

Full-Length Research Paper

Environmental Effects of Abandoned Building Projects in Edo State, Nigeria

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ABSTRACT: This study examined the environmental effect of abandoned building project in Edo state, Nigeria. Four research questions were raised and answered in this study. Descriptive research design was used while the sample size consists of 62 building stakeholder (quantity surveyors, engineers, architects, and builders) selected from five major cities across the three senatorial district of Edo state. A purposive sampling technique was used in the selection of the sample size for the study. The research instrument was a structured questionnaire tagged "the Effect of an Abandoned Building Project Questionnaire". The reliability test of the instrument was also carried out using the internal consistency reliability method. The tests yielded reliability coefficients of values of 0.67, 0.77, 0.76, and 0.80 for sections A, B, C and D of the instrument respectively, indicating that the instrument was quite reliable for the study. Questionnaires were given out to quantity Surveyors, Engineers, Architects, and Builders who have worked for at least five years in Edo state. Data collected were analyzed using descriptive statistics. The findings of the study show that environmental effects of abandoned building projects in Edo State include increased rate of uncontrolled and unsupervised garbage disposal while social effects of abandoned building projects include threat to community security. Health-related effects of abandoned building project are increased health challenges and rapid spread of diseases. Economic effects of abandoned building projects can lead to reduction in revenue from property tax, wastage of financial and material resources by the owner, loss of economic value for the building area, decrease in property values in the immediate neighborhood, reduction of employment opportunities among others. Based on the findings it was recommended among others that the government should put in place policies to help reduce the rate of abandonment of building projects.

Keywords: Abandon building, Edo State, environment, Nigeria

INTRODUCTION

The contributions of the construction and building industries to the growth and development of any nation are enormous and unquantifiable. This is because it plays a key role in the socio-economic improvement of countries globally. However, the building industry in Nigeria, particularly that of Edo State, is being plagued with several challenges, the most central being abandoned building projects across the towns and cities in the state. The term abandoned building project can be defined in various ways. It may be defined as the act of discontinuing any activities on a development project

within a time frame of the contract agreement and with no intention of returning back to the development. Olalusi and Otunola, (2012) defined abandoned building project as an abandoned construction project which is uncompleted within a time frame of a contract.

Iruobe (2003) defined abandoned building projects as consisting of projects temporarily stopped but to be continued at a later date. The author also defined abandoned building projects as those whose construction has come to an abrupt end, never to commence again. Nubi, (2008) in the same vein, defined abandoned

buildings as projects that are not completed within or later than the delivery date stated in the sale and purchase agreement or any other contract document showing the execution of the work and no significant activity is noticed at the construction site for six continuous months or more. Atamewan (2021) enunciated that abandoned building projects are components of failed projects that have not been completed to enable their expected users to get complete satisfaction. Hence, an abandoned building project, according to Hanachor (2012), is any building project in which the construction work is incomplete and suspended. An abandoned building project means any building project that is unusable, uninhabitable, non-functional, and uncompleted.

Several researchers have examined various causes of abandoned building projects and found that building projects are being abandoned due to a lack of adequate funding, noting that the commencement and completion of any project is determined by the level of funding available. Incompetent project managers and wrong estimates; bad designs and bad timing (poor estimation of project duration; poorly developed clients' briefs; unrealistic cost planning and control at the design stage; unrealistic cost planning and control at the design stage; lack of organised work programme planning and lack of stakeholder involvement, among other things, are causes of abandoned building projects. Whatever the cause, an abandoned building project produces different effects on the environment in which it is located. Doraisam et al. (2014) stated that when a project is abandoned, there are definite negative effects that comes along with it.

Generally, abandoned projects, according to Olusegun and Alabi (2011), have several negative effects that can be categorized into economic, environmental, health-related, and social effects. Amoatey et al. (2015) identified the effects of delays in construction projects failure in Ghana as cost overrun, time overrun, litigation, lack of continuity by client and arbitration. Ayodele and Alabi (2011) identified wasted resources and loss of tax revenue by the government and other stakeholders associated with such projects as the main effects of developmental construction projects abandonment in Nigeria. Similarly, Ngacho and Das (2014) evaluated the performance of construction projects in Kenya and identified economic and social effects as the main effects on the general populace –though, they did not identify the specific economic and social effects. Thus, in this paper, a concerted effort was made to identify the economic, environmental, health-related, and social effects of abandoned building projects in Edo state.

Statement of the problem

As a result of the multiple types of designs by architects, there are now many different types of houses, and these

houses not only serve the fundamental goal of shelter but also include modern facilities. To meet modern building needs, several types of materials, plants, and equipment are manufactured. There are also experts skilled in their particular disciplines, such as architects, builders, quantity surveyors, engineers, and others, who are responsible for the correct execution of a project. There are expert and unskilled labourers who make a significant contribution to the completion of a project. All of these factors have influenced the building sector as a result of civilization and technical growth. Clients, professionals, skilled labour, unskilled labour, and suppliers of various building materials are among those who work in this area. As a result, the construction industry is one of the world's largest. Despite this, abandoned building projects continue to be a big problem in the construction sector, with research showing that once a project is abandoned, it has definite negative effects. Studies have also demonstrated that abandoned projects have a variety of consequences, ranging from environmental to social, health, and economic. This research, however, failed to pinpoint the exact environmental, social, health-related, and economic effects. Furthermore, no studies have evaluated the effects of abandoned building projects, notably in Edo State, to the best of the researchers' knowledge, particularly from existing literature. As a result, a deliberate attempt was made in this paper to identify the unique environmental, social, health-related, and economic effects of abandoned building projects in Edo state.

Purpose of the study

The purpose of this study was to examine the effects of abandoned building project in Edo state, Nigeria. The paper specifically examines the:

1. environmental effects of abandoned building project in Edo state
2. social effect of abandoned building project in Edo state
3. health-related effect of abandoned building project in Edo state
4. economic effects of abandoned building project in Edo state

Significance of the study

- The study will help building stakeholders to:
- (i) know that once a building is abandoned, it can lead to negative effects in the environment;
 - (ii) identify the various effects of abandoned building projects.

Research questions

The following research questions guided the study.

1. What are the environmental effects of abandoned building project in Edo state?
2. What are the social effect of abandoned building project in Edo state?
3. What are the health-related effect of abandoned building project in Edo state?
4. What are the economic effects of abandoned building project in Edo state?

METHODOLOGY

The research design adopted for this study is a descriptive survey research design. This design involves the systematic collection of data from a target population using a structured questionnaire. The design also allows the use of a questionnaire to gathered data for the study. The estimated population of this study is 2000 building stakeholders in Edo state. The sample for this study consists of 62 building stakeholders from five major cities across the three senatorial district of Edo state. These stakeholders include quantity surveyors, engineers, architects, and builders. The sample size of 62 respondents was determined using the statistical table of Yamane, (1967). The sample was drawn from the population of the study. A purposive sampling technique was used in the selection of the sample size for the study. Purposive sampling involves identifying and selecting individuals or groups that are knowledgeable about or experienced in the matter of interest (Creswell and Clark, 2011).

The research instrument was a structured questionnaire tagged "the Effect of an Abandoned Building Project Questionnaire". The questionnaire consists of four sections, A-D. Section A gathered data on the economic effects of abandoned building projects; Section B gathered data on the environmental effects of abandoned building projects; Section C gathered data on the social effects of abandoned building projects; and Section D gathered data on the health-related effects of abandoned building projects. Each section consists of ten items, making a total of 40 items in the entire questionnaire. In each section of the questionnaire, the respondents were asked to indicate their opinion on a four-point scale of "Strongly Agree" (4), "Agree" (3), "Disagree" (2), and "Strongly Disagree" (1). The instrument was validated by an expert in building technology from the technical education department, Delta State University, Abraka. The reliability test of the instrument was also carried out using the internal consistency reliability method. Using the method, 25 copies of the questionnaire were administered to twenty-

five (25) people, including engineers, architects, and builders in Delta state. The data obtained was collated and the reliability of the instrument was computed using Cronbach Alpha. The tests yielded reliability coefficients of values of 0.67, 0.77, 0.76, and 0.802 for sections A, B, and C, respectively, indicating that the instrument was quite reliable for the study. Questionnaires were given out to quantity surveyors, engineers, architects, and builders who have worked for at least five years in the Edo state. Data collected were analyzed using descriptive statistics. Research questions raised in this study were answered using statistical means and a mean benchmark of 2.50 was used due to the fact that the items are on a four-point scale.

RESULTS

Research question one

What are the environmental effects of abandoned building project in Edo state?

Table 1 clearly highlights the mean of responses to the environmental effects of abandoned building projects in Edo State. Table 1 shows that items like the creation of uncontrolled and unsupervised garbage disposal, the encouragement of population marginalization, visual defects at the project site, an increase in negative environmental issues in the built environment, a reduction in the aesthetics of the neighborhood, blighted neighborhood, and poor landscaping of the environment have a mean higher than the bench mark mean of 2.50. This implies that the environmental effects of abandoned building projects in Edo State include things like the creation of uncontrolled and unsupervised garbage disposal, the encouragement of population marginalization, visual defects at the project site, an increase in negative environmental issues in the built environment, a reduction in the aesthetics of the neighborhood, blighted neighbourhood.

Research question two

What are the social effects of abandoned building project in Edo state?

Table 2 clearly highlights the mean of responses to the social effects of abandoned building projects in Edo State. Table 2 shows that items like the threaten to community security, harboring of hoodlums, increased in societal menace and becoming hotspot for rapists, Hotspot for drug abuse, Temporary store for stolen goods, increased in fear of robbery among citizens,

Table 1: Mean and Standard Deviation (SD) on the environmental effects of abandoned building projects in Edo State

Environmental Effects of Abandoned Building Project	Mean	SD
Creation of uncontrolled and unsupervised garbage disposal.	2.8000	1.10729
Encouragement of marginalization of the population	2.8541	1.08111
Visual defects at the surrounding/project site.	2.9676	1.16518
Increased the negative environmental issues on the built environment.	3.2432	.90905
Reduction in the aesthetics of the neighborhood.	2.7622	1.09727
blighted neighborhoods	2.8054	1.15860
Poor landscaping of the environment	3.0216	1.02659
Poor landscaping of the environment	3.1568	.94540

Table 2: Mean and Standard Deviation (SD) on the social effects of abandoned building projects in Edo State.

The Social Effect of Abandoned Building Project in Edo State	Mean	SD
threaten to community security	3.0919	.90721
Harboring of hoodlums.	3.1514	.82673
Increased in societal menace and becoming hotspot for rapists.	2.5405	1.09828
Hotspot for drug abuse	3.0108	.94403
Temporary store for stolen goods.	2.6351	1.04054
Increased in fear of robbery among citizens.	2.3946	1.04828
Social vices are experienced by the entire neighbourhood where there is an abandoned building project.	2.9027	1.17086
Slums are rampant in abandoned building project environments.	3.2432	.90905

Social vices are experienced by the entire neighbourhood where there is an abandoned building project, Slums are rampant in abandoned building project environments a mean higher than the bench mark mean of 2.50. This implies that the environmental effects of abandoned building projects in Edo State include things like threaten to community security, harboring of hoodlums, increased in societal menace and becoming hotspot for rapists, hotspot for drug abuse, temporary store for stolen goods, increased in fear of robbery among citizens, social vices are experienced by the entire neighbourhood where there is an abandoned building project, slums are rampant in abandoned building project environments.

Research question three

What are the health-related effects of abandoned building project in Edo state?

Table 3 clearly highlights the mean of responses to the social effects of abandoned building projects in Edo State. Table 3 shows that items like increased health challenges, Rapid spread of disease vector, hiding places for reptiles and other dangerous animals, potential source of accident, encourages young people to use drugs has a mean higher than the bench mark mean of 2.50.

therefore be concluded that that health-related effects of abandoned building project in Edo state are Increased health challenges, Rapid spread of disease vector, hiding places for reptiles and other dangerous animals, potential source of accident and encourages young people to use drugs.

Research question four

What are the economic effects of abandoned building project in Edo state?

Table 4 clearly highlights the mean of responses to the economic effects of abandoned building projects in Edo State. Table 4 shows that items like reduction in revenue from property tax, conflict between the public administration and the private sector, wastage of financial and material resources by the owner, loss of economic value for the building area, decrease in property values in the immediate vicinity or neighborhood, reduction of employment opportunities, low turn-up of foreign investors due to a total loss of trust in the professional competence of local contractors, loss of strength of structural member of the building and reduction in client ability to repay back the bank loans has a mean higher than the bench mark mean of 2.50. It can therefore be

Table 3: Mean and Standard Deviation (SD) on the health-related effects of abandoned building projects in Edo State

The Health-Related Effect of Abandoned Building Project in Edo State	Mean	SD
Increased health challenges.	2.7622	1.09727
Rapid spread of disease vector	2.8054	1.15860
Hiding places for reptiles and other dangerous animals.	3.0216	1.02659
potential source of accident	3.1568	.94540
Encourages young people to use drugs.	3.1514	.82673

Table 4: Mean and Standard Deviation (SD) on the economic effects of abandoned building projects in Edo State

The Economic Effects of Abandoned Building Project in Edo State	Mean	SD
Reduction in revenue from property tax.	3.0000	1.09842
Conflict between the public administration and the private sector.	2.8000	1.10729
Wastage of financial and material resources by the owner.	2.8541	1.08111
Loss of economic value for the building area.	2.9676	1.16518
Decrease in property values in the immediate vicinity or neighborhood	3.2432	.90905
Reduction of employment opportunities.	2.9568	.81978
Low turn-up of foreign investors due to a total loss of trust in the professional competence of local contractors.	3.0595	.86711
Loss of strength of structural members (steel corrosion and concrete deterioration).	2.5189	1.04305
Reduction in client ability to repay back the bank loans,	2.8541	1.08111

concluded that the economic effects of abandoned building projects in Edo State are like reduction in revenue from property tax, conflict between the public administration and the private sector, wastage of financial and material resources by the owner, loss of economic value for the building area, decrease in property values in the immediate vicinity or neighborhood, reduction of employment opportunities, low turn-up of foreign investors due to a total loss of trust in the professional competence of local contractors, loss of strength of structural member of the building and reduction in client ability to repay back the bank loans.

DISCUSSION

One of the findings of this research show that the environmental effects of abandoned building projects in Edo State include things like the creation of uncontrolled and unsupervised garbage disposal, the encouragement of population marginalization, visual defects at the project site, an increase in negative environmental issues in the built environment, a reduction in the aesthetics of the neighborhood and blighted neighbourhood. This finding aligns with Lambertz, (2016) who stated that whenever building project is abandoned it stand odd thereby reflecting poor aesthetic look which is an eye sore. The finding also agrees with Akindele, (2013) who revealed that Abandoned building projects create a negative impact on the environment.

Another finding in this paper revealed that the social effects of abandoned building projects in Edo state include things like threaten to community security, harboring of hoodlums, increased in societal menace and becoming hotspot for rapists, hotspot for drug abuse, temporary store for stolen goods, increased in fear of robbery among citizens, social vices are experienced by the entire neighbourhood where there is an abandoned building project and slums are rampant in abandoned building project environments. This finding aligns with Nwanekezie and Nwanguma (2019) who revealed that abandoned buildings reduce the aesthetics of the neighborhoods, thereby leading to blighted areas. The findings also align with Garvin et al. (2013) who revealed that abandoned building project increase crime rate.

The study also discovered that abandoned building projects in Edo state have significant health difficulties, rapid spread of disease vectors, hiding places for reptiles and other dangerous animals, possible source of accidents, and encourages young people to consume drugs. This finding agrees with Umeh (2019) who stated abandoned building projects increases health challenges in the building environment as most of such building. The finding also corroborated by the study of Taiwo et al. (2015) which revealed that abandoned building harbor wild animals, stray animals, as well as reptiles which often attack nearby residents in the dark. The findings also align with Allia, (2016), who revealed that abandoned building project increase crime, increase risk of public health and welfare but he however added that

abandoned building increased costs for municipal governance, causes death of many people through fire outbreak.

The study further revealed that the economic effects of abandoned building projects in Edo State are like reduction in revenue from property tax, conflict between the public administration and the private sector, wastage of financial and material resources by the owner, loss of economic value for the building area, decrease in property values in the immediate vicinity or neighborhood, reduction of employment opportunities, low turn-up of foreign investors due to a total loss of trust in the professional competence of local contractors, loss of strength of structural member of the building and reduction in client ability to repay back the bank loans. This finding agrees with that of Mac-Barango (2017) which revealed that abandoned projects bring about wastage of resources, reduction in employment opportunities, a decrease in the tempo of construction activities and a decrease in revenue accruable to the government.

Conclusion

In line with the findings of this study, it is therefore concluded that abandoned building projects have a variety of consequences, ranging from environmental to social, health-related, and economic. It can also be concluded that environmental effects of abandoned building projects in Edo State include increase rate of uncontrolled and unsupervised garbage disposal, the encouragement of population marginalization, visual defects at the project site, an increase in negative environmental issues, reduction in the aesthetics of the neighborhood and blighted neighbourhood. It can also be the social effects of abandoned building projects in Edo state include things like threaten to community security, harboring of hoodlums, increased in societal menace and becoming hotspot for rapists, hotspot for drug abuse, temporary store for stolen goods, increased in fear of robbery among citizens, social vices are experienced by the entire neighbourhood where there is an abandoned building project and slums are rampant in abandoned building project environments. It can also be concluded that that health-related effects of abandoned building project in Edo state are Increased health challenges, Rapid spread of disease vector, hiding places for reptiles and other dangerous animals, potential source of accident and encourages young people to use drugs. It could also be concluded that that the economic effects of abandoned building projects in Edo State are like reduction in revenue from property tax, conflict between the public administration and the private sector, wastage of financial and material resources by the owner, loss of economic value for the building area, decrease in

property values in the immediate vicinity or neighborhood, reduction of employment opportunities, low turn-up of foreign investors due to a total loss of trust in the professional competence of local contractors, loss of strength of structural member of the building and reduction in client ability to repay back the bank loans.

Recommendations

1. The government should put in place policy to help to reduce the rate abandonment of building project.
2. Commercial banks should be encouraging to ensure availability of loan at reduced interest rates to developers for rapid completion of building projects.
3. The state government as a matter of urgency, should mandate the owners of those abandoned building projects to make sure they always clear the bushes inside and outside the abandoned buildings.
4. Owners of abandoned building project should endeavor to often monitor the activities going on inside their abandoned buildings and report to the law enforcement agencies for prompt action.
5. The law enforcement agents in their area of jurisdiction should identify and monitor these abandoned buildings whether there are bushes and the type of activities going on there and call the attention of the owner and if the owner fails to do something.

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