

The Impact of Insurance in Improving the Safety of Construction Workers in the Nigerian Construction Industry. A Case Study of Anambra State Nigeria

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Abstract: - The study assesses the role of insurance in ensuring of workers safety in the Nigerian construction industry using Anambra State Nigeria. As a case study. The study adopted survey research approach as its research design. The study was effected through literature review and a well-structured questionnaire. The study was conducted in Anambra State, Nigeria for a period of 6 months. Being a survey research, questionnaire containing information relating to insurance were randomly administered to selected construction professionals (Architects, Builders, Quantity Surveyors and Structural Engineers), insurance companies and contractors in Anambra State, Nigeria. 289 questionnaires were sampled using purposive sampling and simple random sampling technique. Out of these 289 questionnaires that were sampled, only 255 were returned and found useful for the study. The data were analyzed using SPSS version 22 and mean score index and ranked appropriately. The study found out that the awareness of the requirements of the provisions in accordance with section 64 of the National Insurance Act of 2003, which stipulates that buildings of more than two floors are supposed to be insured is still not up to average in the study area, improving of safety through creation of awareness is the leading impact of insurance in the construction industry. Other roles construction insurance plays is that it provides the benefits of protection against diseases and hospital expenses and spreading of risk placing wash stations or hand sanitizers in multiple locations at construction sites. The study further revealed that nonchalant attitude of construction firms towards insurance policies was found to be the leading problems facing construction insurance in Nigeria. This nonchalant attitude is as a result of lack of enforcement of provisions of the insurance Act. The study concluded by recommending that the use of construction insurance should be escalated as a necessary tool in cushioning the effects of accidents in building sites and should be made to be a necessary part of securing approval for buildings above two floors in the Nigerian construction industry.

Key Words: — *Insurance, Safety, Construction, Construction industry, Anambra State.*

I. INTRODUCTION

Shelter is one of man's basic necessities in life and the quest for the provision of adequate housing has led to an increase in the activities of the building construction industry in Nigeria and all over the world. According to Maslow (1943) Shelter is among the basic needs of man and only comes third after air and food. The term "shelter," is often used to define housing

and the mental image of a shelter is of a safe, secure place that provides both privacy and protection from the elements and the extreme temperature of the outside environment (Healthy Housing Reference Manual, (HHRM) 2006). Through construction, these shelters come into existence and serve the purpose of public or private uses for the benefit of mankind. It is therefore imperative to state that as long as mankind walks the earth, construction works will continue, especially in the area of housing provision (HHRM, 2006).

The construction industry which is charged with responsibility of these housing constructions boasts of an infamous characteristic of being hazardous in nature (Ademoriti 1999,

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Samuel, 2014). Consequently, construction workers face many uncertainties as they go about these construction projects. Construction operations do not always take place according to plans, mistakes occur, workers suffer injuries, property is damaged, and acts of God or other mishaps can impede or halt progress on a construction project (Queen and Sathesh, 2018). Most of these accidents are avoidable and the possibilities of its occurrence could be reduced to the barest minimum. One of the ways these accidents and its associated injuries could be reduced is through insurance (Henry, 2000).

A recent visit to the General Hospital and Nnamdi Azikiwe University Teaching Hospital in Onitsha and Nnewi respectively revealed that a lot of patients found in the general ward and most especially the orthopedic section has various categories of injuries ranging from minor to major injuries. Some of these patients claimed to be a construction worker and have sustained the injury in a construction site as a result of an accident while going about their duties in a given construction site. Having stated this, it is apparent that construction accidents and its related injuries must be salvaged quickly since construction activities has come to stay and has been adjudged to last through the days of humanity.

According to Henry (2000) insurance as an important tool of managing construction risks and at such should be escalated as a necessary tool of minimizing construction related accidents. Dickson (1983) defined insurance as a contract by which one party (the insurer), in exchange for consideration (i.e., money or a premium) promises to make payments upon the destruction or injury of something in which the other party (the insured) has an interest. As stated earlier, construction work by nature is hazardous and accidents are frequent and often severe. The annual toll of deaths, bodily injuries and property damage in the construction industry is extremely high. The potential severity of accidents and the frequency with which they occur require that the contractor protect itself with a variety of complex and expensive insurance coverage. Without adequate insurance protection, the contractor would be continuously faced with the possibility of serious or even ruinous financial loss, workers loss and may ultimately delay the duration of the project (David and Andrew, 2005). It is therefore against this background that the study assesses the roles of insurance in the Nigerian construction industry.

II. LITERATURE REVIEW

A. Overview of Insurance

Dada (2010) pointed out that Insurance is a more than requirement needed for any business that is exposed to risk. Insurance cover ranked second in the index of tools for mitigating the effects of risk. Denerberg (1974) defined insurance as the business of transferring risk by means of contract. It is regarded as a contractual arrangement whereby an insurer, in return for a predetermined premium, undertakes to meet the cost of any loss which the policy holder may incur due to some specified uncertainty events occurring during the period of the insurance.

B. History and development of insurance in Nigeria

According to Sade (2007) the insurance business in Nigeria began with the report of the J.C. Obande Commission of 1961, which was followed by other acts and decrees, such as the Insurance Companies Act of 1961, the Insurance Decree of 1976, the Insurance Special Supervisory Fund decree 1989 and other enactments. The National Insurance Commission is responsible for a lot of positive changes for Nigeria regarding insurance.

The J.C. Obande Commission report of 1961 resulted in the establishment of a Nigerian Department of Insurance in the Federal Ministry of Trade, which was later transferred to the Ministry of Finance. The Insurance Companies Act of 1961 classified insurance businesses into various classes for registration and provided forms for record keeping. The Insurance Decree of 1976 provided for the authorization of insurers, modes of operation, organization and transfers, administrative and enforcement guidelines, and penalties.

The National Insurance Commission was established in 1997 with the responsibility of regulating and supervising insurance in Nigeria. The commission has since been the main insurance regulator in Nigeria. The Insurance Special Supervisory Fund decree of 1989 strengthened the Insurance Supervisory Board and included a provision mandating that all insurance companies contribute 1 percent of their gross earnings to the fund. As a result of the insurance decrees and developments since 1961, the insurance industry in Nigeria has been growing steadily. Incomes have increased at a rate of approximately 18 percent per year.

C. National Insurance ACT (2003)

Insurance laws generally:

The National Insurance Act 2003 was promulgated to cover those to whom others might be caused to be injured by other people's actions or inactions. The Act also cross-relates to other laws by which the ordinary Nigerian may be affected as a result

of their occupation or state of health. The other relevant insurance regulations and appropriate laws are:-

- Pension Reform Act 2004 – Group Life Insurance
- National Health Insurance Scheme Act 1999Healthcare
- Professional Liability Insurance

However, the National Insurance Act 2003, the following Insurances are made compulsory directly by appropriate sections of the law:-

- Builders Liability Insurance – Section 64
- Occupiers Liability Insurance – Section 65
- Motor Third Party Liability Insurance – Section 68

All of the insurance products listed above are relevant to the business of any Builder who runs a contracting company and employs more than four (4) persons.

Section 64 of the Insurance Act 2003:

According to Okolie, Ugochukwu and Ezeokoli (2017). Section 64 of the National Insurance Act 2003 – Builders Liability Insurance. Section 64 states;

No person shall cause to be constructed any building of more than two floors without insuring with a registered insurer his liability in respect of construction risks caused by his negligence or the negligence of his servants, agents or consultants which may result in bodily injury or loss of life to or damage to property of any workman on the site or any member of the public.

- The duty to insure under subsection (1) of this section shall arise when a building is under construction.
- A person who contravenes subsection (1) of this section commits an offence and on conviction shall be liable to a fine of N250,000 or imprisonment for three years or both.

D. Types of Construction Insurance

Table.1. summarized the various types of insurance according to various authors.

Table.1. Summary of the various construction insurances available.

Author	Types
Gilmartin (1998)	a. Professional liability b. Commercial general liability

	<ul style="list-style-type: none"> c. Workers’ compensation and employers’ liability d. Builders’ risk e. Construction equipment f. Environmental issues and the contractor’s pollution liability.
Angmor (2016)	<ul style="list-style-type: none"> a. Contract Works Insurance b. Industrial Special Risk (ISR) c. Professional Indemnity (PI) d. Public and Product Liability e. Workers’ Compensation f. Compulsory Third Party Motor Vehicle g. New Insurance Products
Stromberg (2018)	<ul style="list-style-type: none"> a. Builders Risk (Course of Construction) Insurance b. Commercial and Contractor General Liability Insurance c. Commercial Auto Insurance d. Inland Marine Insurance e. Contractor License Bonds f. Construction Bonds g. Workers’ Compensation Insurance
Ahmed and Yahaya (2016)	<ul style="list-style-type: none"> a. Liability insurance b. Loss insurance c. Professional indemnity
Danbako (2009)	<ul style="list-style-type: none"> a. Workmen’s compensation insurance b. Contractor’s Liability Insurance c. Project and Property Insurance d. Owners Liability Insurance e. All-risk builder’s risk insurance f. Umbrella Excess Liability Insurance

Source: Author (2021)

E. The Impact of Insurance in Construction Industry

Ashly and. Kanchana (2014) presented the following as the roles of insurance in the construction industry:

Business Risk:

The success of any business is based on mitigation and controlling risk it encounters. For example, airlines carry an

enormous amount of risk when they fly planes full of passengers each day. The plane itself is very expensive, the passengers can face injury and death in case of a crash, and the baggage could get lost or damaged in the normal course of operations. Airlines carry all these types of risks and they buy insurance policies to manage all this risk. Insurance allows businesses to take necessary risks without fear of huge financial loss.

Safety by Awareness:

Insurance is not just about paying losses that occur but also preventing losses in the first place from occurring. Insurers are better educated and aware of the causes of various losses and they can offer professional assistance for avoiding the most common causes of losses. Insurance companies generally require assessments as part of the process for getting coverage. This helps to bring awareness of the risks you have and help you plan ahead to mitigate those risks.

Insurance companies organize information for policy holders and prospective clients. This information keeps the public informed about their risks and raises awareness of issues.

Economic Stimulation:

The premium is received regularly in installments. Large funds are collected by way of premium. It helps in collecting saving from a large number of persons. The funds can be gainfully employed in industrial development of a country. Generally, insurers are required by state governments to maintain a cash reserve equal to or greater than a certain percentage of their liabilities. While they possess this money, they tend to invest it in a wide range of endeavors, from government securities to short-term and long term bonds to stock markets. They reinvest it in various community projects. The monies provided by the insurance companies fund many things, from new construction to scholarships. Local, state, federal and international economies are all bolstered by insurance companies when they use their pooled capital to fund other projects until it is needed to cover a loss.

Providing Security:

Insurance helps in decreasing the likelihood of financial hardship in case of a disaster or loss. Life as well as businesses today faces lot of uncertainties. There is always a fear of sudden loss. There may be a fire in factory, storm in the sea or loss of life. In all these cases it becomes difficult to bear the loss. Insurance provides a cover against any sudden loss. Life Insurance ensures that your loved ones continue to enjoy a good quality of life against any unforeseen event. If you do not have

insurance and disaster strikes, you can face thousands or even millions of dollars in court, medical and asset replacement / repair costs. Insurance, therefore, protects you from financial loss and creates stability in difficult times. This stability translates to the ability to continue to invest in the economy, which stabilizes the financial situation of the entire country and greatly influences foreign trade relationships.

Planning and Peace of Mind:

Insurance encourages the behavior to plan in advance for life stage needs. Not having insurance sometimes means you have to dip into investments or assets to meet expenses, such as legal bills, medical costs, fire loss, burglary loss etc. In some cases, a lack of insurance you're your dependents at risk -- for example, with no medical insurance, a spouse or child may not get the treatment they need. This creates worry and stress. With insurance, you know that you have a cushion on which you can rely, giving you peace of mind. It helps you and give you an instrument to plan your life goals and ambitions such as buying a new house, getting married, securing your child's future etc. When you take out an insurance policy, you assume responsibility for the financial issues and do not expect other members of society to foot your bills. This personal sense of accountability keeps you independent and reduces the burden you put on others bringing you peace of mind.

Investment:

Lenders do not provide funds and support for individuals and businesses unless they have some evidence that their investment is safe because they do not want to risk financial loss. Insurance shows lenders that they have some guarantee of getting money back in the event of a disaster. This makes it more likely that the lender will invest because they see you as less of a liability. Insurance in such scenarios help you get personal loans or house loans as lenders have an assurance that they will be paid back by the insurance company in case of any misfortune. It also encourages safe & profitable long term Investment as traditional insurance policies are viewed both by the distributors as well as the customers as a long term commitment; these policies help the policyholders meet the dual need of protection and long term wealth creation efficiently.

Spreading Risk:

The basic principal of insurance is to spread risk among a large number of peoples. A large number of persons get the insurance policies and pay premium to the insurer .whenever a loss

occurs, it is compensated out of fund to the insurer. This helps in spreading risk from one individual to society at large.

Health and Wellness:

Given the increasing incidence of lifestyle diseases and escalating medical costs, Insurance provides the benefits of protection against critical diseases and hospitalization expenses. From a business standpoint, providing health insurance to employees is a valuable tool to attract and retain the best employees. It also makes your company more attractive if your coverage is more comprehensive than that of your competitors. It's not unusual for employees to stick with a particular job or employer, because the health care coverage is comprehensive and affordable.

Encourages Savings:

As, some amount of premium needs to be periodically paid against an insurance policy, it leads to compulsive saving behavior. It inculcates the habit of saving among people while planning for a better future. Hence, insurance does not only protect the risks but it provides the investment channel too. Life insurance provides a mode of investment. In case of fixed time policies, the insured gets lump sum amount after the maturity of the policies.

Tax Benefits:

Pre-tax benefits are added advantages to the policyholders. These benefits help them to save a large portion of their tax payment. When the tax-payment gets reduced, their disposable income increases. Insurance policies also helps plan your retirement. Retirement insurance ensures that you or your family members receive a regular pension amount post a retirement date. You have the flexibility to choose the retirement date and the manner in which you receive the pension.

III. METHODOLOGY

This study was carried out in Anambra State, Nigeria, using a survey method. The name Anambra was derived from the Anambra River (Omambala) which flows through the area and is a tributary of the River Niger. Anambra State is a south-eastern state and one of the 36 states of Nigeria. It is bounded by Delta State to the west, Imo State and Rivers State to the south, Enugu State to the east, and Kogi State to the north (see Fig. 1). There are twenty-one (21) local government areas in Anambra State and 4 major urban centres as Onitsha, Nnewi, Awka and Ekwulobia (see Fig 2). Anambra is the eighth-most

populated state in the Federal Republic of Nigeria and the second- most densely populated state in Nigeria after Lagos State ((Ezeokoli, Onyia and Bert-Okonkwor, 2019)). It has an estimated average density of 1,500–2,000 persons per square kilometre and over 60% of its people lives in urban areas. It is one of the most urbanized states in Nigeria (Ezeokoli, Onyia and Bert-Okonkwor, 2019).

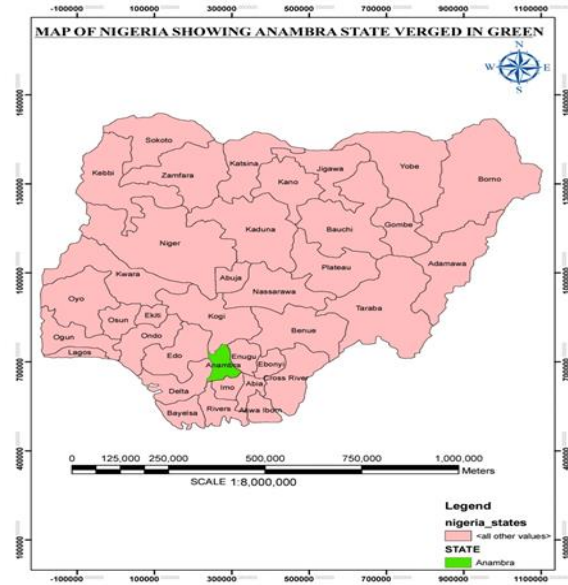


Fig.1. Map of Nigeria, showing Anambra State (study area)
Source: Department of Surveying and Geoinformatics Nnamdi Azikiwe University, Awka, Nigeria (2021)

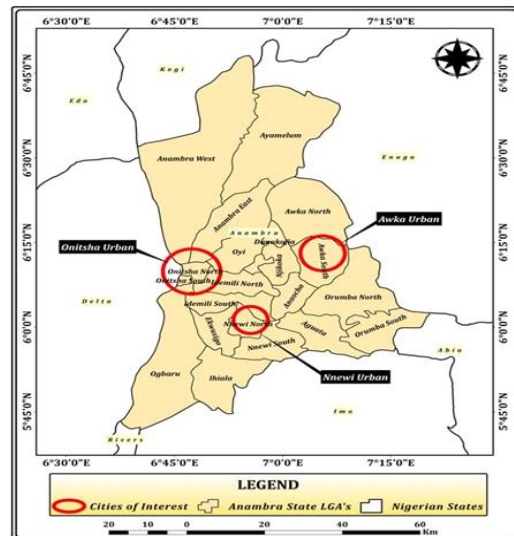


Fig.2. Map of Anambra state showing the study area.
Source: Department of Surveying and Geo-informatics Nnamdi Azikiwe University, Awka, Nigeria (2021)

The target population of this study comprises of building construction professionals, insurance companies and contractors (contractors of ongoing works alone) (see Table 2).

Table.2. Population distribution

s.No.	Target Population	Size
1	Construction professionals	105
2	Insurance companies	53
3	Contractor	131
	Total	289

Source: Author (2021)

The study adopted the whole of the population as the sample size, since they are manageable. Being a survey research, data were collected through structured questionnaire administered to the selected respondents or their representatives. While, tables, mean score were used for data analysis and presentation. Mean score (MS) was computed using:

$$MS = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + n_1}{N}$$

Where: 5...1 are the weightings on the Likert Scale

n= number of responses on a particular scale.

N= Total number of responses

IV. RESULTS AND DISCUSSION

Information regarding questionnaire distribution and percentage response is shown in Table.3. Accordingly, a total of 289 questionnaires were administered and only 255 questionnaires were completed, returned and found useful.

Table.3. Return Rate of Questionnaire

Questionnaire	Frequency	Percentage
No of Questionnaire Received	255	88
No of Questionnaire not Received	34	12
Total	289	100

Source: Researchers field survey (2021)

Table.4. Awareness of respondents of the requirements of the provisions in accordance with section 64 of the National

Insurance Act of 2003, which stipulates that buildings of more than two floors are supposed to be insured.

Option	Frequency	Percentage
Yes	115	45
No	140	55
Total	255	100

Source: Researchers field survey (2021)

From Table.4. It could be seen that the awareness of the requirements of the provisions in accordance with section 64 of the National Insurance Act of 2003, which stipulates that buildings of more than two floors are supposed to be insured is still not up to average. Only 115 representing 45% of the total respondents agreed that they are aware of the provision. On the other hand, 140 representing 55% of the respondents indicated that they are not aware of this law. This automatically raises a reason to be worried as to why the level of awareness of this wonderful Act that promises to add beauty to the practices of the construction industry in Nigeria is yet to be known by the people who are meant to be the front beneficiaries of this Act.

Table.5. The impact of insurance in construction industry

Roles	V	I	UN	N	N	Σ	Σ	Me	Ra
	I	I	D	I	VI	F	Fx	an	nk
Insurance helps improve safety through creation of awareness	20	5	5	0	0	25	12	4.76	1 st
Insurance helps in management of business risk	34	9	100	2	2	25	90	3.56	4 th
Insurance helps in economic	0	0	200	5	0	25	71	2.78	7 th

stimulation									
Insurance encourages the holder to plan in advance for life stage (Planning and peace of mind)	0	0	180	30	45	255	645	2.53	9 th
Insurance provides security (decreasing of financial hardship in case of disaster or loss)	0	0	200	55	0	255	710	2.78	7 th
Insurance encourages investment by showing lenders that they have some guarantee of getting money back in the event of disaster	12	57	170	16	0	255	830	3.25	5 th
Spreading risk	13	74	10	41	0	255	1062	4.16	3 rd
Insurance	19	37	28	0	0	255	1182	4.64	2 nd

provides the benefits of protection against diseases and hospital expenses									
Insurance encourages savings	0	0	255	0	0	255	765	3.00	6 th
Tax benefits	0	0	0	0	25	255	255	1.00	10 th

Source: Researchers field survey (2021)

Table.5. revealed the role of insurance in construction industry, with a mean score of 4.76. Insurance helps to improve safety through creation of awareness came out as the leading role of insurance in the construction industry. However, this role is not being enjoyed in the fullest especially by the workers. Similarly, the result of the table 5 further revealed that the second most important role of the construction insurance is that it provides the benefits of protection against diseases and hospital expenses (4.64). Furthermore, with a mean score of 4.16, the result revealed that spreading of risk ranked 3rd as the most important role of construction insurance.

Table.6. Problems facing construction insurance in Nigeria

Problems	S	A	UN	D	S	Σ	ΣF	Me	Ra
	A		D		D	F	x	an	nk
Nonchalant attitude of construction firms towards insurance policies	25	0	0	0	0	255	1275	5.00	1 st
Lack of enforcement of provisions of the	20	34	21	0	0	255	1199	4.70	2 nd

insurance Act									
Delay in payment of insurance claims	0	0	70	120	65	255	515	2.02	3 rd

Source: Researchers field survey (2021)

All the irregularities in the usage of insurance in the construction industry in the study area were traced to some problems. Table 6 shows that among the problems highlighted in the study, nonchalant attitude of construction firms towards insurance policies with a mean score of 5.00 ranked as the 1st. 2nd in the pecking order of problems facing construction insurance in Nigeria is lack of enforcement of provisions of the insurance Act (4.70). This further generates questions such as who is responsible for this enforcements. And why are they lagging behind in the enforcement of this Act. The last but not the list in the list of problems facing construction insurance in Nigeria is delay in payment of insurance claims.

V. CONCLUSION

Safety in construction is a very critical issues that require the devotion and commitment of all people involved towards preventing accidents from happening and improving the working conditions within construction sites and particularly, the construction workers. The importance attached to the safety of workers on building construction sites can never be overemphasized. This is because they are the majority amongst other stakeholders in the project site and are the manpower required to harness the materials and method together for the purpose of delivering a building project. While the long quest of bringing a total stop to the case of accidents in building site continues, it is important that we find a way to cushion the effects of these accidents when they occur.

Since the National Insurance Act 3003 was promulgated to cover those to whom others might be caused to be injured by other people's actions or inactions, this study calls for a wakeup call among the stakeholders responsible for ensuring safety in sites. This study therefore concludes that insurance is a necessary tool and should be viewed as one especially in the area of safety of construction workers.

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Competing interests:

Authors have declared that no competing interests exist.

REFERENCES

- [1]. Ademoriti 1999, Ahmed D.I. and Yahaya M.I. (2010). Legal consideration and risk management in the building industry. Proceedings of the 40th conferences of the Annual General Conference of Nigerian Institute of Building (NIOB), 7-11th July, 2010, Delta state, 45-60.
- [2]. Angmor C.T. (2016). Selection of contractor insurance option in the Ghanaian construction industry. A Thesis Submitted to the Department of Building Technology, College of Art and Built environment in partial fulfillment of the requirement for the degree of Master of Science.
- [3]. Ashly B. and. Kanchana S. (2014). Role of insurance in construction and Infrastructure projects. International Journal of Civil Engineering and Technology. 5(12), pp. 206-210.
- [4]. Dada O.J. (2010). Strategies for mitigating risk in construction projects. Proceedings the 40th conferences of the Annual General Conference of Nigerian Institute of Building (NIOB), 7-11th July, 2010, Delta state, 28-35.
- [5]. Danbako H.M. (2009). An evaluation of the use of insurance in managing construction risk. Unpublished master's thesis, Department of Quantity Surveying, Ahmadu Bello University, Zaria.
- [6]. David, H. and Andrew, R. (2005). Construction insurance. Financial management in construction contracting. (2nd Ed) Canada.
- [7]. Denerbeg, H.S. (1974). Risk and insurance, Prentice hall, Englewood Cliff, NJ.
- [8]. Dickson, G. C. A. (1983) an experimental study of attitudes towards risk in insurance purchasing, Glasgow College of Technology, Glasgow.
- [9]. Ezeokoli F.O, Onyia C.I. and Bert-Okonkwo C.B.N, (2019). State of Readiness of Nigerian Construction Industry towards Digital Transformation: The Construction Professionals' Perception, Journal of Engineering Research and Reports 4(2): 1-11.
- [10]. Gilmartin, T.F. (1998). Insurance for subsurface projects. In Subsurface Conditions: Risk Management for Design and Construction Management Professionals (D.J. Hatem, Ed.) John Wiley & Sons, New York. pp. 417-44.
- [11]. Healthy Housing Reference Manual (2006). Healthy housing reference manual. Retrieved on 4th June 2019.

- [12].Henry A.O. (2000). An evaluation of the use of insurance in managing construction risks', *Construction Management and Economics*, 18(5), 519-524.
- [13].Maslow, A. (1943). A theory of human motivation. *Psychological Review*, 50, 370-396.
- [14].Okolie K.C. Ugochukwu, S. C. and Ezeokoli, F.O. (2017). Addressing the Building Collapse Problem in Nigeria: Exploring the Builder's Potentials, the Builders' Liability Insurance Option and the Health and Safety Management Plan. *Environmental Review*. 6. 71 - 82.
- [15].Sade J.P. (2007). What Is the History and Development of Insurance in Nigeria? *Reference Magazine*.
- [16].Samuel O.O. (2014). A study of safety management in the Nigerian construction industry. *IOSR of Business and Management (IOSR-JBM)* e-ISSN: 2278-487X, p-ISSN: 2319-7668. 16(3).01-10.
- [17].Stromberg M. (2018). *The Complete Guide to Construction Insurance in 2019*.
- [18].Queen, M.M, and Satheesh, K.S. (2018). A study on insurance in construction industry. *International Research Journal of Engineering and Technology (IRJET)*, 5(4)