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The Effect of Increase in the Cost of Building Materials on Housing Provision

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Abstract

The Structure and Development area is exceptionally pivotal in any country's social and monetary improvement as it is the spine to building advancement in any country and one of the essential variable which makes it practical is building materials which is likewise a reliant component on the expense of obtaining the materials. This paper subsequently analyzes the impacts of building material expense on lodging conveyance in Kwara State. A sum of 50 surveys is regulated in the center region of the city utilizing basic irregular examining procedure. The discoveries from the review shows that a few elements liable for the increasing expense of building materials are government strategy, the present monetary circumstance of the country as well as the demeanor of the structure material venders. The concentrate likewise showed that the increasing expense of the structure materials has high ramifications on reasonable lodging arrangement in the review region, hazard of task deserting because of defer in project finishing, development of unsatisfactory houses as well as expansion in the cost of lease. It was suggested that; the public authority ought to plan strategy that will make light of the fomentations on the utilization of imported building materials by empowering research in the creation of neighborhood building materials,

government ought to have an effect by financing the award of building materials to expand the norm of building involving satisfactory and proficient materials for building and the cost of building materials ought to be checked and essential approach set up to support the development of houses by engineers and this thus will likewise assist them with giving a sensible cost for lease to occupants.

Keywords: Building Material, Housing Provision, High Price, Adequate Material, Developer

Introduction

Scientists in building area have shown that between 50 to 60 percent of the complete development input goes into building materials. Subsequently, there is a dire need to address the significant expense of these items which is said to have dialed back the development of the structure and development area in Nigeria. Building materials comprise the biggest single contribution to lodging development. While Adedeji (2010) saw that around sixty (60) percent of the complete lodging use goes for the acquisition of building materials, Arayela (2005) asserted that the expense of building materials comprise around 65% of the development cost. Ogunsemi (2010) believed that building materials structure the fundamental factors that confines the inventory of lodging and found out that they represent between 50-60 percent of the expense of structures. Accordingly, Adedeji (2002) appropriately saw that one primary hindrance to the acknowledgment of viable lodging in Nigeria as uncovered in progressive government endeavors has been the expense of lodging in the country. However, as a result of colonization, contact with the outside world through interregional and international professional training in other countries altered tastes and, as a result, house forms. These progressions delivered the lacking nearby structure materials deficient while there was an expanded interest for colorful ones. Appropriately, Arayela (2002) set that the cutting edge building industry lays a lot of accentuation on complex structure materials and strategies that are costly and energy consuming. Even though the prohibitive costs of building materials have clearly hampered housing delivery efforts, this issue cannot be adequately and consistently resolved by merely utilizing locally available materials without taking into account the applicable

initiative, the cost of processing, and the sustainability of the local materials. One of the main parts of as u stainable structure is the material productivity. Right determination of building materials can be performed by considering their total life expectancy and by picking items with the negligible ecological effects. For example, González and Navarro (2006) assessed that the determination of building materials with low ecological effects can decrease carbon dioxide (CO2) outflows by up to 30%. Since a building and its components have a closed life cycle, the use of renewable and recycled resources is widely encouraged (Chwieduk, 2003).

STATEMENT OF THE PROBLEM

Building materials have been assuming a significant part in the development business, they are materials assembled in raising or developing designs, no field of designing is possible without their utilization (Akanni, 2006;Udosen&Akanni, 2010). The expense of building materials represents a critical danger to both the development business and individuals trying to claim houses (Anosike, 2009; Mekson, 2008; Mohammed, 2008;Njoku, 2007); for instance, a sack of concrete, which is esteemed at N1,350.00 in 2006, goes as high as N1,850.00 in 2009(Anosike, 2009) portraying around 37% addition; the pack goes as high as N2,000.00 in 2015 during top season (field review 2015) the sack goes as high as N4000.00 in 2022. Supporting this view, Jagboro and Owoeye(2004) prior laid out that expansion in the costs of building materials has multiplier impacts on lodging improvement while Idoro and Jolaiya (2010) avowed that many tasks were not finished on time because of the expense of materials, which have been on the increment. According to the United Nations Centre for Human Settlement [UNCHS], high prices of building materials are a significant obstacle to improving housing conditions in Nigeria, in addition to their timely completion.

Despite the past examinations on the expense of building materials in Nigeria, little is pitched about the ramifications of the ascent in cost on the development business; most writing (Jagboro and Owoeye, 2004; 2008 Mekson; Njoku, 2007; Oladipo and Oni (2012)) have concentrated on determining the causes without giving much thought to the repercussions; thus, the examination looks to give data on the impact of cost of building materials on lodging advancement in Nigeria.

AIM OF THE STUDY

To examine the effect of high cost of building materials.

OBJECTIVES OF THE STUDY

The following are the objectives of this study:

i. To examine the effect of building materials cost on housing development in Kwara State.
ii. To determine the factors responsible for high cost of building materials in Kwara State.
iii. To proffer solutions that will reduce the cost of building material to ensure adequate housing development in Kwara State.

LITERATURE REVIEW

CONCEPT OF BUILDING MATERIALS

Shyllon (2004), Saw that building materials can be arranged into three (3) primary gatherings. Materials for construction that are either conventionally innovative or modern. The customary structure materials incorporate late ritual, bamboo cover, which are created with simple innovation in limited scope and are portrayed by bad quality execution. The bad quality presentation might have prompted the advancement of customary structure materials which incorporate concrete, blocks, bar, steel, glass and layered material sheets, which are described by cost, shortage, and high import inputs. The third category, which he describes as innovative, is comprised of efforts to combine research and development to improve alternatives to import-based materials in order to improve both conventional and traditional building materials. Aliyu, Kasim, and Martin, (2011) recognized that advancement of neighborhood building materials could determine the majority of Nigeria's asylum issues Brian (2015), kept up with that the expense is somewhat excessively high contrasted with the unified country supported 25%. This issue as per Opara (2003), territories from spiraling expense of building materials and expressed that it is very evident that the structure development area is reset by serious challenges because of the liberation in the economy. Opara (2003) further declared that, strengthening of innovative work of privately obtained constructing materials will go far in tackling this issue of spiraling expense of building materials. In addition, building materials have undergone significant change over the past two decades, and the Nigerian economy has shifted more toward capitalism. Olatunji (2010), concurred that, there is sign of a flooding wave of expansion in agreement costs of development projects executed or being executed everywhere, what might have been distinguished as being liable for the vertical patterns in the

expense of development. Abiola (2000), recognized that it very well may be credited to government strategy, expansion and planned variable. The assembled country worldwide report on human settlement proposed that in the following two to four years there will be accessibility of building materials in Nigeria. As of now, a great deal of unrefined components for development is tracked down in Nigeria (Hussein, 1998), a few states where building materials are created are recorded in the past.

STATE THAT PRODUCE BUILDING MATERIALS

STATE	BUILDING	TONE/YEAR
Gombe	Cement	4,900
Kaduna	Zinc	47,000
Bauchi	Gravel	35,000
Lagos	Zinc	45,000
Calabar	Timber	15,000

Source: Matalkah, Alomari, & Soroushian, (2022).

Later on, we can expect that some of materials for building can be tracked down in other state for simple advantage of everyday person. The elements that inflates cost of building materials is portrayed into four (4) bunches request and supply, geological and socio-political district (Cao, Dai, and Liu, 2016).Demand is exposed to extensive change which can have serious repercussion on the usage of assets. Second, if there is a lot of demand for building materials, road and geographical settlement will reduce the supply, which will raise the cost of materials. Closeness to the structure materials fabricating industry.

COMPONENTS OF PROPERTY DEVELOPMENT

BUILDING MATERIALS

This is characterized by the penguin word reference of working as materials of which building components are made for instance concrete, sand lumber. Building materials are the single biggest contribution to the development business which represent more than half of the complete worth of development yield (Grmela, 2020). Cement, timber, roofing sheet, gravels, steel rods, and other building materials are used in the industry. The overall interest for materials, for example, concrete, steel and material sheet and so on, have increment considerably during the beyond quite a long while. Indeed, even

before the annihilation of Tropical storms Katrina, Rita and Wilma, cost of development had been altogether dominating the general pace of expansion. The following building materials have increased in recent years: Structural steel is up 66%, dry wall is up 26%, Reedy mix is up 10%, and concrete block is up 8%.

LABOUR

Although a single item may contain multiple labours, labour is typically a separate item in a bill. It comprise the second biggest single part of assets, input expected by the development business (Jarkas, 2015). The business required and uses a blend of work. Unskilled workers like labourers, masons, plumbers, and carpenters are examples of the various levels of labor utilized in construction; Proficient model Planners, Manufacturers, Amount Assessors, Structural specialists and supervisors model project workers.

CONSTRUCTION COST

This alludes to the general expense of the task from the origin to the finishing of such undertaking. It incorporates cost of work; this alludes to the use on the workers either talented or untalented for doing the work (Munano, 2014). Cost of work has radically expanded; a worker who procures N900/day in 1998, N1200/day in 2005 and N2000/day in 2010 is as of now procuring N3000/day. This area of the economy utilizes unfamiliar firms to a more noteworthy expand and area represent the significant income of the country. For example, in Lagos state, unfamiliar organization take 95% of the market, leaving a wretched 5% to native organizations.

FACTORS AFFECTING COST OF BUILDING MATERIALS

The construction industry had been heavily dependent on building materials. They were all normally happening in the old times, for instance, stone, wood, straws, earth, lime, and block (Lucas, and Harris, 2012). Simple composite materials that were combined through mixing and/or heat treatment were developed as building techniques improved. According to Akanni, Oke, and Omotilewa (2014), one of the factors that influences the cost of building materials in the Nigerian construction industry is government fiscal policies. However, other studies' findings: Stanley, Ogbuagu, and Okechukwu (2014). reasoned that variables like the adjustment of government arrangements and regulations; lack of construction materials;

Overdependence on imported building materials; Lacking and wasteful infrastructural offices (streets and rail framework, and so on.); Deficiency of privately produced assembling materials; Absence of educated specialized mastery; change in the expense of fuel and power supply; corruption; vacillation in the expense of plant and work; occasional changes; variance in the expense of transportation and dispersion; political meddling; nearby expenses and charges; vacillation on cost of unrefined substances; Absence of money for new structure material creation plants; Expansions in the work expenses of creation of building materials; over the contract prices for the building material production; variance in the loan fees and the expense of money; expansion and vacillation in the conversion scale of Naira, were a large number of the recipes for the increasing expense of building materials in Nigeria.

EFFECTS OF RISING IN THE COST OF BUILDING MATERIAL ON PROPERTY DEVELOPMENT

The overall course at which costs of building materials are expanding in Nigeria was as the aftereffect of the consolidated impacts of exorbitant loan fees, depreciation of the Naira, expansion, and non-viable conveyance organization of the materials (Oladipo and Oni, 2012). As per Akanni, Oke, and Omotilewa (2014),the Nigerian Government abridged exercises in concrete business when it restricted the importation of Portland concrete in the country somewhere in the range of 2003 and 2007. However, Ibrahim (2014) observed that an increase in the cost of building materials has multiplier effects on the sector, resulting in changes in construction costs and project abandonment. Different impacts of increasing expense of materials are finishing to the detriment of different undertakings, postpone underway of venture works, other significant tasks not being charged, pace of work of development laborers, unfortunate workmanship because of the utilization of bad quality nearby materials, and restrained advancements in development techniques were distinguished by Hwang, and Tan (2012), as the potential impacts of the increasing expense.

FLUCTUATION IN CONSTRUCTION COSTS

The client and project contractors had both expressed serious concern regarding the difficulty of maintaining consistent cost projections on construction projects. Azhar, Farooqui, and Ahmed (2008) saw that the essential explanation of cost overwhelms is that most workers for hire provide cost estimates in view of their projected evaluations;

tragically, the costs change so rapidly that the underlying financial plan figures become totally ridiculous. Awoyemi, Aje, and Olanipekun (2014) found that one of the most serious issues in the Nigerian construction industry is project cost overrun, which results in projects being completed at a higher cost than originally estimated. They concluded that this led to issues with project abandonment in the majority of cases

QUALITY OF WORKMANSHIP IS AFFECTED

As per Alabi, and Fapohunda(2021),one of the signs of a created development industry is in the result of value structures and designs. The nature of workmanship in development work is evaluated by the prerequisite of the applicable norm, and imprints are granted on the off chance that the workmanship conforms to the norm. The investigation of Ashworth, and Perera (2015), which detailed the pattern in the expense of building materials, has visualized extraordinary risk for the development business and the country's economy in that there were occasions of contentions between structures workers for hire and their clients over vertical survey in agreement aggregates, and trying to deflect such struggles and stay in the business, a few workers for hire depended on the utilization of unacceptable or deficient materials for development projects, which had added to instances of building breakdown in the country.

RISK OF PROJECT ABANDONMENT

Relinquishment of ventures has turned into a public hazard in Nigeria's infrastructural improvement as most clients are not enough educated about the monetary ramifications regarding the task to be set out on (Gbahabo, and Samuel, 2017). As per these creators, the transcendence of numerous uncompleted and unacceptable structures was associated with the expansion and significant expense of building materials.

VOLUME OF CONSTRUCTION OUTPUT IS AFFECTED

Odediran, Adeyinka, Opatunji, and Morakinyo (2012) state that, in comparison to the construction industry of many developed nations, Nigeria's output is quite low. Harmonious to this affirmation, Ibem, Aduwo, and Onyemaechi, (2017) saw that circumstances emerging from the quick expansion in the expense of building materials

might deteriorate to intense deficiencies of lodging with a great many center and low-pay families being esteemed too highly for house buying all over Nigeria.

RATE OF EMPLOYMENT IS AFFECTED

The improvement industry's workforce is inconceivably unique and integrates different sorts of individuals working inside advancement like incompetent trained professionals, gifted subject matter experts, make, regulatory positions, and administrative Workers. Because of an absence of gifted specialists and experienced chiefs, the development business should focus on recruiting the perfect individuals.

ANALYSIS AND PRESENTATION

This part is focused on at examining the information gathered taking on a basic rate and recurrence show. The show is finished in an even structure for lucidity and simple comprehension.

STATUS OF RESPONDENTS

STATUS	FREQUENCY	PERCENTAGE
Landlord	12	24
Landlady	10	20
Child of landlord	8	16
Relatives of landlord	10	20
Tenants	10	20
Total	50	100

Sources field 2023

The table above shows the status of the respondents sampled. From the table 24% are landlords, 20% are landladies, 16% are Children of Landlords and 10% are relatives of Landlords while 20% are tenants. This shows that a large percent of the population are owners/relatives of house owners who are in the best position to give the necessary details on the subject matter.

BUILDING TYPE

BUILDING TYPE	FREQUENCY	PERCENTAGE
Bungalow	12	24

Storey building	10	20
Family compound	15	30
Duplex	8	16
Total	50	100

Source field 2023

24% of the respondents resides in Bungalow, 20% in storey buildings, 30% lives in family compound while 16% resides in duplex; while implies a multiplicity of various housing types in the area.

BUILDING MATERIALS

MATERIALS	FREQUENCY	PERCENTAGE
Cement block	18	36
Bricks	12	24
Mud block	10	20
Others	10	20
Total	50	100

Source field 2023

The above table shows the building materials used for housing construction in the surveyed buildings. From the above, 36% built their houses with Cement block, 24% built their house with Brick. This shows the durability of the buildings within the study area as they are made with solid materials which can be relied upon.

ROOFING MATERIALS

MATERIAL	FREQUENCY	PERCENTAGE
Corrugated iron sheet	20	40
Aluminum	15	30
Others	15	30
Total	50	100

Source field 2023

The table above denotes that the roofing materials used for construction within the study area are corrugated iron roofing sheet with 40% of the respondents attesting to this, 30% used Aluminum sheet while 30% used other materials.

CEILING MATERIALS

MATERIAL	FREQUENCY	PERCENTAGE
Asbestos	18	36
Cardboard	12	24
Others	20	40
Total	50	100

Sources field 2023

The Table above shows the ceiling materials used for construction in the study area. 36% said asbestos was used for ceiling materials while 40% used other materials such as POP and ceiling board as ceiling materials, and 24% used cardboard as their ceiling material. This therefore shows that asbestos is the predominant ceiling material used in the study area.

WALL FINISHING

WALL FINISHING	FREQUENCY	PERCENTAGE
Plastered	35	70
Not plastered	15	30
Total	50	100

Source field 2023

It can be seen that 70% of the buildings have plastered walls, while 30% of the walls were not plastered. From this it can be seen that the bulk of buildings in the area have plastered walls.

PAINTING MATERIALS

MATERIAL	FREQUENCY	PERCENTAGE
Emulsion paint	12	24
Not painted	18	36
Others	20	40
Total	50	100

Source field 2023

24% of the respondents used Emulsion paints, 36% of the buildings are not painted while 40% used other materials including stickers and wall papers for their walls. It

can be deduced therefore that emulsion painting is the common painting type used in the area.

DOOR TYPES

TYPES	FREQUENCY	PERCENTAGE
Iron door	25	50
Wooden door	10	20
Glass	15	30
Total	50	100

Source field 2023

The table above shows the door types used for construction within the study area. From the table, 50% used iron door, 20% used wooden door while 30% used glass door. This shows that the predominant door material used for door in the area is the wooden door followed by the iron door and then glass doors.

FLOOR MATERIALS

MATERIAL	FREQUENCY	PERCENTAGE
Baked red soil	12	24
Cement screeding	8	16
Terrazzo	5	10
Vinyl tiles	8	16
Ceramic marble tiles	12	24
Others	2	4
Total	50	100

Source field 2023

From the above, 24% of the respondents used baked red soil, 16% which comprised of the majority used cement screeding for the floor. 10% of them used terrazzo tile for the floor, while 16% used vinyl tiles. Those who used ceramic tiles were 24% and those who used other floor materials were 4%. This shows that the predominant floor material used in the area is ceramic tiles and baked red soil.

WINDOW TYPES

TYPES	FREQUENCY	PERCENTAGE
Sliding window	25	50
Louvers	20	40
Batten window	5	10
Total	50	100

Source field 2023

From the table above, 50% of the respondents uses sliding window, 10% used louvers while 40% used batten window. It can be seen therefore that louvers and sliding window are the commonly used window material in the area

TOILET FACILITIES

TYPES	FREQUENCY	PERCENTAGE
W.C in built	16	32
W.C detached	14	28
Pit toilet	20	40
Total	50	100

Source field 2023

From the table above, 30% of the respondents have W.C in built in them while 28% have W.C detached and 40% have pit toilets. This shows that the pit toilets system of toilet is predominant in the area.

FACTORS RESPONSIBLE FOR HIGH COST OF BUILDING MATERIALS

FACTORS	FREQUENCY	PERCENTAGE
Government policy	10	20
Present economy	10	20
Cost of manufacturing material	12	24
Building material sellers	10	20
Others	8	16
Total	50	100

Source field 2023

This table shows the factors responsible for high cost of building materials in the study area, from which 20% of them said it is as a result of government policies, 20% said

it is as a result of the present economy, 24% said it is due to the cost of manufacturing, while 20% said it is caused by the materials sellers and 16% said it is as a result of other factors ranging from transportation, importation dues and others. It can therefore be said that various factors contribute to the high cost of building materials in the area.

EFFECTS OF THE HIGH COST OF BUILDING MATERIALS ON HOUSING DEVELOPMENT

EFFECTS	FREQUENCY	PERCENTAGE
Substandard building	15	30
Building collapse	10	20
Delay in completion of building	10	20
Others	20	40
Total	50	100

Source field 2023

The table above shows the effects of building materials cost on housing development in the study area, 30% said the effect leads to substandard building, 20% said it leads to building collapse, 20% said it leads to delay in the completion of building while 40% said it leads to other effects including an hike in the price of rent paid by tenants at the long run.

HYPOTHESIS TESTING

H_O: Cost of building materials does not affect housing development in Kwara State.

H_A: Cost of building materials does affect housing development in Kwara State.

Level of significance: 0.05

Decision rule: reject the null hypothesis if the p-value is less than the level of significance or but accept the null hypothesis if otherwise.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.108E6	528693.835		-2.096	.056
	RESPONDENT	-.012	.021	-.176	-.589	.566
	BUILDING MATERIALS	13247.436	3738.716	1.056	3.543	.004
a. Dependent Variable: GROSS DOMESTIC PRODUCT						

CONCLUSIONS BASED ON THE ANOVA TABLE ABOVE.

Since the p-value (0.004) is less than the level of significance (0.05), we reject the null the hypothesis and accept the alternative therefore concluding that housing sector has contributed to the economic growth of Nigeria.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.899[a]	.808	.779	73285.1815

a. Predictors: (Constant), BUILDING MATERIALS, EMPLOYMENT

The multiple correlation coefficient R= 0.808 indicates a strong relationship between employment level and housing sector price index in Nigeria. See table 2 above.

SUMMARY OF FINDINGS

Based on the findings from the study,

i. it was understood that fluctuation in the cost of construction is a huge influence caused by increase in the cost of building materials on the delivery of affordable housing in Kwara State.
ii. The findings also revealed high maintenance cost due to poor workmanship and an increase in the cost of repair due to inferior materials used as other huge influences caused by the increase in the cost of building materials on housing delivery in Kwara State.
iii. The value of professionals that is often ignored in the conception of affordable housing development project design effect in construction .

RECOMMENDATIONS

The following are the recommendations given

i. Government should formulate policy that will play down the agitations on the use of imported building materials by encouraging research in the production of local building materials.
ii. Government should make an impact by subsidizing the prize of building materials in order to increase the standard of building using adequate and efficient materials for building.
iii. The price of building materials should be checked and necessary policy put in place so as to encourage the construction of houses by developers and this in turn will also help them give a reasonable price for rent to tenants.

iv. There should be uniform prices and this can be achieved when government create a relevant body to help checkmate the activities of building material sellers.

v. Government should encourage the production of goods locally.

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