Original Research Article

ASSESSMENT OF BUIDLING COLLAPSE IMPACT ON SOCIO ECONOMIC DEVELOPMENT IN PORT HARCOURT METRPOLIS OF RIVERS STATE.

Abstract: The rate of disorganized building construction in Nigeria especially Port Harcourt Metropolis is to a great degree aggravating building collapse, due to construction inefficiencies, leading to loss of lives and properties. This is resulting in genuine difficulties to building business owners/partners, land lords and users culminating in failure /wastage of cash related endeavors. Each developed building structure has to satisfy the needs of urban residents in meeting the socio-economic goals of prosperity, serviceability and economy. It is against this setting the structural stability of buildings needs to be examined to fix up the inevitable responsibility on a set of city planning officials and building developers for building collapses. In the absence of a rigorous technically approved non corrupt examination of building stability, the entire process of achieving socio-economic growth of urban citizens fails, affecting the overall development of Port Harcourt Metropolis. The examination is coordinated through basic and discretionary data. The basic data was delivered utilizing composed well organized surveys to help the city planners to accomplish the overall success of making Port Harcourt Metropolis, a well developed urban conglomeration. To ensure the planned examination technically efficient and viable, Cronbach's alpha and t-test were used for the examination. The result revealed that five fundamental segments of wisdom based knowledge enhancement planning and administrative factors, if properly implemented, can yield honest, good and critical frameworks for overcoming breakdown or disillusionment of responsible establishments in the state. The factors for poor stability of building structures are: Non-approval of building controls, inadequate learning of advancement materials, Lack of on the site area specific readily implemented technical details, insufficient resources and Construction issues. As per the Millennium/Sustainable Development Goals (MDG/SDG), this examination fills in as a fundamental gadget for approach makers to ensure that development standard is passed as a law in Port Harcourt Metropolis of Rivers state, to avoid repetition of construction inefficiencies.

Keywords: *Building and Sustainable Development Goals, Assessment of building collapse, Port Harcourt Metropolis*

1.0 INTRODUCTION

Occurrences of building breakdown in Nigeria are posing genuine difficulties to every one of the partners in the building business,construction experts, Governments, Developers, Landlords

and Users. Run of the mill cases of fallen structures incorporate crumple of Multi-Story Building in Mokola, Ibadan, Oyo State (1974), working under development at Benjamin Opara Street, Port Harcourt, Rivers State, (2006) and numerous other buildings (Olagunji et al, 2013). On the Night of November, 2012, an incomplete 3 storey building crumpled in a water logged zone of Owerri amid an overwhelming deluge. Low quality Cement was utilized, and fabricating was being administered by a non-scientific expert. On May, fifteenth, a 4 storey building structure under development fell in Agbama Estate in Umuahia. An undisclosed number of squatters were being built under the floors. Examination uncovered that building approval allows at the most 2 stories in the region. On fifth September, 2013, a 4 storey building complex under development, fell at 24 Obanye Street in Onitsha, amid a storm. (Source. Global Journal of Civil Engineering, Vol.3, No.4, pp.41-49, October 2015).

Structures that meet craved execution necessities enhance the national resource stock and improve its Gross Domestic Product. Such structures are supportable since they address the issues of the present, while additionally adding built in area to future needs, (Olagunji et al, 2013). There is just a single contrasting option to maintainability; failing to meet stability expectations of structures, affecting forecast of Nigeria's economy. Many lives and significant quantum of properties have been lost in the different occurrences of buildings` breakdown in Nigeria. These misfortunes have adversely affected the financial status of many individuals directly and indirectly linked with the construction of the collapsed buildings. It is accepted by many , including government officials that lack of strict building norms and area specific building codes are responsible for these misfortunes and time is ripe to strictly implement building construction norms. Since technically approved building norms need to be developed, the present study has been taken up to fix properly the lapses starting from approval of various building permits, followed by area specific technically accepted building norms starting from proper fixation of strong foundation and linking effectively the foundation and the building frame.

This work inspects the contemporary issues in building breakdown and the implementation of apt suggestions for supporting advancement of essential development industry in Nigeria. To do this, the investigation evaluates the state and seriousness of building breakdown in Nigeria. Besides, it surveys the standards of maintainable improvement, as a mid course inspection, in the quality of constructed parts of building under construction. Thirdly, it investigates whether the way to deal with development by industry partners take after the standards of reasonable advancement (Do partners consider the future in their present exercises). Lastly, it proposes how the development business through advancement and supportable practices can upgrade manageable improvement, development and strength of structures.

Many Nigerians were met with the truth of fallen structures, for example, the working under development at Benjamin Opara Street, Port Harcourt, Rivers State, (2006), a 3 storey building crumpled in a water logged zone of Owerri amid an overwhelming deluge, a 4 storey working under development fell in Agbama Estate in Umuahia and other individual structures crumpled with no natural hazard events, for example, quake, tidal wave, and so on and River State is not an

exemption. The inquiry that quickly rings a bell is whether the structures being referred to were appropriately allowed to be worked in a type of endorsed Building Permit? What's more, would they say they were allowed as per the National Building Regulation? Did the Developers go along entirely with the endorsed Building Permit?

Nigerian Institution of Surveyors in a press proclamation amidst Umuahia Disaster expressed: "We find all the time, when a building complex is planned; usually building permit is given for construction of one or two storey building. After completion of ground floor, the builders may sit tight for some time and include another floor for construction, at that point one more and again… " (Nigeria Institution of Surveyors, 2013).In nutshell the building plans are not finalized at one time, leading to lapses in building structure, which culminate in weak foundation and heavy top floors. This imbalance leads to instability and prone to collapse, even when a small deluge weakens the foundation.The weakness for easy money leads to inferior quality construction.The nexus between on the spot supervisor and official who issues building permits hastens the misfortune.At times the business partners residing far away from the building site might not be even aware of all these nefarious transactions.

The NIS proclamation - means that, either engineers create without an endorsed fabricating plan (Building Permit) or they don't agree to whatever has been affirmed in a type of building grant for them. As per Parker (2000), "However there is minimal hard confirmation, a developing assemblage of accounts and concentrates from OECD nations proposes that lacking consistence underlies numerous such disappointments. This is a typical however minimal comprehended type of administrative disappointment". Vandapuije(2012), considered engineers' state of mind of changing over each space accessible including toilets into room for rentals, along these lines adjusting endorsed structures as outlined as dishonorable and must be halted quickly. A few Researchers, for example, Awu (2012) have as of now looked into the securing of building grant in Nigeria and its different difficulties, the Assembly's ability to vet allows before endorsement and so on. The viewpoint that has not been basically considered and which the specialist was keen on was the manner by which entirely the engineers follow their affirmed Building Permit keeping in mind the end goal to guarantee sound working as outlined. A building must be sound and safe if the plan affirmed by the specialists is entirely gone along amidst the development.

In any case, the expanding rate of events of building breakdown calls for genuine concern.:

The objectives of this study are:

- To distinguish the significant reasons for building breakdown in River State
- To assess its impact on wage/business and way of life of the general population of River state.
- To discover the level of consistence with building direction
- To propose answers for handling the issue

2.0 DESCRIPTION OF LOCATION

Study range for this exploration is Port Harcourt Metropolis in Rivers State Nigeria. Port Harcourt Metropolis comprises two neighborhood governments Areas ; Port Harcourt L.G.A and Obio/Akpo L.GA. Port Harcourt L.G.A is prevalently known as PHALGA. PHALGA was made in1912. Its populace estimate is 541,115. Port Harcourt comprises twenty (20) wards with add up to zone scope of 5856.5km and facilitate 4.4927N. Obio/Akpor was made in 1989 with headquarter in Rumuodumaya, It has a populace of 464, 789 with an aggregate region scope of 20107.8km2. It comprises 17 wards. The weights of expanding urbanization and environmental change joined with projections of noteworthy increments in beach front populace on Port Harcourt city require an all-encompassing way to deal with checking the issue of building disappointment or crumple. Below is the guide of River state with the investigation range highlighted.

Fig 1: Map of River State.. (Source: ???)

Natural assets

The state is renowned for its tremendous storage of raw petroleum and flammable gas. It may be the wealthiest and most essential segment of the African zone of the British Empire. Streams State has two noteworthy oil refineries, two noteworthy seaports, air terminals, and different modern homes spread over the land. Over 60% of the nation's yield of unrefined petroleum is

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created in the state. Other normal assets found inside its limits are silica sand, glass sand and mud. The zone of concentrate in this activity is the Greater Port Harcourt city in streams territory of Nigeria, which emerges as a redefinition of the ground breaking strategy of the garden city of Nigeria. It is controlled through an authoritative board known as GPHDA. More prominent Port Harcourt city advancement expert is built up by law in 2009 with an order to encourage the usage of the more prominent Port Harcourt all-inclusive strategy and manufacture the new city. The vision of the expert is to change the more prominent Port Harcourt territory into a world class city, globally perceived for perfection, and the favored goal for financial specialists and visitors.(Ref..?) The goal is to construct a very much arranged city, through the execution and authorization of strategies that will guarantee the arrangement of top notch framework and conveyance of value administrations to improve the way of life and prosperity of the general population. The overseeing body comprises: (1) low maintenance executive (2) Administrator (3) Six other qualified experts – from domain administration, arrive looking over, designing, urban arranging, amount studying, building, law and engineering (4) Representatives of service of equity, arrive/overview, urban advancement, works and condition. (5) Two people speaking to the NGO's and different partners. Extraordinary port Harcourt covers a region of 1,900km2 (40,000 hectare of land spreading over crosswise over 8 nearby governments crosswise over with an anticipated populace of 2 million. The city ,which constitutes the central territory of study will be an expansion of the old port Harcourt city with the goal to consider urban development through vital arranging and decongesting (de-densification) of the old city. Such a development is planned bit by bit by incorporating both urban communities as a solitary unit. Fused in the arrangement likewise is to manufacture a direct city with 24hrs power supply, system of reticulated water supply, system of good streets/lanes, open transportation framework, storm water administration, squander transfer frameworks, observation framework, well laid out private business and modern zones, parks, gardens, and so forth.(Ref..?)
The table I highlights the properties of the 7-neighborhood government regions that make up the city

Table 1: Profile of Greater P. H.

S/No	LGA	Cordinate	Dated Created	Land mass	Capital	Population	Population ratio (M/F)	Density inh/KM^S	wards
1.	Eleme	$5^0$04'60' N $6^0$38'59E	1996	138	Ogale	190,884	51.7%/48.3%	1,6336.6	10
2.	Etche	4.9908^{0}N 7.0134E		809	Okehi	249,454	51.2%/48.2%	368	19
3.	Ikwerre	4.58'N 6.53E	1991	260	isiokpo	189,726	51.6%/48.4%	341.9	13
4.	Obio/ Akpor	4.7422N 7.0837E	3/05/1989	260	Rumuodumaya	464,789	51.7%/48.3%	20107.8	17
5.	Ogu-Bolo	4.6694N 7.20268E	1998	89	Ogu	74,683	51.2%/48.8%	1002.6	12
6.	Oyigbo	4.8735N 7.1237E	1991	248	Afam	122,687	51.7%/48.3%	599	10
7.	PHC	4.4927N 7.21E	1912	109	Phc	541,115	52.1%/47.9%	5856.5	20

Source: NPC, 2006

3.1 MATERIALS AND METHODS

Population and Sample

With the end goal of this examination, the specialist chooses to test information from the distinctive associations that have something to state despite building breakdown In Port Harcourt Metropolis. The building professional data was sampled from professionals such as, Architects, Electrical engineers, Mechanical engineers, Civil engineers , Quantity Surveying personnel and materials manager who ensures quality of building materials. For Medical industry, information was gathered from Nigeria Medical Association and Hospital. Data pertaining to the military, information was sourced from the Nigerian Army, Nigerian Navy, and Nigerian Air Force. For the Para military, information was sourced from Nigerian Police Force, Nigerian Civil Defense Corp and Fire benefit commission. For Business organization, information was examined from Commercial Banks, insurance agencies and Mortgage Banks. For Non-administrative organization, data was sourced from Red cross, World Health Organization and UNICEF. Information for Civil Society was additionally inspected from Tenants, Landlords and wards. This makes our objective achievable within a limited time span. Concurring with the 2006 National Census figure, Port Harcourt city with two (2) Local Governments have an anticipated population of 1 million. In any case, we should not consider the substantial population estimate, and will just concentrate on those that are influenced by building collapse related disasters. The information gathering instrument utilized was poll.

SAMPLING TECHNIQUES

Testing system gives a scope of strategies that empowers the survey conducting group to diminish the measure of information that the group has to gather by considering just information from a sub gathering (known as a specimen), as against all conceivable cases or components (Saunders et al, 2007). The motivation behind taking an example is to acquire an outcome that is illustrative of the entire populace being tested without heading off to the inconvenience of asking everybody. Having distinguished the objective gatherings for the viable direct research, three hundred respondents containing fifty (50) Building Professionals, fifty (50) Medical Professionals, fifty (50)Military, fifty (50) Paramilitary, fifty (50) Business Institutions, fifty (50) NGO's and fifty(50) Civil Society were arbitrarily chosen utilizing stratified arbitrary testing strategy as a sort of likelihood examination. The outline was picked on the grounds that it empowers the specialist to gather information without control of any variable(s) of enthusiasm for the investigation. The plan likewise gives chance to rise to possibility of investment in the investigation for respondents. This method was utilized because of its favorable components. It is easy to use by non-mathematicians to bring out exceptionally illustrative details if all respondents take interest in the information gathering. It is quick on the grounds that no numerical estimations are included, which enable the scientist to consider financial issues that influence information accumulation leading to subjective inferences. Respondents were stratified into different groupings with the end goal as main criteria that information gathered will be illustrative for all partners. The details of the stratification appear in section four.

Three hundred (300) surveys were administered to help the above recorded partners in building industry of the Porthacourt city. Out of the 300 polls that were conveyed, 274 were returned with full details. Out of the 274 returned, 8 were inadequate and 22 were incomplete or blank showing that respondents may have decide not to take an interest in the survey, while 244 were complete with the chosen details. The attributes of the 244 members are included in part four.

TYPES AND SOURCES OF DATA

Both essential and auxiliary information were utilized as a part of accomplishing this examination. Auxiliary information was acquired through different diaries, distributions, books and other pertinent writing. These diaries and as of now existing literary works gave important bits of knowledge into the classes of Critical elements that cause building structural inefficiencies. These details were additionally subjected to trial of speculations. Also, specialists in the building business were reached to guarantee exact information. The essential information was produced from controlling a well-structured and institutionalized poll on the elements that can add to building instability.

TECHNIQUES OF DATA ANALYSIS

Tsun et.al (2008) characterized information examination as those systems with which the examiner separates from the information, data that was not obviously there earlier and which would empower a rundown depiction of the subject concentrated to be made. The information for this venture is created from essential and optional source. The essential wellspring of information for this examination comprises oral meetings and utilization of survey. The auxiliary information was gathered from inspection related writings, books and diaries.

In this examination, the instruments of information investigation utilized include:

Cronbach Alpha (α)

This is a champion among the most surely understood psychometric tests used to survey the inside consistency of the things in the scale or instrument, i.e., how responses to things in the scale or instrument relate to each other. According to Tavakol and Dennick (2011), Alpha was delivered by Lee Cronbach in 1951 to give a measure of inside consistency of a test or scale; it is conveyed as a number in the region of 0 and 1. Internal consistency delineates how much all things in a test measure a comparable thought or construct and subsequently it is related with the interrelatedness of the things inside the test. Inside consistency should be settled before a test can be used for research or examination purposes to ensure authenticity. Additionally, steadfast quality examinations show the measure of estimation screw up in a test. Basically, this comprehension of relentless quality is essentially the association of test. Squaring this relationship and subtraction from 1.00 produces the document of estimation botch. For example if a test has a steady nature of 0.80 there is 0.36 botch contrast (sporadic slip-up) in the scores (0.80 x 0.80 = 0.64; 1.00 - 0.64 = 0.36). As the gage of trustworthiness manufactures, the piece of a test score that is inferable from goof will reduce. The resolute nature of a test reveals the effect estimation botch on the watched score of an understudy partner rather than on an individual understudy. In case the things in a test are related to each other, the estimation of alpha is extended. Regardless, a high coefficient alpha does not by and large mean an abnormal

state of inside consistency. This is by virtue of alpha impacted by the length of the test. In case the test length is too short, the estimation of alpha is reduced. In like manner, to extend alpha, more related things testing a comparative thought should be added to the test. Note that alpha is a property of the scores on a test from a specific case of respondents. Analysts should not rely upon appropriated alpha gages and ought to measure alpha each time the test is overseen. As pointed out recently (**Ref.?**), the amount of test material, its interrelatedness and dimensionality impact the estimation of alpha. There are different reports about the sufficient estimation of alpha, stretching out from 0.70 to 0.95. A low estimation of alpha could be a result of a low number of request, poop interrelatedness between things or heterogeneity. Cronbach alpha (α) can be figured using equation (1) , as outlined by Ritter (2010).

$$\alpha = {}^{n}\!\big/n - 1\left[1 - \left(\frac{\Sigma\,\delta_n^2}{\delta_{total}^2}\right)\right] \tag{1}$$

Where n is the number of items, $\Sigma\,\delta_n^2$ is the sum of the n item score variance, and δ_{total}^2 is the variance of scores on the total measurement. The sum of nth item scores variance is evaluated as shown in equation 2, below and the total variance can be computed using equation 3.

$$\Sigma\,\delta_n^2 = \delta_1^2 + \delta_2^2 + \delta_3^2 + \cdots + \delta_n^2 \tag{2}$$

$$\delta_{total}^2 = \Sigma\,\delta_n^2 + \left[\sum COV_{ij}\,(for\ i < j)\times 2\right] \tag{3}$$

Where COV_{ij} is obtained from the variance /covariance matrix.

Descriptive Analysis

Expressive investigation (otherwise called distinct insights) is utilized to portray the essential elements of the information in an examination. They give straightforward rundowns about the example and the measures. Together with basic designs examination, they frame the premise of essentially every quantitative investigation of information.(**Ref.?**)

Distinct measurements are normally recognized from inferential insights. With graphic insights one is essentially portraying how the information appears. With inferential measurements, an expert is attempting to arrive at conclusions that reach out past the prompt information. The survey group utilizes illustrative insights just to depict what's happening in our information. Illustrative Statistics are utilized to display quantitative depictions in a sensible frame. In an exploration we may have bunches of measures. Or, on the other hand we may gauge an extensive number of individuals on any measure. Graphic measurements help us to streamline a lot of information sensibly. Each clear measurement decreases loads of information into a less complex outline. In our examination, Descriptive investigation is utilized to break down the statistical information gathered from respondents. The sort of distinct insights utilized as a part of this work is the mean score and the straightforward approach.

The basic rate

Basic rate depends on the aggregate number of uniform reactions of each scale instrument partitioned by the aggregate number of uniform reactions of each scale appraisal isolated by the aggregate number of reactions increase by 100**.(Ref.?)**

$$E/_N \ X \ 100$$

Where $E = Uniform\ responses$

$N = Total\ number\ of\ respondents$

Mean Ranking

Mean ranking model is given as**; (Ref.?)**

$$\bar{y} = \frac{\Sigma fy}{\Sigma y}$$

Where f is the number of observation or frequencies

The One Sample t-Test

The one sample t-test model is given **(Ref.?):**

$$T_{cal} = \frac{\bar{y} - \mu_0}{s/_{\sqrt{n}}}$$

Where ȳ is the hypothesized mean

$\mu =$ The mean expected under the null hypothesis

$s =$ Sample standard deviation

$n =$ Sample size

Decision Rule: Reject the null hypotheses if the t-sig is less than

0.05, otherwise we uphold the null hypothesis.

Level of Significant: α = .05.

Note: that the analysis of the data obtained will be done using the Statistical Package for Social Sciences (SPSS version 21). (All these details, equations and techniques have been formulated by earlier researchers.It is essential to give appropriate references to avoid plagiarism)

4.0 RESULTS AND DISCUSSION

4.1.1 Reliability Test

4.1.2   SPSS STATISTICS OUTPUT FOR CRONBACH'S ALPHA

SPSS Statistics produces a wide range of tables. The main essential table is the Reliability Statistics table that gives the genuine incentive to Cronbach's alpha; the measures of Cronbach's alpha were ascertained inside the satisfactory range for unwavering quality as given in Table 2

Table 2: Reliability Statistics

| Cronbach's Alpha	No of Items
.763	29

Source: Researcher's field data, 2017

From Table 2 of reliability statistics, detailed above, we can see that Cronbach's alpha is approximately .76, which indicates a high level of internal consistency for our scale. This value also indicates that there is 0.24 error variance (random error) in the scores. The alpha reliability provided the statistical support for the responses of the respondents and for us to move ahead with the hypothesis testing.

## 4.2 RESPONDENTS' CHARACTERISTICS AND CLASSIFICATION
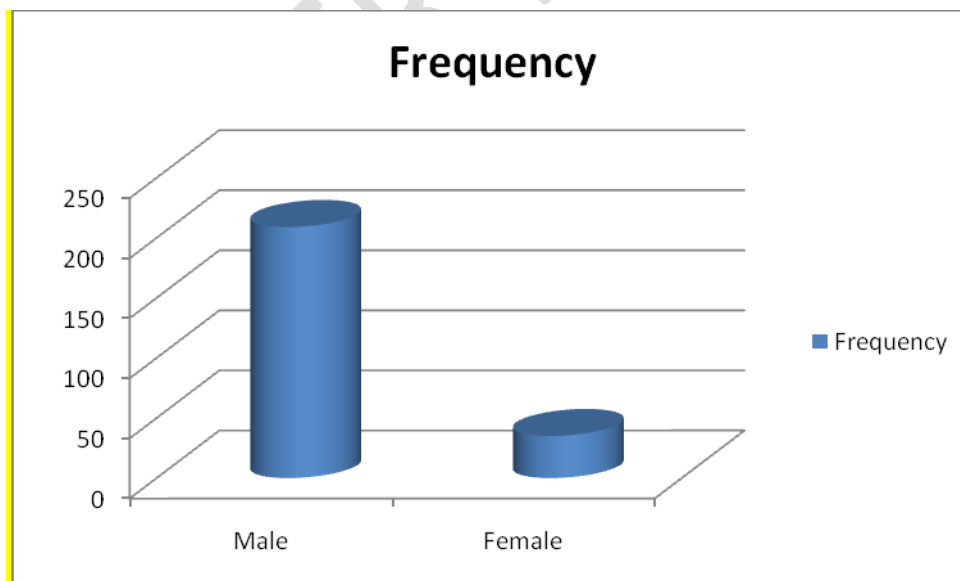
Fig 2 Distribution of the respondents according to sex..(Source:..?)

Fig 2 shows that out of the two hundred and forty four (244) respondents, two hundred and five (205) representing 85.7% are male while only thirty five (35) representing 14.3% are female
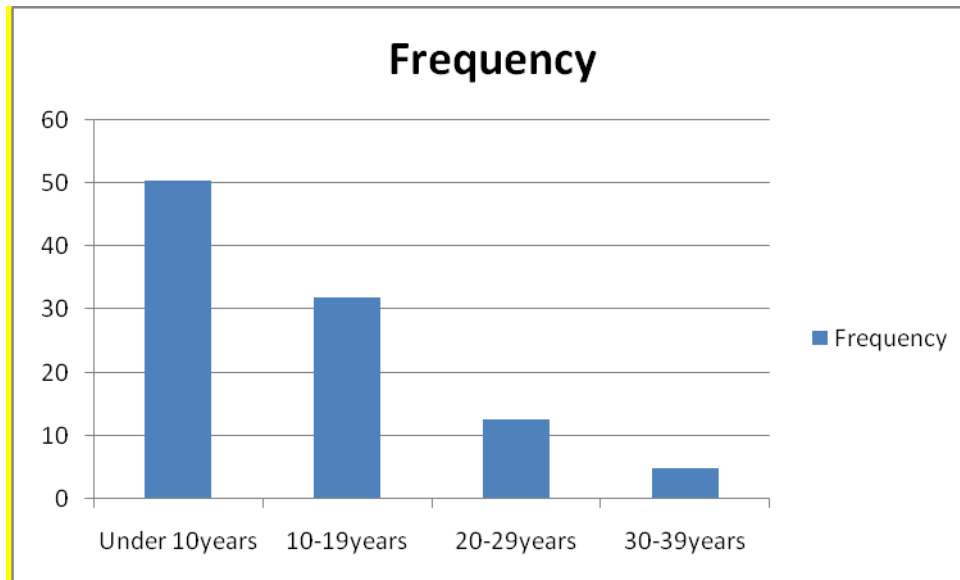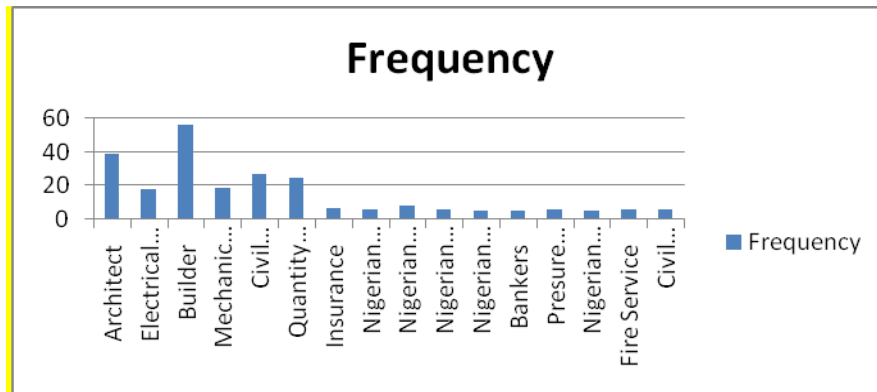

 Fig 3: Distribution of the respondents according to Working Experience..(Source..?)

Fig 3 shows that 50.4% of the respondents have less than 10years working experience, 32% has 10-19years working experience, 12.7% has 20-29years, 4.9% has 30-39years.
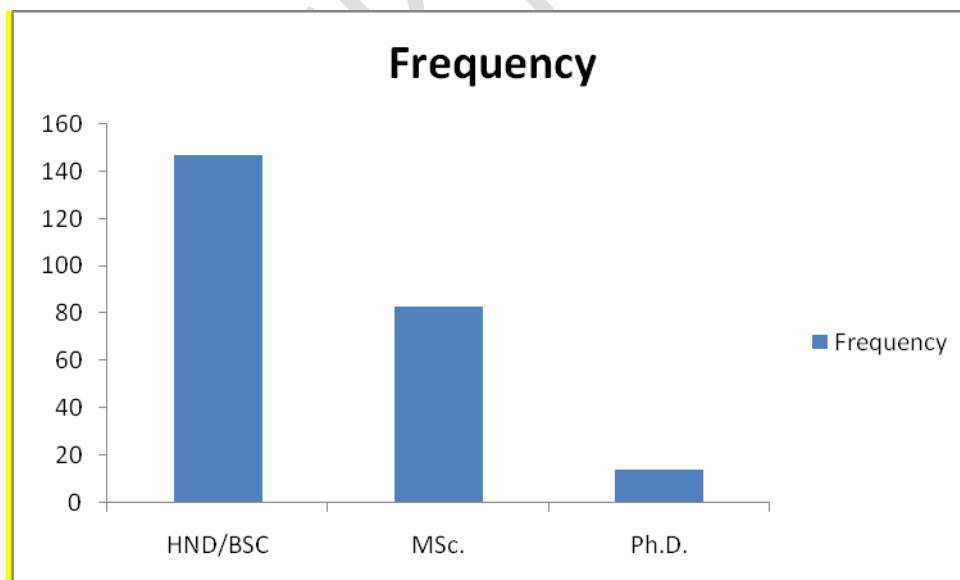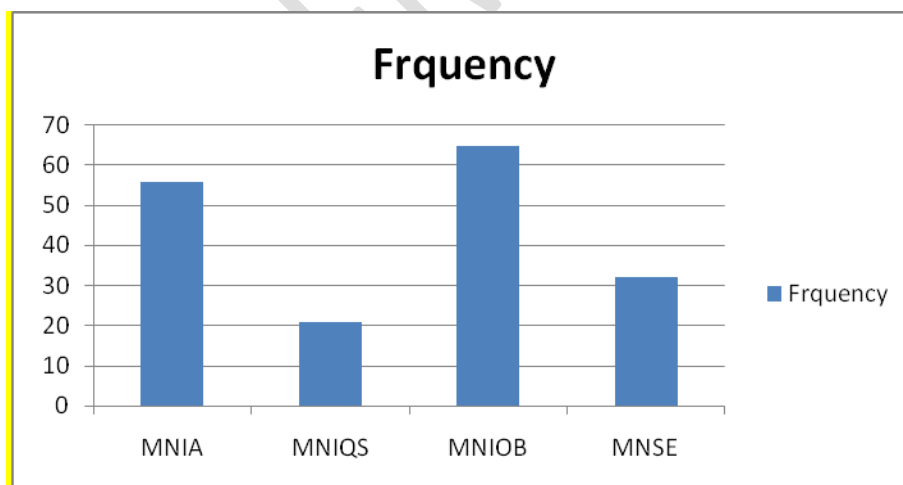

Fig 4 Distribution of the respondents according to Educational Qualification.(Source..?)

From fig 4, we could see that 60.2% of the total respondents are holders of HND/BSc, 34% MSc while only 5.7% are holders of PhD.'\

Fig 5: Distribution of the respondents according to professional qualification.(Source..?)

From fig 5 it could be deduced that 23% of the respondents are Architects, 8.6% are electrical engineers, 26.6% are builders, 13.1% are mechanical engineers, 13.9% are civil engineers, and 14.8% are quantity surveyors. 2.9% are from the insurance companies, 2.5% are from the Nigerian Army, 2.5% are from the Nigerian Navy, 3.3% are from the Nigerian air force, 2% is from the Red Cross, another 2% are bankers, another 2.5% are from pressure group, another 2% are from the Nigerian Police, another 2.5% are from the fire service while another 2.5% are from the Civil Defense Corp.

Fig 6: Distribution of the respondents according to profession Registration

Fig 6 reveals that 23.4% of the respondents are holders of MNIA, 27.5% holds MNIQS, 37.7% holds MNIOB, and 11.5% are holders of MNSE.(abbreviations should be expanded)

Table 3: **Mean ranking of the factors that causes building collapse**

Cause of building collapse	Mean response	Rank
Non enforcement of building code	4.7582	1
Inadequate knowledge of construction material	4.7172	2
Lack of on-site training	4.6844	3
Inadequate funds	4.6803	4
Construction problems	4.6680	5
Poor materials and workmanship	4.6434	6
Engagement of unqualified builders	4.6230	7
Unethical practices of professionals	4.5779	8
Site development errors	4.5738	9
Inadequate soil investigation	4.5369	10
Patronage of quakes	4.5328	11
Design errors	4.5123	12
Inadequate/lack of maintenance	4.4713	13
Unclear specification	4.4139	14
Non possession of approved drawings	4.3852	15
Operator error	4.3566	16

Source: SPSS Computation of Field Survey Data, 2017

From Table 3, it is observed that the prevalent cause of building collapse is Non enforcement of building code, followed by inadequate knowledge of construction material and workmanship, Lack of on-site training and Inadequate fundsy. Other causes include Construction problems, Poor materials and workmanship, Engagement of unqualified builders, Unethical practices of professionals, Site development errors, Inadequate soil investigation, Patronage of quacks, Design errors, Inadequate/lack of maintenance, Unclear specification, non-possession of approved drawings, operator error. This data suggests that the majority of building collapses are traceable to human activity (or inactivity).

4.3.1 Test of Hypotheses:

In order to correctly test the originally formulated hypothesis, the researcher selected an appropriate test statistics, i.e. one sample t-test for analysis of the collected data.

4.3.2 Analysis of Data Using T-test

Decision Rule: Reject H_0 if p-value<0.05, otherwise accept H_0

4.3.2.1 Statement of Hypothesis One:

$H0_1$: Building collapsed has no significant impact on Socio-economic Development in River State.

Table 4: Analysis of Economic and Social Implications of Building Collapse

Economic And Social Implications of Building Collapse	Mean	t-value	p-value	Hypothesis
Loss of human life	4.7213	94.805	.000	True
Loss of materials	4.2869	54.569	.000	True
Loss of capital investments	4.5164	70.850	.000	True
Injury and pain to the body.	4.5738	69.381	.000	True

Source: SPSS Computation of Field Survey Data, 2017

Table 4 shows a test of significance for Economic and Social Implications of Building Collapse; t- value = 94.805, at P= .000 < 0.05 for loss of human life, t-value = 54.569 at P= .000 < 0.05, for Loss of materials, t-value = 70.850, at P= .000 < 0.05. 69.38, at P= .000 < 0.05. All these computed values of t-value exceeded theoretical value of p-value; therefore the null hypothesis will be rejected for these factors while we accept the alternate hypothesis and conclude that Building collapse has significant impact on Socio-economic Development in River State. Further interrogation on the causes of building collapse from other documented sources corroborates these findings. For example, this result is in line with the findings of Tribunal of Enquiry on building collapse, which reiterates that most building collapses have significant impact on the nation's economy.

4.3.2.2 Statement of Hypothesis Two:

$H0_2$: There is no statistically significant difference between the causes of building failure

Table 5: Analysis of Causes of building collapse

Cause of building collapse	Mean response	t-value	p-value	Hypothesis
Non enforcement of building code	4.7582	96.307	.000	Sig
Inadequate knowledge of construction material	4.7172	88.755	.000	Sig
Lack of on-site training	4.6844	81.747	.000	Sig
Inadequate funds	4.6803	86.630	.000	Sig
Construction problems	4.6680	84.696	.000	Sig
Poor materials and workmanship	4.6434	91.716	.000	Sig
Engagement of unqualified builders	4.6230	78.947	.000	Sig
Unethical practices of professionals	4.5779	67.649	.000	Sig
Site development errors	4.5738	73.488	.000	Sig
Inadequate soil investigation	4.5369	68.956	.000	Sig
Patronage of quakes	4.5328	68.093	.000	Sig
Design errors	4.5123	69.357	.000	Sig
Inadequate/lack of maintenance	4.4713	65.441	.000	Sig
Unclear specification	4.4139	63.868	.000	Sig
Non possession of approved drawings	4.3852	59.526	.000	Sig
Operator error	4.3566	62.730	.000	Sig

Source: SPSS Computation of Field Survey Data, 2017

Decision: From table 5, p-value = .000 < .05 for all the factors that Cause building collapse; we therefore reject the null hypothesis and accept the alternative.

Conclusion: Since $H0_1$ is rejected at 5% level of significance, we conclude that there is statistically significant difference between the causes of building failure.

5.0 RECOMMENDATION/ CONCLUSION

If security of life, property and business put resources into lodging, concerned governmental administrative mechanism must ensure that the accompanying three suggestions are freely acknowledged and actualized. To start with, the crumple of structures can't be completely destroyed however can be limited if open feelings can be played down and the press can lay more emphasis on teaching the general population everywhere on the threats of the fall of a building. The general population must alert government on structures suspected to be a hazard to the lives of individuals living inside an area.

Government must be prepared to handle the entangled issue of inferior quality of building construction, disregarded by the people by and large. The best approach to handling the issue of building collapse ought to be multi-pronged, covering the four noteworthy territories: Legislation, implementation, support and help, exposure and government funded training. To accomplish this, legislature must give and keep up a modernized, proficient and easy to understand statutory building control administration to meet the private lodging advancement needs of Nigerians. Likewise, government should concentrate on authorization approach against building issues that are of open worry, to improve building wellbeing. Government long standing target ought to be, to cultivate a building security culture among Nigerians so that all partners included (constructing proprietors, inhabitants, building professionals, temporary workers and laborers) will have the legitimacy to watch building wellbeing. A safe assembled condition must be supported if all members of survey group responsively have their influence in fixing construction norms. Second, government must set out proactive strides by assembling enough political will to permit the Town Planning Authorities play out their capacities freely without fear and outside compulsions. Government must understand that for the oversight bodies to be successful, they must be allowed to be straightforward. Government employees are to be protected from political obstruction in performing their duties freely. Similarly, corrupt officials

should be punished without leniency. Better motivators are to be given free hand, to check the exercises of failing experts; individuals from staff of the Town Planning Authority and individual lodging designers and builders. Law should be enacted to guarantee smoother, less tedious and less troublesome approaches to lead business. Unending court cases over bad conduct ought to be debilitated by the legal means if the present building breakdown is to be turned around into long standing quality structure.

Government officials, the press, individuals from the common administration and the survey group have different roles to play in handling building breakdown in Nigeria. This reality needs to be given due importance by the government, in constituting expert committee to ensure good quality structures. Since building development is a sensitive, refined and complex process, where ability to ensure fast and quality output is hampered, the various stakeholders should interact frequently (with the support of government) and submit their findings to government authorities to entirely set down systems that can bring about a change for good in eradicating building breakdown. Consequently, all concerned people in building development ought to guarantee that they procure sufficient information to comprehend the methods of development to lessen the rate of building breakdown in the nation. Notwithstanding, the general public, a few positive traits can be utilized to encourage the achievement of sustainable building maintainability. When these human traits are considered in conjunction with goals of future building speculators, creators, advancement experts combined with lodging venture motivators, construction laws and development benchmarks can clearly be enacted in a precise manner in not so distant future. Hence, Nigerians can support the slogan-"building that satisfies the factor of safety add to assets stock of the country".

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