristics. Elshaug and Metzer (2001) noticed the fact that researchers described the Five-Factor ideal as the best structure for evaluating the most comprehensive spheres of personality.

However, Benet-Martinez and John (1998) argued that the Big Five dimensions do not imply that personal differences can be limited to only five traits. Instead, the structure is a classification of persona at the broadest level with further division of each factor into sub-divisions.

3.0 The Big Five- Factor Model

a. Neuroticism (Emotional Stability)

This is synonymous with negative affectivity which Robbins (1989) interprets to mean an individual's capability to withstand stress. Zellars and Perrewe (2001) view the factor as reflecting feelings of distress and nervousness. Barrick and Mount Study (1991) cited in Le Pine and Van Dyne work (2001) explains that folks who have low points in emotional disorder have strong feelings. They are not worried, dejected, fuming, humiliated,

expressive, nervous or apprehensive. They are not emotional and are tolerating and pessimistic as their colleagues who are highly worried. Benet-Martinez and John (1998) describe neuroticism as a factor, which compares being high on emotion with a wide choice of adverse impacts comprising nervousness, grief, petulance and uneasy pressure. Individuals who are high in emotional disorder appears to be tense and not friendly with co-workers. As a result, there is the possibility that those with high emotional disorder would not be submissive and would not be able to influenced others at work. Tellegen (1982) describes this category of people as moody when on duty, feel worried and not favourably disposed to work. High-Neuroticism as opined by Tellegen (1982) is beneficial because individuals in this bracket are often critical of themselves and their performance than their low neurotic counterparts. This make them improve on their performance and therefore become particularly proficient in work such as quality control that requires critical thinking and evaluation. They also exert a needed strong influence in group decision making by playing devil's advocate and pointing out the negative aspects of a proposed decision.

b. Agreeableness

Zellars and Perrewe (2001) explain this concept as a factor that can exhibit the caring aspect of personal characteristics such as selflessness, teamwork and emotional care. Robbins (1989) explains the factor in term of an individual's propensity to concede to others. The trait pictures the distinction between individuals who get along well with other people and those who do not. Barrick and Mount (1991) cited in Le Pine and Van Dyne (2001) is of the view that people who are conformable are generally viewed as nice, friendly, yielding, well-mannered, malleable, innocent, decent nature and lenient. Le Pine and Van Dyne (2001) citing Digman study (1990) summarises that individuals who is not caring tend to be unconcern or selfish. Le Pine and Van Dyne (2001) whilst opines that individuals who are friendly appear to have a communal orientation and a desire to give out of concern for others' needs. Robbins (1989) describes highly agreeable people as cooperative, warm and trustworthy while Tellegen (1982) describes individuals who are low on agreeableness as antagonistic, mistrustful, unsympathetic, uncooperative and rude. Tellegen (1982) observes that jobs that demands aggressiveness, such as an excise man or a drill instructor fit folks with low measure of agreeableness. Furthermore, agreeable individuals who are team players and easy to get along will fit jobs that hinge on developing good relationship with people.

c. Conscientiousness

This is a concept Robbins (1989) describes as a measure of reliability and which Tellegen (1982) defines as the extent to which an individual is careful, scrupulous and preserving. Yoon et al (2002) explain conscientiousness in terms of orderliness, dutifulness, self-discipline. It is a factor that describes

socially prescribed impulse control that facilitates task and goal directed behaviour (Benet-Martinez and John,1998). Le Pine and Van Dyne (2001) whilst citing (Barrick and Mount 1991) observed that those who are high on conscientiousness are dependable, careful, thorough, responsible, organised and planful. In the view of Le Pine and Van Dyne (2001), highly conscientious people tend to do what needs to be done to accomplish work because they are hardworking, achievement oriented and perseverant. Tellegen (1982) opines that individuals who score low on this trait may lack direction and self-discipline i.e. they are easily distracted, disorganized and unreliable. People who are very thorough in their work sacrifice a lot, responsible, organised, dependable and persistent. Tellegen (1982) observed that this factor is imperative in many organisational situations and has been found to be a good indicator of productivity in numerous occupations in many organisations.

d. Openness to Experience

Smith et al (2001) explain openness as the proactive seeking of experience for its own sake. Tellegen (1982) describes the concept as the degree of creativity and risk taking of an individual. This is opposite of being narrow minded and vigilant. Robbins (1989) views the concept as a creature's range of interests and fascination with reality. It is a class of traits that deals with the degree to which a person is imaginative, curious, open minded and sensitive. Benet-Martinez and Karakitapoglu (2003) notes that the dimension describes the breadth, depth and complexity of an individual's mental and experimental life. Individuals who are open to experience according to Tellegen (1982) excel well in jobs that change frequently, require innovation, or involve considerable risks. For this trait to transform into creative and innovative behaviour in organisations, barrier to innovation must be dismantled. Industrialists, who like taking risk most times commenced their own business as a result of not being able to express themselves in the large organisation that employed them and not being adequately motivated. Robbins (1989) is of the view that extremely open people are creative, curious and artistically sensitive. Those at the other end of the openness category are conventional and find comfort in the familiar.

e. Extraversion

Zellars and Perrewe (2001) categorise the factor as one of the affective personality scopes of which others include agreeableness and neuroticism. Tellegen (1982) equates extraversion to positive affectivity and further described it as a persona feature that makes individual to be highly emotional and feels ecstatic specifically and generally. Robbins (1989) opine that the concept captures one's comfort level with relationship. Benet-Martinez and John (1998) explain the factor as that which summarises traits related to activity and energy; dominance, sociability, expressiveness and positive emotions. Iversion, Olekalns, and Erwin Study (1998) cited in Zellars and Perrewe (2001) observed that workers higher in positive affectivity (a component of

extraversion) experience less burn out. Tellegen (1982) noted that extraverts (i.e. people who are high on extraversion scale) are outgoing, warm and friendly whilst loners with a low probability of experiencing positive emotional states and have low societal relations at work. Robbins (1989) listed some of the qualities of extraverts as being outgoing, confident and companionable whilst introverts tend to be reticent, shy and inaudible. Le Pine and Van Dyne (2001) whilst reporting Barrick and Mount (1991) describe people who are extroverted as sociable, gregarious, assertive, talkative and active. Extraversion has to do with individual's strength and good emotion. These are signs that should stimulate constructive and supportive dealings with others in course of getting work done. Smith, Hanges and Dickson (2001) in their study on personality and response distortion write: extraversion reflects the quantity or intensity of social interactions, activity level, and need for stimulation, self-confidence and competition.

4.0 Effectiveness of Construction Project Managers

A project consists of unique sets of activities undertaken to achieve a particular objective **(PMBOK 2000)**. Project Management is the deployment of skills, knowledge, techniques or methods to achieve the objective of the study. Construction Project Managers oversee the process of achieving this objective. Therefore, effectiveness of Construction Project Managers literarily means the ability of the Construction Project Managers to produce the desired result. Liu and Walker (1998) argue that the effectiveness of project management process under project managers could be judged relative to the outcome of the project. Included recently are aspects such as safety and environmental sustainability issues which is classified under the project goal of standard. Project Management techniques have also become acceptable in executing information system and tasks, therefore, more companies trained their Information System Project Managers in technical aspect of the job. Some behavioural skills are also needed by information system analysts according to some studies. The most comprehensive of these studies according to (James et al, 1998) based on extensive pilot research was (Green's, 1998) involving 18 behavioural skills explained below:

S/No	Behavioural Skills	Description
1	Diplomacy	Ability to say 'no' without being crude
2	Interviewing	Asking the correct questions to get right information
3	Directing	Giving instruction to subordinates about what to do
4	Patience	Continuous polishing of users requirement for outcome
5	Assertiveness	Pursuing of one's course of action even if it is unpopular
6	Leadership	Using of carrot and stick approach
7	Speaking	Explaining ideas to be digested by listeners (i.e. groups

		and individual)
8	Writing	Preparation of written documents that relay ideas to target readers
9	Listening	Giving attention and assimilate what is being said and asking questions about what is not clear
10	Empathy	Understanding the feelings of others
11	Sales	Encourage others to reason with you
12	Politics	Understanding what spur individuals
13	Managing	Achieving results by carrying out management functions
14	Training	Engaging in activities that lead to skill behaviour
15	Co-operation	Working with people to get result, effective conflict resolution
16	Organisational Communications	Having a general view of company objectives and processes
17	Nonverbal communications	Hammering on the message of others through some signs
18	Sensitivity	Being conscious of the effects of design and change for user community

5.0 Relationship between Extraversion and Effectiveness

Zellars and Perrewe (2001) reporting a study carried out by John (1990) explain the reason why people who are high in extraversion are cheery, hopeful and active compared with their opposite who are quiet or reserved. The reason attributed to this is probably because they are more active. In discussing Zellar and Perewe study (2001), the second significant finding has relevance as regards the relationship between effectiveness and extraversion and introversion. Since extraverts are sociable and the intensity of their activity level, there is the inherent tendencies for them to be involved in more interpersonal activities. This makes them receive greater cooperation from co-workers.

Extraverts are also talkative and it was shown that they reported more conversation of all conversations of all content types. Possibly, these conversations according to the author provide a means for employees to reduce their tensed state and perceive their efforts to be rewarding. If this is true, this reinforcement is the best reason why extrovert achieve a lot in their job. These are some professions where communication with others is an important part of the career. It was revealed that qualities such as being cordial, social, loquacious, self-confident and active contribute to achieving results for jobs of this nature. Muhammad, Sajid and Syed (2017) carried out a study on the influence of Project Managers' Character on Project Success in Non-Governmental Organisation. The study showed that extraversion, agreeableness, and openness to experience have a positive impact on project success where transformational leadership carried out the role of intermediary. Conscientiousness

personality factor had only an indirect role on success of project through leadership that bring about change. No association was found between neuroticism and project success. Ralf, Teresa and Bruna study (2018) focused on analysing the project managers' personal characteristics in connection with its effect on project performance. The outcome of the study showed that skills, knowledge and attitude have a direct effect on project performance. Furthermore, personal characteristics does not directly affect performance but indirectly affect attitudes. The findings also showed that having a certificate in project management does not directly influence project performance. However, certification has a moderating impact on the connexion between project managers' skills and knowledge and project management performance

6.0 Methodology

The study focused on effect of personal characteristics (extraversion) on the effectiveness of construction project managers in Lagos State. In carrying out this study, two sets of questionnaires were administered on respondents to collected data. Lagos was chosen because it is a hub of construction activities. The first set of questionnaires consists of the Eysenck Personality Questionnaire (EPQ) Adult Form which was used in collecting data on personal characteristics of Construction Project Managers. The second set of questionnaire was the structured designed one used to collect information on the effectiveness of Construction Project Managers. EPQ Adult Form comprises Ninety Questions designed to measure four aspects of personality coded as PENL.

(a) P = Psychoticism, the level of suffering from mental illness
(b) E = Extroversion - Introversion, degree of concerned with the social and physical environment
(c) N = Neuroticism, unreasonably anxious or afraid.
(d) L = Falsehood, truthfully is a degree of the way by which a client has not deviated from responding to other EPQ questions.

In scoring each of the personality, separate scores are obtained for each of the above scales. For each item, a score of 1 point is given in the expected response. The following are the expected responses in the items for the scale of extraversion.

1. E

(a) 1 point for each YES marked in items: 1,5,10,14,17,25,29,32,36,40,45,49,52,56,60,64,70,82,86
(b) 1 point for each No marked in items 21, 42

The group of digits here represent the set of questions in the EPQ that relates to extraversion out of all the questions drawn out in the questionnaire.

The structured questionnaire is designed to collect information relating to the effectiveness of Construction Project Managers. The objectives of the study cover respondents' personal characteristics, effectiveness, effect of personal characteristics on respondents' effectiveness and the connexion amid character and effectiveness. The target of the questionnaire is to examine the

relationship between personal characteristics and effectiveness of the respondents. EPQ (Adult Form) and structured questionnaire were administered on Thirty-Three (33) consultants who has postgraduate degree in project management. There are three objectives in this study. Firstly, is the sampling of personal characteristics of the respondents. This is treated from responses in the EPQ (Adult Form) (see Table 9.1). Secondly is the measurement of the effectiveness of the project managers. This is addressed in the structured questionnaire in terms of delivery of projects on time, budget, quality standard, meeting clients' satisfaction and meeting projects functionality. Thirdly is the association between the variables which is shown in the regression analysis.

7.0 Result and Discussion

Table 1: Personality Dimension Distribution

Personality Dimension	**Frequency**	**Percentage**
Introvert	12	36
Extrovert	21	64
Total	33	100

Analysis contained in Table 1 above revealed that extraverted Construction Project Managers with 64% of the total respondents are more than introverted Construction Project Managers with about 36% of the sampled respondents. The managers were classified either as an extrovert or an introvert based on the score they obtained in the Eysenck Personality Questionnaire administered on each one of them. The questionnaires were then scored following the instruction in the manual. The norm score is 13.32 for extraversion. A score higher than the norm indicates extraversion and a score lower than the norm indicates introversion. It is based on this procedure that the figures in the above table were derived.

Table 2: Effectiveness of Project Managers

Question on Effectiveness	**Relative Weight Index**	**Ranking**
Meeting Budget	2.42	9th
Meeting Time Schedule	2.39	10th
Meeting Quality Standard	3.42	2nd
Meeting Clients Satisfaction	3.24	5th
Limiting Accident rate	3.30	4th
Limiting of Design Variation	2.61	8th
Project Functionality	3.52	1st
Meeting Future Maintenance	3.09	6th
Stopping of Conflicts	2.91	7th
Resolution of Conflict	3.33	3rd

Result from Table 2 which was computed by ranking, having determine the effectiveness of Construction Project Managers using the Relative Weighted Index. The measurement of effectiveness was

based on how often the respondent deliver projects within the specified budget, specified time schedule, required quality standard, rate of meeting clients' satisfaction after delivering the projects, frequency of limiting accident rate to the barest minimum, limiting of design variation, meeting of clients' requirements in terms of functionality, future maintenance, rate of stopping conflicts before occurrence and resolution of conflict after occurrence. From the ranking, effectiveness of meeting clients' requirement in term of functionality of projects was ranked first, effectiveness in terms of delivering the projects in terms of required quality standard was ranked second and effectiveness in terms of resolving conflict after occurrence before threatened project objectives was ranked third. Effectiveness in terms of limiting accident to the barest minimum, meeting clients' satisfaction after delivering of projects, fulfilling clients' requirements in terms of future maintenance, stopping of conflicts before occurrence, limiting of design variation, delivering of projects within the specified budget and delivering of projects within the specified time schedule were rated fourth, fifth, sixth, seventh, eighth, ninth and tenth respectively. Therefore, the three dominant areas where the respondents were most effective are meeting clients' requirements in term of functionality of projects, delivering the projects in terms of required quality standard and resolving conflict after occurrence before affecting project objectives

.

Table 3: Relationship between Personality and Effectiveness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	31.081	2.479		12.539	.000
	EXTRAVERSION	-.051	.172	-.053	-.297	.769

a. Dependent Variable: EFFECTIVENESS

Y=u-0.051

The result above shows that there is a negative relationship between extraversion and effectiveness. This implies that personality does any impact on the effectiveness of the respondents. The test of statistical significance using standard error and t-test showed that there is no relationship between the personality and effectiveness. This is evidence from the fact that the t-value calculated (-0.297) is less than the t-tabulated (6.314) held at 0.05 significant level. Also the alpha value (0.769) is greater than the p-value (0.0).

8.0 Conclusion and Recommendation

Findings for the study showed that personal characteristics is a feature of every Construction Project Managers i.e. each of the respondents is either an extrovert or introvert. Secondly that extraverted Construction Project Managers are more in number than introverted Construction Project Managers. Also, that the three areas where the respondents are more effective in order of importance are effectiveness of meeting clients' requirement in term of functionality of projects, effectiveness in terms of delivering the projects in terms of required quality standard and effectiveness in terms of resolving conflict after occurrence before they threatened project objectives respectively. Lastly, personality characteristics (i.e. personality dimension of extraversion does not have any significant effect on effectiveness of construction project managers. It further suggests that whether construction project managers are HIGH or LOW (i.e. are extraverted or introverted) does not make any meaningful difference in their effectiveness on site.

In conclusion, the study recommends that The Five-Factor-Model symbolises a universal personal structure. It is further recommended that effect of another dimension of personality on effectiveness of construction project managers should be researched on to determine their impact on effectiveness of construction project managers.

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Socioeconomic Determinants of Formal Residential Land Affordability in Ibadan, Nigeria

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Abstract: Many citizens cannot secure formal residential land in the developing countries, of which Nigeria is a typical one, despite concerted efforts of governments to make land available at affordable prices. With the administration of questionnaires, this paper examined socioeconomic determinants of formal residential land affordability in Ibadan. Thirty (30) schemes/estates were purposively sampled for the study. The study population was all the 17, 473 plot allottees in the schemes and a sample frame of 4,602 from where 354 original plot allottees was adopted as sampling size. Systematic sampling was used for plot density: with medium density having 185 copies; high density had 152 copies and 17 copies for low density plot allottees. Statistical analysis was carried out with the aid of frequency and simple percentage and inferential tools; correlation and regression, using SPSS. Regression analysis test result of affordability at F 16.895 is significant means that access to loan and educational level attained by the plot allottees, their income level and family size at the time of plot allocation are important factors that determine level of residential land

affordability in the study area. The paper concluded that government should not relent in educating its citizens and resuscitate mortgage system.

Keywords: affordability, determinants, Ibadan Nigeria, residential plot allottees, socioeconomic factors

1.0 Introduction

Fingers are not and could not be equal because the interaction of social and economic (socioeconomic) factors among others in human societies has segregated mankind into different groups. The segregation (socioeconomic status) in effect determines the activities and what people in each group attain in live in relation to people of other groups and has led to sharp inequality in their overall well-being (American Psychological Association, Task Force on Socioeconomic Status, 2007). Land is the platform of all human activities, for instance, residential plot or land is needed by man as a means to satisfy his housing demand. Although, majority of citizen in Nigeria are striving to meet their housing – a basic need, there is housing problem as a result of inaccessibility to residential land and its affordability problem among other factors which, everything being equal, has kept many out of having a house of their own.

As early as the 1970s, Federal Government of Nigeria (FGN) realized the ineffectiveness and inadequacy of traditional systems of land delivery in satisfying the yearnings of the citizenry and governments. The Government then developed land tenure reformation and adopted enabling actions to provide people with residential plots. In its concerted effort to further boost land accessibility, the FGN adopted Sites and Services Schemes in 1986. Many agents and parastatals of all the three tiers of government have been actively involved in the production of schemes and allocation of residential plots to citizens since 1986.

Many citizens sighed their relief then and attempted to access residential land through this government channel; however, socioeconomic factors acting together bring about an effect of or determine who gets this or that plot of land and why some and not all citizens in a particular town or city get formal residential land (Olaniran and Ashaolu, 2017). Socioeconomic factors include, population size and fluctuation, (un)employment rate, poverty level, inflation, fund availability, interest rate, and citizen's family size, educational level, occupation, income, access to loan, etc. (American Psychological Association, Task Force on Socioeconomic Status, 2007, Nzunda, Munishi, Soka, and Monjare, 2013, Ajayi and Adebayo, 2017 and Vita Cintina, 2018).

The success of the few that secured formal plot allocation would not have warranted any apprehension or research interest if it had not been achieved with affordability problem that affects their other needs. It also aggravates socioeconomic problem of the exclusive majority in most cities and countries. Consequentially, it creates city dichotomy as areas occupied by those who could not

afford the formal plots but sought and secured it through alternative channel – informal land delivery system - continue to live .majorly in poor and unsanitary environment that are devoid of basic infrastructure (Olaniran and Ashaolu, 2017). One is not unmindful of unabated population growth, unchecked urbanization expansion, prevalence of poverty and dwindling public fund, developing land grabbing, criminality, etc. that might continue to throw the cities and Nigeria and other nations that feature similar characteristics off balance if the problem of residential land affordability is not carefully studied, recorded, understood, tackled, resolved and anchored on a sustainable pedestal.

This paper therefore studied socioeconomic determinants of formal residential land affordability in Ibadan with the aim of providing information to lessen the problems of inability of many urban dwellers to access secured land to build their houses in a decent environment.

2.0 Literature Review

Winters-Miner and Miner, (2015) defined socioeconomic status (SES) as a composite measure of an individual's economic and sociological standing which is measured in a variety of ways that account for a person's work experience and economic and social position in relation to others, based on income, education, and occupation. For identification of SES factors, American Psychological Association, Task Force on Socioeconomic Status, (2007) considered education, income, and occupation as fundamental aspects of SES but added accumulated wealth and ownership of important assets, such as a house and a car to them.

Vita-Cintina, (2018) concluded that economic, social, governance and political, technical and technological, environmental and individual factors influenced agricultural land use. Ajayi and Adebayo, (2017) used occupation, income, education, sex (gender) and family status and the study revealed occupation, income and education as the best predictors of accessibility to residential land in the city of Akure, Nigeria and that sex (gender) and family status did not have impact.

The above researchers seem to dwell in the application of the SES concept to their respective disciplines which may not practically serve, as one might want, our domain – residential land. For formal residential land allocation, operational definition of socioeconomic factors can therefore be expanded to include, government's objectives, land rights or tenure system, plots' prices, population size and fluctuation, urbanization, nation economic status, (un)employment rate, poverty level, inflation, fund availability, interest rate, and citizen's family size, educational level, occupation, income, access to loan, relationship, etc.

On mode of measuring the impact of each factor, American Psychological Association, Task Force on Socioeconomic Status, (2007) observes that the intersection of SES with other different personal attributes and with group membership compounds the difficulty of measuring the concept. It recommended that both

the joint (, that is, SES with personal attributes and with race membership compounds,) and independent effects of SES and race and ethnicity should be addressed and the assessment should be based on both individual and neighbourhood and community levels. On analysis income, it reasons that people (of color) at the same income level as other groups tend to have less accumulated wealth, have more people dependent on the income meaning large family size. This paper, therefore, adopts independent assessment of impacts of socioeconomic factors on residential land affordability in Ibadan.

Land is a fundamental input in housing. Its availability significantly influences the ease of housing delivery. There are very large expenses of unused land in the study area. The problem, therefore, is not of land availability but that of accessibility, ownership and rational use (Onu and Onu, 2010). A United Nations (year) study on land use in urban areas of developing countries underscored this problem when it observed that: The demand for urban land is growing, yet the supply is limited and in line with economic law of demand and supply, this situation radically increases land cost. (Onu and Onu, 2010).

The problems of urban land supply include availability, accessibility, affordability and titling of residential land mostly in urban centers in Nigeria (Omirin, 2003, Agaato, 2006, Oyedele, 2008 and Olaniran, (2012). When the problems grew out of proportion, Land Use Decree of 1978 (now Act of 1990) was enacted in Nigeria to ease off problems of land accessibility and affordability especially in urban centres so that every Nigerian and government would have access to land to build his house where he and his family could reside and use for overriding public projects respectively. This was closely followed up in 1986 with adoption of site and services scheme (SSS) to make residential land readily available, convenient and affordable to all categories of people (Ajanlekoko, 2001 and Ibem, 2010). This scheme is being anchored by relevant government ministries and units, housing corporations and agencies. Government at different levels in Nigeria was involved in direct construction and allocation of residential buildings. However, the numbers of plot and house provided through these programme were comparably insignificant to serve huge population in the country.

The few plots available were affordable to only public servants and others who were employees of organized private institutions and professionals or mostly high- and very few medium-income groups. It was also ascertained that "education enhances the probability of being in the formal housing markets, either as a renter or an owner" (Morais and Cruz, 2007, Ibem, 2010, Olaniran, 2012 and Olaniran and Ashaolu, 2017). On the other hand, habitation of core and degenerated centre of Ibadan was related to the occupations of the heads, who were mainly petty traders, craftsmen or farmers without any capital (Fourchard, 2003 and Olaniran, 2012). It is also asserted that the new

elites live in the peripheral modern suburbs of Ibadan where individual homes are the rule (Lloyd, Mabogunje and Awe, 2009).

Thus, United Nations observed that "Pro-poor, proactive action by African governments to provide and scale-up affordable land and housing is crucial to reverse the trend that new migrants settle in largely informal, non-serviced housing because there is few other affordable housing options available to them" (UN HABITAT, 2011 and Olaniran and Ashaolu, 2017). Nigerian Government is not relenting in its pursuit of education for its citizens and has established Federal Mortgage Bank, encouraged the formation and operation of primary mortgage banks, microfinance banks and cooperative society in order to boost access to fund. Many people embraced cooperative society to secure loan. To cap it all, the Federal Government of Nigeria established the Federal Ministry of Lands, Housing and Urban Development in April 2010 which is charged with the responsibility of ensuring adequate and sustainable housing delivery in environment that is conducive to living just to satisfy Nigerians and ease residential land affordability.

Residential land affordability could be defined as the capacity of people of different socio-economic groups to pay for allocation of plots with adequate incentive for its development from their disposable income and available loan resources without difficulty in obtaining other human basic needs such as food, clothing, children education, transportation and medical care, etc. (Agbato, 2006, UN HABITAT, 2011 and Olaniran, 2012). Aribigbola, (2011) agreed that (housing) finance affordability describes essentially the problem of the low and moderate-income groups with regard to the high cost of financing housing.

In other words, it relates to the issue or problem of accessing or raising adequate finance to build or rent housing by the low and medium income households and it is fixed at 30% of one's income. The 30 percent threshold has been criticized in the literature as deceptive, for low income families, spending 30 percent on housing costs leave very little for all other necessities, whereas for middle-income families, it is an appropriate expenditure level (Andrews, 1998, Darmanin, 2008, Stone, Burke, and Ralston, 2011 and Herbert, Hermann, and McCue, D. 2018). Thus, very many people could not benefit from formal residential land and houses with their meagre incomes as problem of formal residential land affordability is a stack reality. Olaniran, (2012) revealed that the formal residential plot allottees experienced affordability problem in Ibadan land.

The question germane to this research is: what are socioeconomic factors determining residential land affordability in the city of Ibadan? The theoretical framework upon which this study is anchored is the materialistic perspective. This perspective is the fundamental conceptualization that involves access to resources or materialist approach as it focuses on the attainment of goods and services which in this study is residential land (American Psychological Association,

Task Force on Socioeconomic Status, 2007). This study focuses on the impact of socioeconomic factors on residential land affordability in Ibadan and this is the gap this study is ready to fill. This study considered access to loan especially through cooperative society and family size along with education, occupation and income.

3.0 Research Methodology

3.1 Study Area

Ibadan is located in the South Western part of Nigeria. It has long history of urbanization that predates modern urbanization as known today. Despite the fact that sites and services scheme started as early as 1900s in Ibadan, there is residential land affordability problem (Olaniran, 2012).

3.2 Research Design

The population for this research work was all plot allottees who had secured direct allocation of land from government for residential development as specifies by Land Use Decree of 1978. Geographically, the study covered all 11 Local Government Areas: Akinyele; Egbeda; Ibadan North; Ibadan North East; Ibadan North West; Ibadan South East; Ibadan South West; Ido; Lagelu; Oluyole and Ona Ara that make up Ibadan Land. Reconnaissance survey revealed that there were 53 government estate schemes with 17,473 plots allocated to the general public between 1920 (with Mokola Layout) and 2012 and the number was adopted as study population. New schemes that had not been fully allocated as at the time of this study were excluded. The study is limited to 2012 when plots allocation was very active.

Direct plot allottees could only be reached in 30 estate schemes with 14,851 allocated plots. Pilot survey on the 30 residential estates (with the help of all the 14 agencies and ministries in charge of the estates) revealed that only 4,602 plot allottees could then be contacted and the number was adopted as sample frame. It was difficult for this researcher to cover the entire sampling frame hence; sampling method as recommended by Kothari (2007) was adopted.

Therefore, from sampling frame of 4, 602, only 354 original plot allottees who had developed, were developing or those who were yet to develop but with easy access was adopted as sampling size. The figure was obtained through scientific calculation using the formula of statistical estimation theory employed when studying proportion of population (Kothari, 2007: 179).

$$nf = \frac{n}{1+\frac{(n}{(N)}} = \frac{384}{1+\frac{384}{4,602}} = \frac{384}{1.083442} = 354$$

Where: N = the estimate of the population size. nf = the desired sample size which is = 384 calculated from the formula $n= z^2.p.q/e^2$. The formula is used in case of infinite population when the researcher is to estimate proportion in the universe.

Z = the value of the standard variate, usually set at 1.96, which corresponds to the 95% confidence level under Normal Curve. P = the sample proportion in the target population estimated to have a particular characteristics. Usual practice is the use of 50% and is adopted here. q = 1.0 – p., e = degree of accuracy

desired, usually set at 0.05., n = size of sample.

Hence: - n = $\frac{Z^2 \times p \times q}{e^2}$ = $\frac{(1.96)^2 \times (0.05) \times (0.05)}{(0.05)^2} = \frac{0.009604}{0.0025}$ = 3.8416 = 384

For each of the sampling unit, unit proportional sampling frame divided by total sampling frame size multiplied by estimated total sampling size was adopted.

The formula is: SSu = $\frac{PSFu}{SFt}$ × ETSS

Where SSu = Unit sampling size, PSFu = Unit proportional sampling frame, SFt = Total sampling frame and ETSS = Estimated total sampling size.

3.2 Sampling Technique/Procedure

Purposeful sampling technique was adopted for plot allottees as it excluded schemes (like Mokola Layout) where direct plot allottees were not or no longer accessible. In each sampling unit/stratum, systematic sampling was strictly utilized in distributing the questionnaire where applicable and purposive sampling was used where it was practically impossible to do so as some of the respondents declined to entertain the questionnaire. On the basis of plot density, systematic sampling procedure was used. Highest number of copies of the questionnaire (185) went to medium density, with high density having 152 copies and 17 copies went to low density plot allottees.

3.3 Data Requirements

It is necessary to state that this research adopted retrospective data. The data relate to past time and activities. The respondents were asked to fill the questionnaire in relation to the time they secured allocation of their various plots. These include year of the plot allocation which falls between 1965 and 2011 as shown in Table 4, plot size, location and cost, respondent's level of education attained, employer or occupation, income earned, family size, sources of and access to loan then. The respondents were persuaded to even consult their records in order to give accurate answers. Data analysis is conducted accordingly on the basis of past data. For example, in 1974 annual salary of the highest paid civil servant was fixed at ₦15,000.00 per annum and the least paid was ₦1,200,00p.a. On June 9th, 1998 General Abubakar Salam increased minimum salary to ₦3, 500.00 per month for federal and ₦3,300.00 per month for state.

4.0 Data Analysis and Discussion of Findings

Data analysis was carried out using statistical tools such as frequency and simple percentage and presented in tabular form as well as inferential statistics, that is, regression with aid of Statistical Package for Social Sciences (SPSS) 17.0 version in order to answer the research question and satisfy the aim set out by this study. Comments and inferences were drawn from data analysis of the responses of the interviewees to reach conclusions. In this section, there is presentation of data analysis and discussion of findings as shown from Tables 1 to 12 below.

Table 1: Educational Level of the Respondents as at the time of Plot Allocation.

Educational	Level	Frequency	Percentage
	modern/grade 11/technical college	6	1.8
	SC/GCE/NECO	8	2.5
	NCE/OND/Nursing school	14	4.3
	HND/BSc	233	71.5
	MSc/PhD	64	19.6
	Others	1	0.3
	Total	**326**	**100.0**

Table 1 portrays the educational levels attained by the respondents as at the time of getting land allocation. All respondents were educated to various levels and 91.1% attended Higher Institutions of differing kinds. This result is in tandem with conclusion that only the educated people were beneficiaries of the schemes (Ajanlekoko, 2001, Morais and Cruz, 2007, and Lloyd, Mabogunje and Awe, 2009, Ibem, 2010, Olaniran, 2012, Olaniran, 2015 and Olaniran and Ashaolu, 2017).

Table 2: Identity of the Respondents' Employers as at the time of Plot Allocation.

Employer	Frequency	Percentage
Federal Govt.	46	14.1
State Govt.	99	30.4
Local Govt.	37	11.3
Bank/Corporate body	76	23.3
Contractor/Businessman	34	10.4
Driver/Petty trader/Transporter/Artisan	1	.3
Others	33	10.1
Total	**326**	**100.0**

Table 2 demonstrates that most of the beneficiaries of the land allocation scheme were employed by the State Government as they constituted highest percentage (30.4%). And 14.1% of the respondents worked for Federal Government while 11.3% worked for Local Government and 23.3% of them worked in banks and other companies. Then 10.4% of the respondents were contractors and business men and women and 10.1% of the respondents were employed in other kinds of employment not specified in the list. Only one respondent was a petty trader,

transporter or artisan. This result is in line with literature evidences as cited below. The probability of ownership in the formal sector is higher among public servants (Morais and Cruz, 2007). On the other hand, habitation of core and degenerated centre of Ibadan was related to the occupations of the heads, who were mainly petty traders, craftsmen or farmers without any capital (Fourchard, 2003).

Table 3: Family Size of the Respondents as at the time of Plot Allocation

Family size	Frequency	Percentage
One person	9	2.8
Two persons	35	10.7
Three persons	70	21.5
four persons	36	11.0
Five persons	57	17.5
More than five persons	118	36.2
No response	1	0.3
Total	**326**	**100**

The family size of the respondents is shown in the Table 3. The respondents with more than five members in the family accounted for the highest percentage (36.2%). Respondents with family.of two persons were 35 in number (10.7%) and respondents with family size of three persons accounted for 70 (21.5%) while four - member and five – member families were 36 (11%) and 57 (17.5) respectively. Only one respondent did not tell the size of his family. It could be concluded from the result displayed in this Table 3 that the respondents had large family to cater for thus increasing burden and that might impact on affordability of residential land (American Psychological Association, Task Force on Socioeconomic Status, 2007).

Table 4: Year of Plot Allocation

Year Range	**Frequency**	**Percentage**
1965-1974	4	1.2
1975-1984	64	19.6
1985-1994	68	20.9
1995-2004	136	41.7
2005-2011	52	16.0
No response	2	0.6
Total	**326**	**100.0**

Table 4 shows that the plots were allocated between 1965 and 2011. Most plots (42%) were allocated between 1965 and 2004. The least,

(1.5%) was allocated between 1965 and 1974. Although, allocation of plots in the study area started earlier than 1965, for example, Agodi and Mokola were allocated in 1903 and 1920 respectively (Olaniran, 2012), the first estate under this study, Bodija, came up in 1959 (Fourchard, 2003) and its allocation started in 1963. The reason behind this result is that more local governments were created in 1991 and they all tried to (re)zone already acquired land at their disposal to residential use e.g. Oluyole Local Government rezoned Orile Odo from industrial/commercial to residential scheme. Oyo State Ministry of Land Survey Physical Planning had also rezoned two schemes: Samonda Airdrome and dairy farm at Monatan to Samonda and Kolapo Isola Residential Schemes respectively.

For clarity and better understanding of display of Table 5, it is recommended that it should be read along with Table 4 above, Table 6 and Table 7 because of long period of time (1965 to 2011) and misconception it may create on the value of money involved .The reality is that most of the beneficiaries were allocated the plots during the years (earlier years) when the income levels were very low for public servants in the country. For example, in 1974 Udoji Commission fixed salary of highest paid civil servant at ₦15, 000.00p.a. and the least at ₦1, 200.00p.a. It does not mean that the respondents were low income earners as portrayed in Table 5. Inflation and subsequent review of salary have been playing their parts too.

Table 5: Income of the Respondents as at the time of Plot Allocation

Income per annum in Naira (₦)	**Frequency**	**Percentage**
Less than 100	31	9.5
101-1000	89	27.3
1001-10000	65	19.9
10001-100000	27	8.3
100001-500000	34	10.4
500001-1000000	3	.9
1000001-2000000	17	5.2
2000001-5000000	14	4.3
Greater than 5000000	24	7.4
not fixed	22	6.7
Total	**326**	**100.0**

Table 5 shows the respondents that received between ₦101-1,000.00 as income as at the time of plot allocation were more in the sample as they constituted 27.3%. Those that received between ₦1,001.00 – 10,000.00 constituted 19.9% of the total. Those that received less than ₦100 constituted 9.5%. Those without fixed incomes accounted for a small 6.7%. Respondents with higher range of incomes constituted lower percentages: ₦2,000,000 – 5,000,000.00 income earners constituted 4.3% and ₦100,001 – 200, 000.00 income earners constituted 5.2%.

Table 6: Cost of the Plots as at the Time of Allocation

Plot Cost	Frequency	Percentage
₦1, 001-10, 000	104	31.9
₦10, 001-100, 000	68	20.9
₦100, 001-500, 000	93	28.5
₦500, 001-1, 000,000	20	6.1
₦1, 000,001-2, 000,000	19	5.8
Greater than ₦2,000,001	18	5.5
No response	4	1.2
Total	**326**	**100.0**

Table 6 shows the range of costs of the plots. The plot cost as small as between ₦1,000.00 and ₦10,000.00 at the beginning and as high as more than ₦2,000,000.00 now in some schemes especially the state own. This is due to time series or long period of time from 1965 when plot allocation started to 2011. Inflation is one of the reasons why there is variation in the prices exhibited above. Time series calculation of the value could not be done to bring them to the same time as necessary information such as base year value were unavailable to this researcher and more so the analysis is done on plot by plot basis as shown in Table 7.

Table 7: Calculated Level of Affordability of Residential Plots from data Supplied by Plot Allottees

Scheme	Year	Plot size m^2	Density	Cost	Allottees (Y)	% Affordability
Oluyole Extention	1984	808	Medium	1.991.50	4, 600.00	43.29
Olubadan Estate	1986	1325.479	Medium	10,603.83	1,200,000.00	0.88
Yemetu Resettlement	1987	479.612	High	125,998.92	19657.78	640.96
Sode	1995	1108.145	Medium	94,307.73	1,200,000.00	7.86
Lam Adesina	1996	785	Medium	22,500.00	33,000.00	68.18
Ogbere Resettlement	1999	638	High	38,027.6	56,000.00	67.91
Akobo	2001	557	High	150,000.00	1,000,000.00	15
Olunde	2008	806	Medium	561,600.00	312,000.00	180
Ejioku	2009	681.694	High	236,875.00	324,000.00	73.11

It is noticeable that the land cost increased as the years passed by. This might be due to periodical review of charges and incidental expenses carried out by land Institutions in line with increasing inflation and loss in values of Naira in all categories of plot density. Also noticeable is the variation in cost of plots allocated in different schemes.

Table 8: Mode of Payment for the Plot

Mode	***Frequency***	***Percentage***
Deposit and instalment	*177*	*54.3*
Instant lump sum	*85*	*26.1*
Payments as they were charged	*33*	*10.1*
No response	*31*	*9.5*
Total	***326***	***100***

Three specific modes of payment for the plots were identified as contained in the Table 8 which shows that 54.3% of the plots were paid for by making deposit and later balanced up by paying bit by bit, 26.1% of the plot allottees paid instant lump sum and 10.1% of the plot were paid for bit by bit as charges were made known or demanded but 31% of the respondents could not indicate any specific mode of payment. Mode of payment is relevant to issue of affordability for its relative relief.

Table 9: Time allowed for the Payment of the Plots

Period	**Frequency**	**Percentage**
Less than 6 months	50	15.3
6 - 12 months	108	33.1
About 2 years	25	7.7
3 years and above	13	4.0
No response	130	39.9
Total	**326**	**100**

Table 9 portrays that 15.3% of the plots were paid for within less than 6 months; 33.1% of the plots were paid for between 6 and 12 months; 7.7% of them were paid for in about 2 years; and 4% of them were paid for over a period of 3 years. 39.9% of the respondents could not tell the period within which they paid for the plots allocated to them. This is an indication that the Institutions in charge of residential land allocation favourably relaxed term of payment for allocated land and this might be another boost to land affordability.

Table 10: Ability of Respondents to pay for the Plot without taking Loan

Response	**Frequency**	**Percentage**
Yes	201	61.7
No	89	27.3
Missing	36	11
Total	**326**	**100**

In Table 10, 61.7% of the respondents indicated that they were able to pay for their plots without taking loans. 27.3% of them could not pay for the plots without taking some forms of loans. The remaining 11% of them did not respond to the question. Those that could pay without taking loans paid through past savings and monthly payments from incomes. Those that paid through loans secured loans from government credit facility, employer housing loan scheme, mortgage bank, commercial banks, cooperative societies, relatives and friends.

4.1 Factors that Influence Affordability of Formal Residential Land in Ibadan Land

Income, family size, level of education of the plot allottee and access to loan (cooperative or other) were examined using regression analysis and reported in Table 10 below. Also, in Table 11 the test of standardized coefficients is displayed

Table 11: Regression analysis test result of affordability problem on access to loan, educational level, income level and family size of the beneficiaries

Variable		**Sum of squares**	**df**	**Mean square**	**F**	**R square**	**Multiple R**
Dependent variable: Land Affordability	Regression	2890.862	4	722.716	16.895*	0.180	0.424*
Factor variables: Educational level, Family size, Access to loan, income level	Residual	13175.655	308	42.778			
	Total	**16066.518**	**312**				

*Significant at 0.05 alpha level

In Table 11, the overall model significance determination as indicated by F (16.895) is significant at 0.05 level of significance. This means that access to loan and educational level attained by the plot allottees, their income level and family size at the time of plot allocation are significant factors that determine level of residential land affordability in the study area. A change in any of these factors/variables will lead to a change in the level of affordability. The relationship between the level of affordability and these factors is shown by the significant multiple R (0.42). The R square value 0.18 indicates that 18% of the variation in the level of affordability is explained by access to loan, educational level, income level and family size. 18% change in affordability level is sought in access to loan, educational level, income level and family size. The remaining 82% variation in affordability level is explained by other factors not considered in the regression models.

Table 12 Relative contribution of factors variables to dependent variables

Variable	Unstandardized coefficients	Standardized coefficients (Beta)	T	Significance
Access to loan	-0.236	-0.288	4.201	0.00*
Educational level	0.198	0.209	3.947	0.00*
Income level	-0.002	-0.008	0.130	0.89
Family size	0.147	0.200	0.3077	0.00*

Table 12 shows that regression coefficients for the factor variables such as access to loan, educational level, and family size are significant, though they are low. But income level was found insignificant. Meanwhile, the negative signs of variables like access to loan and income level imply that increases in these factors lead to decrease in land affordability problem in the study area while increase in educational level and family size aggravates land affordability problems in the study area.

Surprisingly, income as a factor considered by the current study was found insignificant. This finding seems to be in contrast to a priori expectation and theoretical foundation given the fact that more money will be made available through additional income and subsequently lessens affordability problem of land for residential purpose. In particular, this finding is also in contrast with previous findings on relationship between income and land affordability by Fourchard (2003); Morais and Cruz (2007); Lloyd, Mabogunje and Awe (2009); Ibem (2010) and Olaniran (2012). However, most respondents sampled were medium and low income earners that belonged to one cooperative society or the other where access to loans is more feasible and usually available at low costs while some medium and high income earners were beneficiaries of fund from Federal Mortgage Bank. This provides justification for the significance of access to loan as a factor considered by the current study.

The standardized coefficients are meant to make the regression coefficients more comparable (Pallant, 2011). The standardized coefficients are coefficients of regression line, which result when all the independent variables are transformed to the same standard of measurement using z-score. The standardized coefficients or betas are z-score generated coefficients of regression line. By comparison in Table 11, access to loan has the highest beta; it is followed by education level and family size. Family size has the lowest beta. The implications of these are access to loan is most potent factor in predicting residential land affordability in the study area among other factors, educational takes the second position in predicting the affordability and family size takes the third in the prediction. The least contributor to the prediction of residential land affordability is income level; and it is the only factor that is not significant by the standardized test. Thus, no matter the

size of income affordability problem could not be really determined in the study area against all other factor variables. This might be attributable to very low income experienced till 1999. Apart from finding regarding income, the findings of the current study validate existing findings from previous researches in the field such as Fourchard (2003); Morais and Cruz (2007); Lloyd, Mabogunje and Awe (2009); Ibem (2010) and Olaniran (2012).

5.0 Conclusion and Recommendations

The paper studied socioeconomic determinants of urban residential land affordability with a focus on Ibadan Land and revealed that access to loan, education, family size and income were determinant factors of residential land affordability in the study area. It also concludes that access to loan was most potent factor among others in predicting affordability problem in the study area and income level was the least contributor.

Although the current study provides further contribution to studies on land affordability problems by taking into consideration access to loan and family size unlike other previous researchers in the field the inability of the researcher to consider the level of access to loan and family size and amount involved serves as limitation to the study and as such provides ground for future research in this aspect.

It is hereby recommended that government should not relent in educating its citizens and upgrading mortgage system in the country in order to serve all categories of people. The cooperative credit society should be improved too to rescue many intending plot allottees.

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Conflict Management Practice among Stakeholders in Construction Project Delivery

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Abstract: Conflict is a natural phenomenon among people, groups, and organisations. Due to the unique and complex nature with different parties, conflict is inescapable in most construction projects. These complexities and unsure nature of construction projects need effective stakeholder management approaches to contain conflicting stakeholder interests and to build coexistence among construction and ensure attainment of overall organisational goal. Little consideration has been given to stakeholders' conflict management strategies in construction project delivery. This study seeks to investigate stakeholders' conflict management practices in the construction project delivery using Lagos as the study area. The study adopted survey research method. Questionnaires were distributed to the targeted population. A total of 192 respondents' data were found to be valid and appropriate for the analysis which represents 76.8% response rate. Data obtained were analysed using frequency, percentages, mean score, ranking, spearman rank correlation and ANOVA. The findings of the study revealed that, "be aware causes and result", "negotiation", "take steps to deal with the causes", "establish cooperative goals" and "mediation" were the most used conflict management strategies in construction project delivery. Likewise, "absence of adequate institutional framework", "fear of change", "inadequate planning and preparation", "misunderstanding and loss" and "lack

of awareness in alternative dispute resolution (ADR)" were agreed to be the major challenges to a conflict management process. The t-test result shows that there is a strong agreement ($P < 0.05$ $t=2.09, 2.03$) between the opinions of the construction stakeholders on the conflict management techniques and challenges. The study recommended that construction stakeholders should be conversant with the various conflict management techniques at their disposal to maintain a coexistence attitude among themselves.

Keywords: Conflict management, construction projects, Nigeria, project delivery, stakeholders

1.0 Introduction

The unique characteristic of the construction industry brings about the involvement of various stakeholders during the life cycle of a project. Stakeholders according to Thompson (2002) are people or organisations having interest or influence on construction project. As a matter of fact, most organisations rely on their stakeholders for critical success factors (Johnson, Scholes and Whittington, 2005). The need to engage these stakeholders lies on its influence on the construction projects and the environment (Glass and Simmond, 2007), likewise its social responsibilities to the construction (Jawahar and McLaughlin, 2001). Every construction project usually involved stakeholders whether small, large or medium size project, but the stakeholders' involvement will depend on the magnitude and complexity of the project. However, construction projects frequently involve many stakeholders such as users, owners, managers, legal practitioners, designers, subcontractors, general public, competitors, insurance organisations, network representatives, suppliers, government institutions, visitors, customers, developers, banks and the media (Smith and Love, 2004; Newcombe, 2003).

However, due to the diversity of stakeholders with different ideologies, cultures, and race, conflict is most likely to occur. According to Lynch (2006), when the stakeholders are many in a project, there is a huge potential for conflict among them (especially large or medium-sized construction project), and if the organisation focuses on a stakeholder, the interests of other stakeholders will be threatened (Doyle and Stern, 2006). The multi-discipline involved in construction projects is the beginning of conflict itself due to possible differences in interest, concerns, training, and perception. Ejohwomu, Oshodi and Onifade (2016) affirmed this to be evident in human interactions during these phases and can affect project outcomes. Awakul and Ogunlana (2002) buttress the points that if these conflicts are not well managed within some allowable or bearable limit it can negatively affect the outcome of the project such as constraints in the implementation of the project objectives and the effective management of the project.

The essentials of every construction project are its ability to meet up with the stipulated deadline and schedules without any constraint on quality delivery. Conflict is considered to be

the major problem among stakeholders in the construction sector (Forsman, 2017). Conflict causes project cost overrun, delays, low productivity and even damage relationships among project stakeholders (Loosemore, 2006; Rowlinson and Cheung, 2008). Earlier research has considered the causes of these conflicts and demonstrated some few adverse effects (Simons and Peterson, 2000; Jehn, 1995; Lau and Cobb, 2010; Okuntade, 2014) while few works had been conducted mainly on the management aspect of conflict in the construction industry, especially in Nigeria (Olalekan, 2013; Longe, 2015).

Furthermore, because the construction industry is unique, that is, no two projects are the same (Sears, Sears, Richard, Rounds and Segner, 2015), this can be translated to mean that the conflict management style in a project can never be the same because the cultural, purchasing and communication channels may differ. The mindset of team members will also differ as a result of traditions of the stakeholders involved (Loosemore, 2006; Ochieng and Price, 2009). According to Jones (2006), conflict in the construction industry is unavoidable and antagonistic bringing about the loss of time, resources, and efficiency. Therefore, there is a need to look at the management approaches to conflict critically among construction stakeholders.

The management approaches of conflict involve creating an effective framework for the prevention of conflict in construction projects in Nigeria. Majority of previous work on conflict management as seen from the literature suggested that conflict have negative impacts on the construction project. One major finding in this literature is that many of the researchers focused on the causes of conflict and not on the management aspect of the conflict. The main goal of this study is to better the understanding of such managerial approaches in tackling the issue of conflict than the focus on the causes. Thus, if conflict adversely affects project execution, benefits and morale in the industry, at that point there is motivation to examine how it can be managed effectively. The expectation is to comprehend what factors add to the conflict and what management approaches or model can be used to solve the problem. This paper attempts to make a significant contribution to the management of conflicts by providing a series of conflict management techniques that will aid the stakeholders in construction projects delivery manage conflicts efficiently and effectively. Thus, the study aims to evaluate the conflict management practice among stakeholders in construction project delivery in Lagos, Nigeria with a view to providing a better understanding of various strategies in managing conflicts in construction project delivery, thereby improving their managerial performance in conflicts management.

2.0 Literature Review

2.1 Conflict Management

All conflicts have management approaches. However, not all management approaches are successful. For conflict management

approaches to really take place, and be successful, stakeholders need to have the sense that the conflict mechanism was fair and in their best interest. Generally, construction industry are faced with a dynamic and complex level of uncertainties in the project environment, as a result, the management of conflict among stakeholders need a critical execution mechanism (Cicmil, Williams, Thomas and Hodgson, 2006; Winter, Smith and Cooke, 2006; Blomquist, Hallgren, Nilsson and Soderholm, 2010). Attention must be given to the prominent role of the project stakeholders occupy as an essential part of project development. Ogunlana and Mahato (2011) explained that the construction industry was majorly seen as a project-based industry with the unique characteristics of diverse people within the project life cycle, this diversity in the industry involving various stakeholders can bring about conflict such as a serious disagreement between them. As the construction industry is becoming more globalised, the sector has grown into a multicultural and multidisciplinary setting forcing construction managers to mix and align with numerous stakeholders.

Conflict management is a process of communication for changing the negative emotions in conflict to a state of emotions that allow for working out a solution to the conflict (Taher, Das and Rashed, 2008). Conflict management refers to the action that allows one to deal with dissimilarities of preferences, interests and perceptions so as to maximise organisational effectiveness. In essence, the notion of conflict management assumes that conflicts can be managed for the benefits of parties involved in a conflict.

According to Alshehri (2012), construction projects have four major distinct phases which are; brief, design, construction, and post-construction. The completion of each of these phases requires the services of stakeholders in various disciplines within the construction environment. In a related development, the studies of Ohlendorf (2001), Brahnam, Margavio, Hignite, Barrier and Chin (2005), Suterfeld, Friday and Blackwell (2007), Thomas (2009), Aula and Sirra (2010), found that today's managers spent around 20% of their productive time dealing with conflicts. For example, conflict among major stakeholders such as the designers and the builders where the designers continue to influence the creativity and aesthetics of the building, but not the buildability, whereas, professional builder is only interested in working with a design that is realistic with less cost and fewer challenges, all this are responsible for conflict in the construction sector.

The intricacy of the construction industry is becoming bigger as the construction industry continues to grow in innovations and technologies. Jaffer, Tharim, and Shuib (2011) expressed that the construction industry itself is perplexing and conflicts effectively happen within the construction circles. The construction industry has been known for a pro-long experienced time of exorbitant conflict litigations that consume

project time in the long run. Shin (2000) stated that it is tedious to deal with the contention than fabricate the construction industry. There is a need to take conspicuous activity to determine the negative issue in the construction sector. The achievement of the construction sector relies upon various factors.

Literally, conflict management approaches involve any process that can end the conclusion of conflict especially the most severe informal negotiations among the conflicting stakeholders through the introduction of a more direct intervention mechanism from external sources. These approaches will empower the conflicting stakeholders to resolve their incompatibility themselves. In another perspective, Ntiyakunze (2011) acknowledges the impact of conflict management mechanism but argued that each conflicting stakeholders must first accept that conflict exists before the principles can be adopted. Hence, Ntiyakunze (2011) stated in summary that conflict management is the belief that all conflicts cannot be essentially resolved, but learning how to manage conflicts can reduce the likelihood of non-productive conflict escalation and secondly, that conflict management entails obtaining skills related to establishing a structure for management of conflict, conflict resolution, conflict communication skills and self-awareness about conflict modes.

2.2 Construction Stakeholders

Construction projects by differing nature have organisations and individuals actively involved in the project, or whose interest may be negatively or positively affected by the outcome of the project (Eyiah, Aigbavboa, Ohis, Thwala and Wellington, 2016). "The question has been who are these stakeholders, what are their interest and how should they be managed" (Eyiah et al. 2016). According to Chinyio and Akintoye (2008), construction stakeholders are a group of people with interest in a project. Construction stakeholders are Engineers, Builders, Architects, contractors, owners, suppliers and subcontractors (Gebken and Gibson, 2006; Ning and Ling, 2013). Stakeholders can be divided into internal and external (Atkin and Skitmore, 2008). According to Atkin and Skitmore (2008), internal stakeholders such as employees, owners, suppliers and customers, are those directly involved in an organisation's decision-making process while external stakeholders like local authorities, local community, neighbours and general public, are those affected by the organisation's activities in a significant way.

2.3 Construction Stakeholders and their Involvement in Project Delivery

Every construction stakeholder in any project has their specific functions and objectives to the project, due to this fact, construction stakeholder's task and functions are becoming complex depending on the nature of the construction project (Bal, Bryde, Fearon and Ochieng, 2013). According to Vaux (2014), every project begins with the stakeholders

working towards a quality, profitable and successful project, but most times conflict emerges to undermine those goals. In fact, construction stakeholders can contribute to the failure or success of a construction project (Newcombe, 2003). This challenge can be reduced if construction stakeholders increase their effectiveness, efficiency and choice decisions on projects. The study by Saghatforoush, Trigunarsyah, Eric and Ami (2011) found that, many stakeholders developed a comprehensive involvement plan in order to cope with the complexity of the project.

However, previous studies such as Bal et al. (2013), Bosher, Dainty, Carrillo and Glass (2007), Olander (2007) also support the fact that stakeholder involvement is essential in enhancing the effectiveness of project results. Heravi, Coffey and Trigunarsyah (2015) opined that stakeholders need to be committed to carrying out their responsibilities if not the project delivery will be affected. It is very important that parties to the contract which consist mainly of construction stakeholders are committed to the project to avoid conflict or poor quality delivery.

3.0 Methodology

This study adopted field survey technique to reveal the practice of conflict management among the stakeholders in construction project delivery in Lagos, Nigeria. A wide-ranging literature review was conducted to establish the conflict management approaches and conflict management challenges. The list of conflict management approaches and conflict management challenges criteria were used to design a survey questionnaire in order to achieve the aim of the study. This survey instrument was used to obtain the attitude of the stakeholders in construction project delivery regarding conflict management. The questions were constructed using the Likert scale where the respondents were asked to choose the conflict management approaches they use or apply by raking from 1 for not used, 2 for little used, 3 for fairly used, 4 for used and 5 for mostly used. Five groups of stakeholders in construction industry of Nigeria were approached to participate in the research, namely architects, builders, quantity surveyors, engineers and contractors. To determine the accuracy and comprehensiveness of the survey instrument, a pilot study was conducted before administering it to the participants. The study employed Statistical Packages for Social Science (SPSS 20). The reliability test shows a Cronbach Alpha Scores of 0.85 against the measured item, therefore, the data obtained are highly reliable, accurate, reproducible, and consistent from one testing occasion to another. Frequency, percentages, mean score, ranking, spearman rank correlation and ANOVA were used to analyse the data collected from the survey.

3.1 Study Area

The research was carried out in Lagos, Nigeria. The reason for the selection was that Lagos is the center of the country's economy, power and commerce. Also Lagos is a built-up environment with many infrastructures

and construction activities for both private and public developments.

3.2 Sample Size

This study adopted the selective random sampling method in the process of administering the questionnaire. To establish the required sample size, Krejcie and Morgain's formula was adopted as shown in equation (1) using a sample frame of 250 population size.

S = equation (1)

Where:

S = required sample

x = Table of the value of Chi-Squared for 1 degree of freedom at the desired confidence level (taken as 3.841)

N = population size

P = population proportion (assumed to be 0.5)

d = degree of accuracy expressed as a proportion (taken as 0.05)

Therefore;

$$S = \frac{3.841 \; x \; 250 \; x \; 0.5(1-0.5)}{0.052\,(250-1) + 3841 \; x \; 0.5(1-0.5)}$$

= 249.9 approximately 250

Therefore, a total number of 250 questionnaires were administered to construction stakeholders for the purpose of this study. Table 1 shows the summary of the survey responses.

Table 1: Questionnaire Responses

	Architec	Builde	Enginee	Quantity Surveyor	Contractor	Total
No distribu	50	50	50	40	60	250
No Receive	41	42	30	27	52	192
Percentage	21.3%	21.9%	15.6%	14.1%	27.1%	100

Table 1 revealed that out of 250 questionnaires distributed, 192 were adequately filled and returned representing 76.8% effective response rate. The responses were further analyzed to determine the profile of respondents, strategies for resolving conflicts and the challenges of conflict management from the perspective of the Architects, Builders, Contractors, Engineers, and Quantity surveyors.

4.0 Results and Discussion

This section presented the questionnaire survey results, characteristics of respondents, conflict management strategies identified, conflict management challenges identified, analyses of the results and findings of the study.

4.1 Characteristics of Respondents

Most of the respondents were contractors with 27.1%. Builders are next with 21.9%, followed by architects accounting for 21.3%, with engineers and quantity surveyors contributing 15.6% and 14.1% respectively.

4.2 Conflict Management Strategies

The study identified Twenty-one (21) strategies for conflict management.

Average Conflict Strategies	Architect		Builder		Engineer		QS		Contractor	
	Mean	R	Mean	R	Mean	R	Mean	R	Mean	R
Collaboration	5.00	**1**	4.20	7	3.72	10	4.38	9	4.14	11	4.34	7
Negotiation	4.82	**2**	4.33	6	5.00	**1**	4.84	**5**	4.64	9	4.71	**2**
Compromising	4.53	**3**	3.40	13	4.63	7	5.00	**1**	5.00	**1**	4.48	6
Mediation	4.23	6	4.46	**4**	5.00	**1**	4.69	6	4.78	**4**	4.60	**5**
Latent acceptanc	4.17	7	2.66	18	2.66	17	2.53	16	1.42	21	2.62	16
Smoothing	3.64	10	3.33	14	3.36	14	3.23	13	3.64	13	3.45	13
Private method	3.29	13	3.26	15	2.72	16	2.07	18	2.42	18	2.80	15
Mixed approach	3.05	14	2.73	17	3.36	14	2.07	18	1.64	19	2.57	18
Hybrid processe	2.88	15	2.13	20	1.90	20	1.92	21	1.64	19	2.14	21
Expert Determination	2.76	16	3.53	12	3.45	12	4.07	11	4.71	6	3.67	12
Concession	2.70	17	4.73	**3**	4.36	9	4.53	7	5.00	**1**	4.20	8
Avoiding	2.47	18	2.13	20	2.00	19	2.38	17	2.71	17	2.35	19
Adjudication	2.41	19	4.06	9	3.54	11	3.15	14	3.64	13	3.32	14
Competing	1.82	20	3.26	15	2.18	18	2.61	15	3.21	16	2.61	17
Interdependence	1.76	21	2.66	18	1.90	20	2.00	20	3.42	15	2.35	19
Be aware causes and result	4.52	**4**	4.86	**1**	4.81	5	5.00	**1**	5.00	**1**	4.82	**1**
Take steps to de with the causes	4.52	**4**	4.40	5	5.00	**1**	5.00	**1**	4.71	6	4.70	**3**
Establish cooperative goal	3.94	8	4.80	**2**	5.00	**1**	5.00	**1**	4.78	**4**	4.62	**4**
Address dispute concomitantly	3.76	9	4.00	10	3.72	10	3.72	12	4.21	10	3.90	11
Note alternative	3.64	10	3.60	11	4.81	5	4.53	7	4.71	6	4.20	8
Be open minded	3.35	12	4.13	8	4.45	8	4.14	10	4.14	11	4.04	10

Note: R = Rank ; QS = Quantity Surveyor

Table 2 shows the mean and ranking of the various strategies of conflict management. The top five strategies of conflict management as ranked by the respondents are; "be aware causes and result", "negotiation", "take steps to deal with the causes", "establish cooperative goals" and "mediation" with their mean scores 4.82, 4.71, 4.70, 4.62 and 4.60 respectively. Whereas, the least among the conflict management strategies includes; "avoiding", "interdependence" and "hybrid processes" with their mean scores 2.35, 2.35 and 2.14 respectively.

ANOVA analytical test was ran using SPSS-20 to determine the level of agreement of the stakeholders in construction project delivery. The result is shown in Table 3 and 4.

Table 3: Level of agreement of the construction stakeholders

ANOVA: Single Factor

Groups	Count	Sum	Average	Variance
Architect	21	73.26	3.49	0.92
Builder	21	76.66	3.65	0.72
Engineer	21	77.57	3.69	1.26
Quantity Surveyor	21	76.86	3.66	1.37
Contractor	21	79.56	3.79	1.42
Total	**21**	**76.49**	**3.64**	**0.86**

Table 4. ANOVA F - Analytical test

Source of Variation	SS	Df	MS	F	P-value	F-crit
Between Groups	0.99213	5	0.198426	0.181837	0.968977	2.289851
Within Groups	130.9473	120	1.091227			
Total	131.9394	125				

Since F < F-crit, that is 0.181 < 2.29 as shown in Table 4, the null hypothesis was accepted. This shows that, there a difference in their level of agreement. In Table 3, the mean for each of the Five (5) group of professional was calculated. The group means are 73.26, 76.66, 77.57, 76.86 and 79.56. These group means are distributed around the overall mean for all 21 observations, which is 76.49. If the group means are clustered close to the overall mean, their variance is low. However, if the group means are spread out further from the overall mean, their variance is higher. In Table 4, the ANOVA uses the F-test (2.28) to determine whether the variability between the group means is larger than the variability of the observations within the groups. Hence, since the ratio of between-group and within-group is sufficiently large, the study concluded that, all the means are unequal which interprets that there is a statistical difference in their level of agreement. This result shows that each group of the respondents has different ways of managing conflict in relation with size of project.

4.3 Conflict Management Challenges

The study identified Thirty-two (32) challenges to conflict management.

Table 5: Determination of the severity rank of the conflict management challenges among the construction stakeholders

	Architect		Builder		Engineer		QS		Contractor		Average	
Challenges	**Mean**	**R**	**Mean**	**R**	**Mean**	**R**	**Mean**	**R**	**Mean**	**R**	**Mean**	**R**
Secrecy and Deception	2.76	26	4.53	**4**	3.73	19	3.00	29	5.00	**1**	3.79	19
Unwillingness in other party's Negotiation	3.29	19	3.87	17	4.27	11	4.69	**5**	5.00	**1**	4.17	11
Inadequate planning and preparation	4.53	6	4.53	**4**	4.82	**5**	5.00	**1**	5.00	**1**	4.76	**3**
False first impressions and perception	3.88	9	4.27	8	3.64	20	4.23	16	5.00	**1**	4.21	9
Grief	3.47	15	4.13	10	3.45	24	4.38	13	5.00	**1**	4.09	14
Systematic distrust	2.12	31	4.13	10	4.27	11	3.31	24	5.00	**1**	3.69	22
Failure to communicate and listen	4.47	7	3.53	18	4.45	9	4.54	9	4.93	8	4.37	7
Insufficient focus on underlying interests	3.76	12	4.27	8	3.55	23	4.08	18	4.86	10	4.11	12
Partisan perception, judgmental overconfidence, and wrong baseline	3.18	20	4.13	10	3.64	20	3.46	21	4.86	10	3.84	18
Reactive Devaluation	2.94	23	3.33	23	4.18	13	3.77	19	4.71	14	3.73	20
Misunderstanding and loss	4.41	8	4.00	15	5.00	**1**	4.38	13	4.64	16	4.46	**4**
Failure to give opponents face, respect, and dignity	3.29	18	3.40	22	4.18	13	3.62	20	4.36	21	3.73	20
Comparative gain and equity consideration	2.65	28	2.00	29	4.09	16	3.46	21	2.21	32	2.80	29
Loss Aversion	4.88	**3**	2.00	29	4.09	16	4.23	16	2.50	27	3.54	23
Biases within the construal process	2.71	27	2.00	29	2.45	32	2.54	30	2.43	28	2.43	31
Reactive devaluation of compromises and concession	2.88	25	2.00	29	3.09	28	2.23	31	2.57	25	2.54	30
Dissonance about the past and unrealistic	2.18	30	2.40	28	3.18	27	2.08	32	2.36	30	2.40	32

hopes about the future												
Multiple Interest group and Agency problems	3.53	14	2.60	27	3.09	28	3.08	26	2.79	24	3.03	26
Political and constituency consideration	3.82	11	2.67	26	3.64	20	4.31	15	2.29	31	3.33	25
The desire for formal adjudication	2.94	23	2.93	25	2.82	30	3.08	26	2.43	28	2.84	27
Broader linkages	2.47	29	3.47	21	2.64	31	3.08	26	2.57	25	2.84	27
The problem of Enmity	4.65	**5**	3.33	23	4.55	8	4.46	12	3.21	23	4.03	15
Lack of awareness in ADR	5.00	**1**	3.93	16	4.64	7	4.69	**5**	3.93	22	4.44	**5**
interest of improving the knowledge and usage	3.47	15	4.67	**3**	5.00	**1**	4.85	**4**	4.43	20	4.41	6
Shortages of experience in the use of ADR	3.12	22	4.47	6	4.82	**5**	5.00	**1**	4.64	16	4.33	8
Absence of adequate institutional framework	5.00	**1**	5.00	**1**	5.00	**1**	5.00	**1**	5.00	**1**	5.00	**1**
Personalizing the misunderstanding	3.88	9	3.53	18	3.91	18	3.46	21	4.71	14	3.90	17
Signs of weakness	1.71	32	4.33	7	3.45	24	3.23	25	4.79	12	3.44	24
Parties intransigence	3.47	15	4.07	13	4.18	13	4.62	8	4.79	12	4.19	10
Concerns of the final decisions effectiveness	3.18	20	4.07	13	3.45	24	4.54	9	4.64	16	3.96	16
Concerns of trusting non-judicial bodies	3.65	13	3.53	18	4.45	9	4.54	9	4.64	16	4.11	12
Fear of change	4.71	**4**	4.93	**2**	5.00	**1**	4.69	**5**	4.93	8	4.84	**2**

Note: R = Rank ; QS = Quantity Surveyor

Table 5 shows the mean and ranking of the various challenges to conflict management. The results from Table 5 shows that, "absence of adequate institutional framework" (5.00), "fear of change" (4.84), "inadequate planning and preparation" (4.76), "misunderstanding and loss" (4.46) and "lack of awareness in alternative dispute resolution (ADR)" (4.44) are the five most paramount challenges to a conflict management process in construction project delivery. Table 5 also reveals that, "reactive

devaluation of compromises and concession" (2.54), "biases within the construal process" (2.43) and "dissonance about the past and unrealistic hopes about the future" (2.40) as the most three least agreed on challenges to a conflict management process in construction project delivery in the study area.

4.4 Significant Testing for Hypothesis

Spearman rank correlation was used to determine the extent of agreement in response of the respondents regarding the ranking of various conflict management approaches in construction project delivery. Results obtained are shown in Table 6.

Table 6: Test of agreement on the rank of the various **conflict management approaches**

Stakeholders	Rs	t-cal	t-tab	Reject Ho	P-value
Architect/ Builders	0.49	2.09	1.72	Yes	<0.05
Builders/Engineer	0.84	2.09	1.72	Yes	<0.05
Engineer/ contractor	0.79	2.09	1.72	Yes	<0.05
Contractor/ Quantity surveyor	0.91	2.09	1.72	Yes	<0.05

Spearman rank correlation (Rs), t–cal (t–calculated), t–tab (t–tabulated), Ho (null hypotheses), P-value (probability that rejects null hypotheses wrongly).

The hypotheses were set up to test if there is an agreement on the rank of the identified conflict management approaches as opined by the different groups. Table 6 shows the result of the computation of Spearman's rank correlation coefficient, the t-values, and the decision rule of rejection of null hypotheses for the severity rank of approaches to conflict management process in construction project delivery by the different groups in the construction industry. Table 6 reveals that t–cal 2.09 are greater than t–tab of 1.72 with 19 degrees of freedom at $p < 0.05$ significance level. It can be concluded that there is a general agreement between the different groups (Architect, Builder, Engineer, Quantity surveyor and contractors) with respect to their perceptions of the rank of the conflict management approaches in construction project delivery.

Also, spearman rank correlation was used to determine the extent of agreement in response of the respondents regarding the rank of various challenges of conflict management in construction project delivery. Results obtained are shown in Table 7.

Table 7: Test of agreement on the rank of the various **challenges of conflict management**

Challenges of conflict management	Rs	t-cal	t-tab	Reject Ho	P-value
Participants responses	0.95	2.03	1.69	Yes	< 0.05

Spearman rank correlation (Rs), T–cal (t– calculated), T–tab (t– tabulated), null hypotheses (Ho), P-value (probability that rejects null hypotheses wrongly).

The hypotheses were set up to test if there is an agreement on the rank of the identified conflict management challenges as opined by the different groups. Table 7 shows the result of the computation of Spearman's rank correlation coefficient, the t-values, and the decision rule of rejection of null hypotheses for the severity rank of challenges of conflict management process in construction project delivery by the different groups in the construction industry. Table 7 reveals that t–Cal 2.03 is greater than t–tab of 1.69 with 30 degrees of freedom at $p < 0.05$ significance level. It can be concluded that there is a significant degree of agreement between the different groups (Architect, Builder, Engineer, Quantity surveyor and contractor) with respect to their perceptions of the rank of the challenges to conflict management process in construction project delivery.

5.0 Conclusion and Recommendations

This study aims to evaluate the conflict management practice among stakeholders in construction project delivery in Lagos, Nigeria with a view to providing a better understanding of various strategies in managing conflicts in construction project delivery, thereby improving their managerial performance in conflicts management. The research highlighted the strategies adopted by stakeholders in managing conflicts in construction project delivery and conflict management challenges confronting them. Based on the survey findings, the top most five strategies of conflict management as considered by the respondents are; be aware causes and result, negotiation, take steps to deal with the causes, establish cooperative goals and mediation with their mean scores 4.82, 4.71, 4.70, 4.62 and 4.60 respectively. Secondly, the study revealed that "absence of an adequate institutional framework" (mean is 5.00), "fear of change" (means is 4.84), "inadequate planning and preparation" (means is 4.76), "misunderstanding and loss" (mean is 4.46) and "lack of awareness in alternative dispute resolution (ADR)" (means is 4.44) are the five most paramount challenges to a conflict management process in construction project delivery. In recommendations, the study recommends that the strategies for the management and avoidance of conflicts in construction projects should be adopted and duly implemented. The paper makes a significant contribution to the management of conflicts by providing a series of conflict management techniques that will aid the stakeholders in construction projects delivery manage conflicts efficiently and effectively. An understanding of the conflict management techniques among construction stakeholders is important for achieving project success.

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Challenges and Prospects of Property Ownership in Ado-Odo/Ota Local Government Area, Ogun State, Nigeria: A Review of Literature

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***Abstract*:** The aim of this paper is to identify property ownership challenges and prospects in Ado-Odo/ Ota Local Government Area, Ogun State with a view to guide property owners towards homeownership or property ownership. In the course of writing this paper, secondary data were collected from both published and unpublished journals, articles, reports, maps, and the internet was consulted to acquire more data as regards this study. Data sources are websites, government publications, books, internal records, journal articles, etc. Property ownership benefits identified include; property owner gain prestige and political power; provides shelter, health, welfare and wealth; good investment as regards to stable income generation; provides long-term monetary security; tax benefits; value appreciation overtime; provides hedge against inflation; etc. Property ownership challenges identified include; improper or lack of title document that could result to property ownership insecurity and denial to credit facilities; gender discrimination in accessing land or property; inadequate or lack of access to justice; presence of ineffective

and inefficient land management system, laws and agencies; land dealings fraudulence and conflicts; poverty or lack of finance; etc. Some of the recommendations to mitigate property ownership challenges include; government and land policymakers should ensure that laws and management system are efficient and effective, property market should be flexible for easy access to land and information, programmes should be scheduled to guard against gender discrimination as regard property ownership, law officials should ensure court proceedings are less costly and flexible for easy access to justice, etc.

***Keywords*:** Ado-Odo/Ota, Property, Challenges and Prospects, Ogun State, Ownership,

1.0 Introduction

Properties are significant in reducing poverty while land is indispensable for the performance of every single human endeavor. Properties are medium for prosperity and serve as cushion against stocks. It can facilitate the arrangement of positive monetary funds accessible to people and help decide the relative dealing and basic leadership influence of individuals within the family unit (World Bank, 2012). Land does not only serve as sources of food, job opportunities, and earnings, it also offers shelter, social status and helps obtain political positions. As indicated by Emeasoba (2012), land comprises of every human, socials practices and financial dealings that lie within the core of social, political and monetary existence of major countries particularly African Nations. Land is perceived as an essential wellspring of riches, social status, power, the basis of housing, food supply, however, it is rapidly becoming a scarce asset in the urban areas. The ownership and rights of land as financial assets offer monetary security to the owner and decides the degree of participation of the owner in the society. Therefore, verifying property ownership and rights for resources is of specific significance (Emeasoba, 2012). To acquire properties, for instance, land and building enable the provision of housing to individuals. Housing is one of the fundamental human needs and certainly, have a deep effect on the wellbeing, safety, and efficiency of a person (Hoesli and MacGregor, 2014; Olujimi, 2010). The importance of housing to man cannot be over-emphasized: it gives security from elements of nature and storage facility to individual belongings; lodging as per contemporary modern principles must offer such framework and administrations that make dwellings favourable (Otubu, 2008). Housing, especially urban housing remains a problematic issue in the developing nations of the world, Nigeria inclusive (Otubu, 2008). Even though the benefit to guarantee private property is frequently seen by people all through the world. Owusu (2016) stated that various researchers, law masters, and observers have included the dominance of property rights for effective improvement and advancement of the State, that is; the significance of property ownership rights is so much valued and accepted that the freedom of the citizen is

insignificant in the absence of these rights (Bridge, 1973).

According to Decker (2015), property ownership often refers to ultimate residual right that has been left with the property owner after other property rights such as ownership have been given to others. The lawful basis for credit-based financial system essential operation, property ownership enables people to carry out financial dealings by using their property rights while holding ownership and control of their properties. Therefore, there is the need to address the absence of effective property ownership and rights that can prompt various unwanted financial outcomes for example, an absence of real property rights or ownership can prompt under investment, an absence of transferability can hinder the effective operation of the property market particularly land (Galiani, Gertler, Undurraga, Cooper, Martinez and Ross, 2017). Also, there is a need to address societies on insecure property claims or ownership that can hinder land and property being used as collaterals for loan from financial institutions (Holden, Deininger and Ghebru, 2011; Bezabih, Holden and Mannberg, 2016). Thus, the aim of this paper is to identify property ownership challenges and prospects in Ado-Odo/ Ota Local Government Area, Ogun State with a view to guide property owners towards homeownership or property ownership.

1.1 Study Area

Ado-Odo/ Ota Local Government Area, Ogun State is located at about 335 miles (or 538km) southwest of Ogun State. Approximately, Ado-Odo/ Ota local government area occupies a land area of 878 km² and it is described by high terrains toward the north which incline downwards toward the south. The most elevated region in the north-west which ascends more than 300 meters above the ocean level while the lowest level in the south-east ends in a long chain of tidal ponds (Ogun State Regional Plan (OSRP), 2003). The population of the area is 526,565 at the 2006 census. The male population was estimated at 260,021 (49%) and female population was estimated at 266,544 (51%) (Federal Republic of Nigeria, 2007). There is absence of inquiring why the demand for land is increasing. Preceding the time of industrialization and manufacturing activities that Ado-Odo/Ota Local Government Area is known for, agribusiness was the mainstay of the economy, land is a significant product for Ado - Odo/Ota Local Government Area indigene as eighty (80) percent of land in the region are claimed by the indigenes. This is as a result of the wide range of land with few populations compared with different settlements in Nigeria. In many cases, the vast majority of the lands in the area are put forward to be purchased by the indigenes commonly called Omo onile – an informal expression for the offspring of the owner of the land-and this has become a booming economic activity.

Regardless of the huge centralization of industries besides Lagos State, the industrial expansion of Ado-Odo/Ota Local Government Area which gives business opportunities to the growing

population of occupation seekers has led to high population rate and ensuing hike in costs of residential buildings and standard of living. Similarly, the increase in economic activities in the area have brought about quick infrastructural improvement, regarding accessibility of essential infrastructures (pipe borne water, power and good roads). The main problem of the people is the increase in demand for housing which is attended to by the establishment of government housing estates in addition to the housing estates of private developers (George and Osabuohien, 2014). Some of the popular housing estate in Ota Local Government Areas are; Muritala Animasauwn Estate, Afobaje Estate, Ijamido Estate, Irewole Estate, Unity Estate, Oluwalogbon Estate, The living Estate, Abenis Estate, Eleidi Estate, Isokan Estate, Dalemo Estate, Ramoth Estate, Fashogbon Estate, Mission Estate, Canaan City Estate, Ogun State Housing Corporation, Government Reservation Area, Ota. Among all these areas Ogun State Housing Corporation and Government Reservation Areas are public housing estate owned by the government

.

Figure 1.1: Map of Ogun State showing Ado- Odo Local Government Areas.
Source: Ogun State Regional Plan (2003).

2.0 Literature Review

2.1. Property Ownership Prospects

According to Badmus, Yusuf and Ali (2017), a property is a fixed asset that is perpetual to a particular place, this could comprise land or other things constructed means that land is durable and long-lasting. Also, it may constitute things that grow or that are in existence under the surface of the land. As stated by Oyedele (2018), properties can be classified under various land uses, such as residential, industrial, commercial, recreational,

educational even bare land or vacant land, etc. Generally, rights of access to these properties confer so many rights and benefits. For instance, access to land can take the form of use rights, control rights and transfer rights (Ostrom and Hess, 2007; Mcpeak and Little, 2019). The use right includes the right to quiet and valuable satisfaction from the property as well as the right to profit monetarily from the disposition of the property. The control rights refer to the right to eliminate others from intruding on the land. The transfer rights comprise the right put as the land for sale or mortgage or to transfer the use and control rights of land to others through intercommunity allocations and reallocations (Ostrom and Hess, 2007; Mcpeak and Little, 2019). In addition, the formation of the property market and ownership of property stock means that a property can generate capital or rental income, be disposed of in crisis circumstances or staked, gifted, or willed. Properties and land can increase in value over time, and in city regions, the property can be used as collateral to secure loans for further investment. Getting access to land is seen as a vital area of family, community, and national decision - making powers (World Neighbours, 2000).

In addition, property ownership makes provision for shelter in form of housing for the property owners. According to Dovie (2019), housing is a multi-dimensional good that includes physical shelter, the associated services and substructure, and the inputs such as land and funding required to create and sustain it. Housing also provides solutions that facilitate the development of shelter and the environs in which it exists. Also, housing is a multifarious welfare commodity that enhances and facilitates the movement of other welfare commodities and facilities at the family level, causing people to be more or less reliant on the state, market, and household for the preference for other desires. The ownership of physical properties such as land and housing creates social multiplier effects. By apparently increasing owner's wealth and class positioning, they enlarge their marital prospects, political voice, and thus their business opportunities (Blomley, 2003). Also, individual own properties because it is a good investment in the sense that it commands stable or steady income in the form of rental income and capital appreciation. Depending on the location, the property can generate substantial income to pay expenses and raise funds for other purposes for the individual (Daibes, 2017).

According to Alston, Harris and Mueller (2012), land or property can be used as collateral to obtain loan or fund which can be used to meet the property owner's need (for instance; venturing in businesses, construction or alteration of property, etc.).The benefits of owning property offer individuals with long-term monetary security. The stable flow of income generated from the property, bring about monetary gains in the long run (Ivashina and Lerner, 2019). Aside from owning property to enable the productivity of an individual (Hoesli and MacGregor, 2014), economic

empowerment is also gained. Agarwal (1994) states that individual land ownership facilitates the enhancements of their welfare, efficiency, and monetary empowerment and this has been repeated with the aid of studies established by World Bank (2015) and the United Nation Development Programme (UNDP, 2015) also stated that owning land might offer an individual purchasing power within the family, their society and large municipal places.

2.2. Property Ownership Challenges

Despite the various benefits derived from property ownership by different property owners, there also exist some challenges experienced by them as a result of being property owners. These challenges can result in property ownership insecurity, inaccessibility to credit facilities from financial institutions by property owners, etc. As stated by Heinsohn and Steiger (2013), even as premium on ownership forms the claim for interest, it additionally shows the willingness to own property via means of going into new contract regarding loan also consequently the disposition towards investing funds. The premiums on ownership will increase rapidly at some stages of credit crises or financial recession for instance, following an era of 'over-funding' due to an enterprise-extensive revolution phase, which includes uprisings in delivery, energy and info- technology. In-depth recessions involves relocating property ownership at instances which are enabled via momentary country ownership, bail-outs and subsidies that might also turn out to be the way out of the crisis.

In Ado-Odo/Ota Local Government Area , property owners are mainly located within informal settlements and they often lack formal land ownership documents, which weakens security of their tenure and denies them access to credit facilities (Quizon, 2017)). According to Alamanga (2018), properties without proper or formal title will command less value and their owners will have restricted tenure security. In addition, restrictions on land dealings or transactions are mainly ascribed to lack of formality in land titles rather than the existence of devious informal estate agents or unreliable properties sellers. Thus, validation of land titles in the city can therefore be of advantage to property owners, for instance, they will have unrestrictive property ownership and rights.

Gender discrimination is a challenge to land ownership, especially for the female gender. According to Anukriti (2014), female property owners are experiencing gender discrimination primarily compelled by societal views of females as economically less productive due to their restricted participation in direct income-generating activities and of less significant value to parents for the purpose of long-term property acquisition. Other recognized explanations behind this discrimination and denial incorporate biased customary laws, registering land in spouse's name, absence of human rights awareness and absence in implementing human rights laws and strategies. Also land ownership

and inheritance laws were one of the primarily restriction for women (Bayisenge, Höjer and Espling, 2015). Within the customary and Islamic system, women may access land through their husbands (in the case of married women) or their sons (in the case of widows) or their dads (in the case of daughters) but can only exercise usufruct rights. In situations where women are denied their rights to property, especially land, or victimized, it turns out to be traditionally difficult for them to acquire access to bank loans or other types of credit through the financial institutions for survival since they do not have the security which banks require under the lending procedures (Hodges, 2001). In circumstance where they eventually benefit from a credit, a male guarantor is required.

Land as an asset is not been managed efficiently and effectively in the area. One of the reasons for this inefficiencies and ineffectiveness is the extent of integration between land administrative authorities, that is, there is a limited incorporation of procedures and cooperation of agencies in the management of land for housing production (Agunbiade, Rajabifard and Bennett, 2016). This has led to lack or inadequate land management policies procedure establishment which are needed for easy land accessibility and usage of land by property owners. Although acquiring land is guaranteed by the Land Use Act 1978, which specifies that all lands belong to the government, however, majority of the land dealings are carried out in informal markets under customary laws with poor or lack of certification, and documentation, administrative bottlenecks, expensive registering of land and long registration procedures, and inconsistent policy regimes impede the development and dealings within land market in Ado-Odo/Ota Local Government Area (Oluwatayo, Timothy and Ojo, 2019).

Also, fraudulent practices are rampant in the property market dealings and are being committed via off-plan properties sales. Properties sold before finishing point (Completion) are referred to as off-plan properties and they are normally very beneficial because they are put for sale below market values. The notion of purchasing off-plan properties in Ado-Odo/Ota Local Government Area has been fraught with strident practices because most of the sellers of off-plan properties fail to deliver (Gbonegun, 2018). Jacob and Onochie (2019) also view Land Use Act to have failed in its processes because there are still discriminatory practices indulged in the application of the Act that have stemmed from native-settler conflicts. The Act has been undermined by a default through which original landed families continue to apportion and exercise sales of land by backdating purchase receipts to pre- 1978 period (Babalola and Hull, 2019).

It is estimated that there is more than fifty (50) percent of Nigeria's population living in poverty. This is determined either by low income as specified by the World Bank (2012) or by Low Human Development Index as specified by the United Nation Development Programme (Akor, 2015). The implication of this is that

people living in poverty in Ado-Odo/Ota Local Government Area may find it difficult in owning their personal property due to the inability to raise finance to purchase or acquire such property .Carrying out land related matters or dealings by individuals .are very costly in terms of buying and re-selling of property, land acquisition, property development etc.

Furthermore, the problems being encountered by property owners requires the need to have collateral security and certificate of occupancy as required by most financial institutions which often is problematic for property owners in getting finance for property construction and acquisition. There is also the need for proper maintenance and management of the property in order to keep it in good shape and to retain the value of the property so as to continue generating income for the owners. As a result of this, property owners incurred high cost in maintaining and managing their property. (Hillson, Caddick, Cai, Carrasco, Chang, Curach and Gold, 2019).

According to Shetty and Luescher (2016), time is usually one of the major factors in determining the result of land dealings or transaction. The declining financial condition in Ado-Odo/Ota Local Government Area is taking its toll in property ownership therefore leading to a fall in the accessibility of loanable funds for property acquisition or development. Also, due to the long gestation period in property development, most property owners and financial institutions are normally discouraged. (Oshikoya and Durosinmi-Etti, 2019)

Finally in property dealings or transactions, there is always lack of information on the fund amount that takes place, by whom, or the approaches utilised. There also exist absence of physical main point where property dealing or transactions can be conducted, since the property market varied and it is multifaceted, has an intellectual combination of distinct, isolated and uncoordinated funding that usually discourage property owners (Oshikoya and Durosinmi-Etti, 2019).

3.0 Methodology

In the course of writing this paper, secondary data were collected from both published and unpublished journals, articles, reports, maps, and the internet was consulted to acquire more data as regards this study. Data sources are websites, government publications, books, internal records, journal articles, etc. The secondary data used helped in identifying the existing challenges facing land ownership in the study area alongside the possibilities of having secured ownership.

4.0 Conclusion and Recommendations

Property ownership benefits identified include; property owner gain prestige and political power; provides shelter, health, welfare and wealth; good investment as regards to stable income generation; provides long-term monetary security; tax benefits; value appreciation overtime; provides hedge against inflation; confers landlordship and decision making power on the property owner; productivity and economic empowerment and sources

of food security. property ownership challenges identified include; improper or lack of title document that could result to property ownership insecurity and denial to credit facilities; gender discrimination in accessing land or property; inadequate or lack of access to justice; presence of ineffective and inefficient land management system, laws and agencies; land dealings fraudulence and conflicts; poverty or lack of finance; high cost of acquisition and construction of land or property; long gestation period and lack of information. Some of the recommendations to mitigate property ownership challenges includes; government and land policymakers should ensure that laws and management system are efficient and effective, property market should be flexible for easy access to land and information, programmes should be scheduled to guard against gender discrimination as regard property ownership, law officials should ensure court proceedings are less costly and flexible for easy access to justice, acquisition and validation of land title by property owners to guard them against property ownership insecurity, provision of empowerment programmes to empower and to support women in accessing land, job creation and employment to provides adequate job to people to eradicate poverty, financial institution should be more accessible and stringent requirement should be minimise to encourage people towards borrowing loans.

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Evaluating the Prevalence of Illegal Structures Development in Osogbo, Southwest Nigeria

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Abstract: The study was designed to assess construction of illegal structures in Osogbo, Osun State, Nigeria. The specific objectives of the study include assessing the level of awareness of the respondents on national building regulation. The research examined the level of illegal structures in Osogbo and identified strategies to curb the incidence factors that account for the construction. In the methodology, a sample size of 142 was chosen for the study. Questionnaire administration and personal observation were deployed to elicit vital data from the respondents and the professional allies. Data generated from the survey were analyzed using the statistical tools such as descriptive statistics (percentages and frequencies) and the relative importance index. Findings revealed that 42% of the structures in Osogbo metropols was exclusively constructed without official permit or approval from relevant authorities; 58% of the existing structures had illegal modification whilst, illegal additions accounted for 71.7% of the structures. The findings of the survey indicated that institutional, physical, educational and socio-economic factors aided the proliferation of illegal development in the city. Observation further revealed that all the illegal structures in Osogbo were owned by the

educated elites and such structures were either not completely occupied, thus attesting that the educated residents are major violators of building construction regulations. Findings further revealed that, imposition of high penalties on culprits by the local authority, automating of permit acquisition, monitoring and detection of illegal building operations are amongst the measures which could be instituted to address such a problem. The study concluded that there should be regular public education on building regulations. Moreover, there should be public-private partnership in curbing illegal structures and automating Permit acquisition, monitoring and detection of new structures by the authorities concerned.

Keywords: Illegal structure, development, building regulation, prevalence, Osogbo

1.0 Introduction

From the perspective of Town Planning regulation, any additions or alternations to structures without the prior approval of the Planning Authority are regarded as, illegal building works, for examples the illegal (unauthorised) construction of metal cages, air-conditioning cooling towers, canopies, rooftop structures, subdivision of flats, structural alternations and drainage connections. All illegal building works are liable to demolition. Illegal building work usually takes many forms and can range from very minor technical breaches, which cause little or no environmental harm, to absolute environmental law breaches for projects that lack outright approval of government agency.

Mounting of illegal (unapproved) structures within urban space for business purpose has become a major problem in towns, cities and municipalities of most developing countries in the world of which Nigeria is not an exception to this development (Acquah-Harrison, 2004). Weiner (2003) mentioned that, the Nigeria central government at a time ordered the demolition of all illegal structures in the Federal Capital Territory of Abuja, specifically those erected on sewage lines, green areas, and conservation zones for environmental sanity and security. In expanding the argument of illegal siting of structures, Kumar (2012) indicated that in India lands-use planning is highly esteemed therefore, each city marks areas for a particular type of development.

Despite the numerous efforts at both the international and local levels to address this problem, its existence keeps on rising especially within the towns and cities of the developing countries (Adjei-Mensah, 2010; UN-habitat, 2003). Study has shown that illegal structures are frequently constructed on public rights and places reserved for schools, open spaces, nature reserves, parks, roads, market and sanitation sites (Freiku, 2003). Further studies also have revealed the location specific of unapproved structures, many of which are found scattered within agricultural lands. The practice has been described as being frightening by the United Nations habitat. (Ali and Sulaiman, 2006; UN-habitat, 2003). Illegal structures sometimes do not always consented

with the provisions of the national building regulations (Ioannidis, Psaltis and Potsiou, 2007)

Construction of illegal structures is a form of slum which keeps on rising in many developing countries of which Africa nations are parts (Warah, 2003). Accordingly, Weiner (2003) indicated that, it is now common for 30 to 60 percent of an entire city's population to live in structures and neighborhoods that have been developed illegally thus, it is very challenging for governments to furnish such areas, with infrastructure and services essential for health and general well-being. Andoni (2007) argued that, illegal structures pose many serious social, political, economic and environmental implications hence, the need to address it by both governments and civil society. All building works require the building department's prior approval of plans, and consent to commence works (except certain exempted works). Without this approval, building works are illegal and subject to enforcement action by the building department. There are many old privately owned structures that contain 'illegal building works', especially on the external aspects of the structure. Illegal building works can aggravate building deterioration and pose high structural deffects due to fire safety risks; it may also cause hygiene problems and environmental nuisance.

According to Ioannidis et al. (2007), some distinct factors might account for construction of illegal structures in several countries. The import of the study hinges on the premise that the findings will help to curtail the phenomena in other parts of developing nations where this menance is most prevailing. Besides, its captivating tendency for further research into issues relating to management of structure construction in Nigeria is sancrosant. In a nutshell, the research aims to evaluate the prevalence of illegal structures in the city of Osogbo and identifying strategies to curb the inncidence. This is being achieved through four objectives including: assessing the level of illegal structures in Osogbo (the study area); examinining factors influencing construction of illegal structures in the town; assessing the awareness of Structure-owners on the National Building Regulations and to identify strategies that will ameliorate construction of illegal structures.

In a brief outlook, Osogbo, the administrative headquarters of Osun State (Southwest Nigeria), with an area of 47km.sq lies firmly on coordinates 7°46′ North and 4°34′East. The Nigerian population census of 2006 puts the middle ranked city's population at 156, 694 and five years after it assumed the administrative capital city status. Osogbo shares boundary with other middle ranked towns within the same region – including Ikirun, Ilesa, Ede, Egbedore and Iragbiji and is easily accessible from any part of the State because of its central location. Proximity wise, the town is about 48km from Ile-Ife, 32km from Ilesa, 46km from Iwo, 48km from Ikire and 46km from Ila-Orangun. Osogbo is becoming a notable commercial and industrial centre within the Southwest geo-

political region of Nigeria. The town is said to have attained prominent in 1907, when the British Cotton Growing Association sited in the town an industry for growing and ginning of cotton, which soon followed by the building of the first factory of the Nigerian Tobacco Company (NTC) in the town. This was a major turning point for the urban centre which further helped its industrial and commercial growth. Conseuently, the railway tracks were constructed linking the town to other parts of Northern Nigeria.

Fig. 1: Osogbo and Olorunda LGAs within the context of Osun State, Southwest Nigeria.

Source: Osun State Ministry of Lands Physical Planning and Urban Development.

2.0 Literature Review and Theoretical Framework

From time immemorial the issue of land use which often manifest in physical development has been generating hot discussion, and more intensively as urbanization and population of human race continue to surge. Obviously there would not have been exigency for establishing control agencies or standard into any system if every system works in harmony and with no negative implication to the system. It therefore behove that urban physical growth in world developing nations can only meet the global expectation upon it only if the stakeholders know what measures to take to rebirth a working city, devoid of crisis (Simon, 2019). Principally, much of the incidences of poor Physical forms or malfunctions of Nigerian cities structures and their management inefficiency, are results of unabated urbanization impact coupled with many years of absolute neglect by the governments to implement long-term policies that are suitable for both rural and urban areas. The transformation from agricultural age to industrial era in the developed nations was a gradual process but a manageable process with the introduction of certain measures of control to prevent abnormal practices in man activies including housing or shelter provision.

This study in its theoretical review on one hand centres mainly on the perspectives of professional and users of the physical environment and on the other hands beams light on the concepts of urbanization and sustainability. The concept of urbanization from literature perspective is related to specialization, industrialization and economic development. McGranahan and Satterthwaite (2014) have contended empirically that a higher level of urbanization is associated with higher per capita income implying that urbanization is integral to economic growth. The rapid nature of urbanization and the lack of preparedness coupled with inability to invest in basic urban infrastructure and services in the developing countries have created a complex environment for physical development especially in relation to urban governance and its implication for urban environment. Allen (2009) asserted that contemporary process of urbanisation in the developing world is characterised not just by a shift in the locus of poverty – from rural to urban – but more significantly compounded with the 'urbanisation of poverty and social exclusion' that derive from socio-economic, gender and ethnic inequalities. This is what Agbola (2005) referred to as "false urbanization" which is driven by demographic forces rather than economic and industrial forces.

The concept of urban sustainability draws from "true urbanization" rather than "false urbanization". Allen (2009) outlined five urban sustainability dimensions to assess whether any given practice, policy or trend is approaching urban sustainability. These are economic sustainability,

social sustainability, ecological sustainability, physical planning or built environment sustainability and political sustainability. The five dimensions are the five pillars whose interactions determine the effectiveness of urban management. The political component manages the other four to ensure social equity and justice. Unfortunately, in developing countries, robust interaction among the five components is grossly lacking with the resultant effect of the prevalence of unmanaged or illegal developments. Habib (2005) referred to such developments as the survivalist responses of marginalised persons with no alternative. This agrees with the contention of this study that spatial and economic deprivation resulting from unplanned urbanization engenders illegal physical developments in the Nigerian urban space.

Four theories have been identified in literature to have aligned with the study ('informal structures' evolution). They includes the land management theory, the colonial legacy theory, the inadequate economy theory, and the demand and supply disequilibrium theory. Logically, as an economic concept, demand and supply disequilibrium theory establishes a strong relationship of the growth of illegal structures to economic factors. The theory emphasises that the emergence and growth of informal settlements is caused by the imbalance between demand and supply of urban commodities such as land, services and infrastructures. These explanations simply imply that there is no one single theory that can fully explain the emergence and expansion of informal settlements. In view of this, the study adapted the Sietchiping (2004) concept of informal settlement which attribute the growth of illegal structures to a multiplicity of factors such as socio-cultural, socio-economic, physical and institutional factors.

The land management theory is a school of thought that affirms the belief that institutional factors such as inefficiency of urban authorities, poor land management practices, and inadequate urban planning schemes; create informal settlements in urban areas (Fekade, 2000). The United Nations (2007) affirmed that the excessive bureaucractic dealing while issuing land development/ building permits, and corruption of public officials are two institutional factors that have aid ed the evolution of illegal structures. In its related stance, the inadequate economy theory suggests that economic factors in respect to introduction of new economic system plays a vital role in the development of informal settlements.

The fourth and not the least in importance index is colonial legacy theory. The theory relates the expansion of informal settlements to both political and historical factors, especially colonialism, post-colonial practices, and civil or political instabilities. Where these proliferate, no proper development will be attained. The colonial administrators have a divided interest towards the native settlements, always wanted to seggregate themselves from the natives who continued to live in slums and squalors (Debusmann and Arnold,

1996; Global Urban Observatory, 2003). In a nut shell, this study aligns with the opinion that, if all these theories as discussed above could be adopted as a model in the authorized structures in all Nigerian urban areas, the incidence of illegal structures' evolution in the study area (Osogbo, Southwest Nigeria) could easily be controlled to some degrees if not totally abolished.

3.0 Methodology

The study employed the use of both primary source (basically through the engagement of questionnaires and field observations) and secondary source of data collection relevant to the research topic under investigation. These include existing information both in print and in soft especially via the internet. The primary data include information on respondents' socio-economics and demographic characteristics, factors responsible for the construction of illegal structures, the awareness of structure-owners on National building regulations, the level of construction of illegal structures and strategies to curb the incidence of illegal structures phenomenon.

The questionnaires were administered to structure owners in the study area and also to the people working at the four (4) planning agencies in Osogbo; the Federal Ministry of Work, Housing and Power, Osun State Capital Territory Development Authority, and two physical planning area offices in each of the local government area in the study area.

Interview was conducted in the four (4) planning area offices. Interview was granted to the Head of each of the physical planning department whose opinion is critical to the achievement of the study objectives. Both the sampling frame and sample size were derived from the existing two local Government Areas (LGAs) in Osogbo – that is, Osogbo LGA and Olorunda LGA. A total of 276 occupied illegal structures were counted in the 11 selected wards through reconnaissance survey.

For the purpose of this research 50% of the total identified illegal occupied structures were considered for questionnaires administration with the use of random sampling technique. A total of 138 questionnaires were administered using random sampling throughout the 11 areas (wards) selected from 13 areas considered as the domain of illegal structures within the study area as shown in Table 1. Olorunda LGA wards comprise - Ayekale, Ota-efun, Oke-oniti, Koboonigbogboe, Testing ground, Oke-Ado, while Osogbo LGA includes; Oke-Baale, Capital Hotel, Oke–Ijetu, Atelewo, Owodeilesa road (based on the information given by OSCTDA). The areas selected include: Ayekale, Ota-Efun, Oke-Oniti, Koboonigbogboe, Testing ground, Oke-Ado, Oke-Baale, Capital Hotel, Oke –Ijetu, Atelewo, Owodeilesa road.

Table 1: Sampling size for structure owners.

S/n	Name of areas	Population of ea (number of stru	Numl Streets ar	Numb Occupiec struct	Number of Occupied I structu	50% Numb Occupied I structur
	Ayekale	500	1	24	12	12
	Ota- efun	490	1	30	10	15
	Oke- oniti	310	2	33	18	16.5
	Kobonigbogboe	442	2	26	8	13
	Testing ground	312	1	21	8	13
	Okeodo	418	2	20	10	10.5
	Okebaale	527	1	25	15	10
	Capital hotel	620	1	22	12	12.5
	Okeijetu	710	1	20	17	11
	Atelewo	319	2	20	13	10
	Owode-ilesa road.	550	2	35	18	17.5
Total		5,198	21	27	141	138

Furthermore, a prototype questionnaires were administered to the planning agencies in order to elicit information on illegal structures and prevailing development control mechanism in the study area. This research engages observation checklists technique (also known as building inspection form) to help in ascertaining the totality (in presence and extent) of illegal structures during the physical inspection of the structures. Data collected by the checklist includes: characteristic of illegal structures, number of illegal of structures.

The data collected from the field were processed using Statistical Packages for Social Sciences (SPSS). Field generated data were equally analyzed with the help analysis techniques, relative importance index and descriptive statistics (percentages and frequencies). Descriptive statistics aided in analyzing data from the Observation Checklist. Relative Importance Index was employed to rank and assess the level of awareness of structure-owners on the national building regulations.

Relative importance index was employed when assessing structure-owners awareness on the National Building Regulations. The respondents were asked to rate the various statements to indicate the extent to which they agree to the statements on the questionnaire, based on a five-point Likert scale, where 1 represented Strongly Disagree, 2 – Disagree, 3 – Undecided or Uncertain, 4 – Agree; and 5 – Strongly Agree. In the analysis of the extent of their agreement to the various statements, in order to ascertain their level of awareness on the National Building Regulations,

Relative Importance Index (RII) formula was applied as follow.

Where, W: weighting given to each statement by the respondents and ranges from 1 to 5; A- higher response integer (5), and N-total number of respondents.

4.0 Results and Discussions

It is imperative to begin the examination of the major challenges of illegal construction from different perspectives, particularly from the angle of field generated results. It suffices to say that the expectation is high for a State administrative headquarters and urban areas as far as their conformity to decent practices in development is concern. The prescribed planning and development standard for urban centres are far raised higher than with the peri-urbans settlements. One of the expectations is the fact that planning permission (through application) must be obtained prelude to any form of development or change of use. Table 1 clearly shows the summary of three years (2013, 2014 and 2015) of applications submitted to the two local government areas (core metropolis) planning authority. On the whole (in the two LGAs) a total of 1,187 plan applications were submitted for consideration out of which 912 or 77% was approved. The approval performance can be described as good if such they can be reflected in the actual execution. Many approved plans are usually not implemented to the letter as some developers change the plans at execution stage.

Table 2: Evaluation of Plan Applications in Osogbo metropolis -2013 - 2015

	Osogbo LGA			**Olorunda LGA**		
Years	*No of plan submitted*	*Approved*	*Unapproved*	*No of plan submitted*	*Approved*	*Unapproved*
2013	294	232	62	129	90	39
		79%	*21%*		*70%*	*30%*
2014	325	247	78	142	102	40
		76%	*24%*		*72%*	*28%*
2015	209	174	35	88	67	21
		83%	17%		*76%*	*24%*
Total/AvT	**828**/276	**653** /218	**175** /58	**359** /116	**259** /86	**100** /33

Table 2 reveals the gradual reduction in the numbers of plan approval requests in the two local governments, as 2014 tend to have the highest submitted of the three years (2013 -2015). The expectation should be that that a continous rise in request will be maintained. Whereas many factors could be responsible for this – such as low level of effective demand by the potential individual or that such individual have resorted to 'the easy way' of building without proper permission. From the observation checklists technique used and Table 1, a total of 417 illegal structures (both the occupied and unoccupied ones) were identified in

the study area. Majority of the approved plans must have defaulted at executing stage of their projects.

4.1 Socio-Economic and Demographic Characteristics of Respondents

Table 3: Socio-economic Characteristics

Status	Frequency	Percentage
a. Age Distribution characteristic		
Below 30	6	4.3
31-40	46	33.3
41-50	58	42.0
51-60	20	14.5
Above 60	8	5.8
Total	**138**	**100.0**
b. Educational Attainment		
Basic	11	8.0
Secondary	36	26.1
Tertiary	89	64.5
Informal	2	1.4
Total	**138**	**100.0**
c.Monthly Income classification		
Less than ₦20,000	20	13
₦20,001 – ₦40,000	78	63.2
₦40,001 – ₦60,000	25	14.2
Greater than ₦60,000	15	9.7
Total	**138**	**100**
d. Occupation of the Respondents		
Business Owners	59	42.8
Professional/Civil servants	45	32.6
Vocational	24	17.4
Pensoiners	10	7.2
Total	**138**	**100**

Table 3 depicts the relevant socio-economic/demographic variables of the respondents including their educational and occupational statuses. It is a known fact that age is an important variable to consider with respect to ownership of structure, this step out of the fact that a minor may not be knowledgeable to handle building construction. Most of residents and owners of illegal structures are young adults who are in their active working age. Accordingly, respondents were asked to indicate their age. The age of the respondents were categorized in ten year intervals

in order to know the particular age range that contains the majority of respondents. The major respondents' age brackets were the age brackets 41-50 and 31-40 representing 42% and 33.3% respectively. This implies that high percentage of the residents and real owners of the perceived illegal structures are young adults who are in their active working age. More so, the distribution pattern of Table 3 is an attestation that matured persons provided the needed information for this research.

Another important attribute of residents that could influence their perception is their education level. It is a known fact that individuals with high educational status may be more sympathetic to the poor look of their environment more than individuals with low levels of education. It was established from Table 3 that nearly all the respondents covered by the investigation had attended one or more from the basic, secondary and tertiary institutions at 31.0%, 31.6% and 32.3% respectively. Respondents with informal education only accounted for 5.2% of the total. It is obvious that larger percentage of the respondents are educated, which give them better knowledge and awareness about the environmental quality in their area or location. However, contrary to the results of this research indicating that huge percentage of the educated elites are owners of those illegal structures. Table 3 further revealed that 64.5% of the structure-owners had tertiary education; 18.1% secondary; 8.0% basic and only 1.4% had no formal education. This perhaps could be attributed to the effect of Free Basic Education Programme being practiced in Nigeria, which aimed at making everyone attain at least basic education.

As can be viewed in Table 3 (Income variable), the level of monthly income in the study area tends to agree with the reality of the physivcal attributes of the environment in terms of illegal construction. Whereas 63.2% of the respondents (modal class) earn between N20,001 and N30,000, only 9.7% of the respondents earned N60,000 and above. The monthely salary earners of between the minimum wages of N18,000 to N40,000 may often find it difficult to pay off all approval fees tor development and even more to construct a qualitative structure for healthy living. In the nutshell the table revealed that monthly income of the individual in real sense tends to influence their rate of living standard, meaning that the higher the income of an individual, the higher the propensity to build according to the building guidelines. This is because higher income earners can afford to buy or build their houses in a high brown area within the community.

The occupation of a respondent amongst other things, determines a respondent's level of income. The level of income influences a person's ability to build, consequently, becoming a structure owner. A study by Global Development Research Centre (GDRC) (2003, cited in Adjei-Mensah, 2010) revealed that, the occupational status of structure-owners tend to influences construction of illegal structures. Drawing insighs from Melesse (2006) who opined that,

most illegal structures are largely being put up by economically well to do persons in the society.

The occupation variable has different categories such as: 'Businessmen'- referring to those who were self-employed; 'Professional/Civil servants'- refering to those with formal training from recognized tertiary institutions (for instance, Teachers, Nurses, Doctors and the likes); 'Vocational' refers to those who had trainning through the master-apprenticeship means, and lastly, 'Pensioner'. Accordingly, Table 3 summarizes the occupation status of the respondents viz: 42.8% were 'businessman'; 32.6% were 'professional /civil servants'; 17.4% were 'vocational' and 7.2% were 'pensioners'. This implies that those who are self-employed, 'businessmen' have built more structure than the other categories; this might be attributed to the result of better returns from entrepreneurship engagement. The 'professional' often find themselves in the public sector as civil servants. However, large sections of workers in the public sector are not reliably paid thus, explaining the inability of individual concerned to own too many structures. It was, however, not surprising that 42.8% of the structure owners were 'businessmen'. This affirmed Melesse (2006) opinion that, most of illegal structures are largely being put up by economically well to do persons in the society.

4.2 Awareness of Building Permit

Structure-owners demonstrated high level of awareness on building permit in Osogbo. Most of them expressed views that were in line with building regulations, in relation to the various questions that were asked on building permit as shown in Table 4. A clear look at the rating shows a high percentage of the respondents that agreed to the statements from the building regulations; according to ranking level of awareness of building regulations, the variable statement: Official Approval is required for any addition, modification & extention to structures, ranked 1st with RII value of 0.409. Next to it is, 'Every stage of the building requires the Authority's approval before the next scheme.', which ranked 2nd with RII value of 0.407. Ranking 3rd was the variable, 'Town Planning authorities can stop me from development, if I do not possess the required land valid particulars with RII value of 0.400. In the same vein, the statement that: An intended developer must inform the Town Planning Authorities on actual date of commencement ranked 4th with RII value 0.391. Furthermore, the statement that: Since I possess building permit I have the right to erect any structure on the land ranked 5th with a RII value of 0.368. The other statement variables continue to maintain ranks until the very last: 'Any structure executed to the satisfaction of the Planning Authority shall be issued with a certificate of completion for use before one occupancy'. the 9th in ranking with RII value of 0.340. These results from Table 4 indicated that structure-owners in Osogbo had high level of knowledge with respect to building permit. This probably may be due to their high level of literacy as displayed

in Table 3. Statistics also shows that a reasonable percentage of people still contravene planning rule intentionally.

Table 4: Awareness on Building regulations - Building permit

BUILDING PERMIT		***Rating and weighted value***							
No	**Statement(Variable)**	***Strongly disagree*** ***1***	***Disagree*** ***2***	***Undecided*** ***3***	***Agree*** ***4***	***Strongly agree*** ***5***	***ΣW***	***Ri***	***Rank***
1	One must be notified receipt of his/her pern application by 7 days decision on his/her pe application by 3 mont	11	36	22	41	28	453	0.365	6th
2	An intended develope inform the Town Plan Authorities on actual commencement	11	32	14	36	45	486	0.391	4th
3	I have the right to commence the buildir without official appr since I own the land	26	23	27	30	32	433	0.349	8th
4	There is limited durat that my permit can las	13	30	26	43	26	453	0.365	6th
5	Every stage of the bui requires the Authority approval before the ne scheme.	11	12	20	65	30	505	0.407	2nd
6	Any structure execute the satisfaction of the Planning Authority sh issued with a certifica completion for use be one occupancy.	14	46	20	34	24	422	0.34	9th
7	Since I possess buildi permit I have the righ erect any structure on land	24	20	17	43	34	457	0.368	5th

8	Town Planning autho can stop me from development, if I do n possess the required l valid particulars.	13	21	15	48	41	497	0.4	3rd
9	Official Approval is required for any addit modification & extent structures	12	13	20	55	38	508	0.409	1st

4.3 Awareness on Plot Development

The level of awareness of structure-owners on plot development in Osogbo followed similar pattern as the awareness on building permit. Most of the answers that the structure-owners gave were in line with the provisions of the National Building Regulations.

Table 5: Awareness on building regulations-Plot development

BUILDING PERMIT		***Rating and weighted value***							
		Strongly Disagree	**Disagree**	**Undecided**	**Agree**	**Strongly agree**	***ΣW***	***RII***	***Rank***
No	***Statement (Variable)***	***1***	***2***	***3***	***4***	***5***			
1	All sites susceptable to floodin not be built upon without prior provision for flood control.	13	36	17	26	46	470	0.681	4th
2	All buildings erection inside/o drain, culvert, or watercourse, high tension cable or near a se forbiden	8	15	21	43	51	528	0.765	2nd
3	Two metres set back from one building to another must be maintained	8	3	25	50	52	549	0.796	1st
4	It is mandated that the Total fl of the structures stay within 8 the plot total area	8	23	43	39	25	464	0.672	5th
5	It is prohibited for any buildin encroach into sections reserve utility lines enhancement	7	21	20	33	57	526	0.723	3rd

Accordingly, Table 5 gave a summary of the answers given by respondents. The building regulations clearly emphasize that: Two metres set back from one building to another must be maintained, however, this statement ranked 1st with RII value of 0.796.

In addition to this, the statement, All buildings erection inside/over a drain, culvert, or watercourse, under a high tension cable or near a sewer are forbiden ranked 2nd with RII value of 0.765. Furthermore, the statement, It is prohibited for any building to encroach into sections reserved for utility lines enhancement ranked 3rd with RII value of 0.723,whiles the statement, all sites susceptable to flooding must not be built upon without prior provision for flood control .ranked 4th with RII value of 0.681. Accordingly, the statement that, 'It is mandated that the Total floor area of the structures stay within 80% of the plot total area' ranked 5th with RII value of 0.672. The distributions of Table 4 indicated that, the level of awareness of structure-owners about plot development in Osogbo is very low.

Where, n = 138 (number of respondents), A = (5 total number of variables)

More so, the Tables 3 (on respondents' socio-economics characteristics) and 4 variables were considered to have significantly impacted the construction of illegal structures in Osogbo metropolitan area. However, those variables with RII below 0.700 moderately influence construction of illegal structures. In addition to this, it could be concluded that, following the distributions of Tables 4 and 5, the level of awareness on the National building regulations, exhibited by structure-owners in Osogbo was considered far above average. Thus, the finding is inverse to the two studies carried out in Ghanians' cities by Adinyira and Anokye (2013) and Adjei-Mensah (2010). They both affirmed that, construction of illegal structures occurs due to ignorance of people about the national building regulations, rather, the institutional and legal factors are more influencial to the constructions of illegal structures development in their investigations. This often lead to institutional inefficiencies in curbing the menance of illegal construction or dvelopment. It is valid to conclude that non-punitive sanctions against offenders, corruption and contradictory laws amongst others are the major factors of influence in the emergence of illegal structures in the study area. Apparently, it is expedient that planning authorities through tbe instrumentality of development control brace up while proper sanctions should be meted out to offenders to avert this phenomenon.

5.0 Conclusion and Recommendations

Based on the findings and the objectives of the research, the following conclusions were drawn: First, as bureaucracy and corruption have characterized the operations of the planning agencies, specifically the Physical Planning Department and the Works department, thereby leaving most construction in Osogbo without a proper supervision. Furthermore, structure-owners level of awareness on the National building regulations on issues relating to Building permit and Plot development was very low and this had largely contributed to construction of illegal structures. Consequently, curbing construction of

illegal structures may require multiple strategies such as governments' application of high penalties in case of detection of illegal building construction; moreover, there should be public-private partnership in curbing illegal structures and automating Permit acquisition, monitoring and detection of new structures by authorities.

In view of the study's findings the under stated recommendations will go a long way to ameliorating the incidence of the so called 'illegal structures' in Osogbo metropolis and in other urban centres in the region.

First, the State and local governments should enact legislation to make the national building regulation effective or enforceable. Second, planning agencies should organize an educational /enlightenment campaigns in order to educate the populace about the Nigeria building regulations - that the National Building code should be introduced into the school curricular so that it can be offered as a course in different faculties/schools to reduce the level of ignorance. Third, all Illegal structures should be regularized after the non-conforming portions have been demolished in line with the provisions of the National building regulations, as a first step to decongesting Osogbo town.

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