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**A Critical Analysis of Completed Abandoned Construction Projects in Ghana**

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doi: 10.51505/ijaemr.2023.8307

URL: <http://dx.doi.org/10.51505/ijaemr.2023.8307>

**Abstract**

The paper presents findings from a study of abandoned infrastructure projects and provides recommendations to lessen the adverse effects of infrastructural sustainability in Ghana. The study adopted a mixed-method approach, using face-to-face interviews, and a questionnaire survey. Responses were received from selected government officials, consultants, and end-users involved in selecting and approving government projects in the Metropolitan, Municipal, and District Assemblies (M.M.D.A.s) of the 16 regions of Ghana. Qualitative data gathered from an interview of 45 candidates were transcribed and coded with Atlas ti eight and line-by-line content analysis. Whilst, quantitative data from questionnaires completed by 320 respondents were analysed by the researcher with the aid of Mann-Whitney U-test in Statistical Package for Social Sciences (S.P.S.S.) to evaluate the magnitude of the impacts of completed project abandonment in Ghana. Findings indicate that completed project abandonment exists in Ghana, and its economic, social, and environmental implications are considerable on the long-term sustainability of infrastructure development and the country's overall economic growth. Infrastructural sustainability was found to be equally contingent on the initial stages of project preparation. The study draws readers' attention to the critical role of project selection and approval criteria. The study identified critical impacts of project selection and approval process and the construction industry's long-term sustainability.

**Keywords:** Exploratory Analysis, Critical Impacts, Completed project abandoned, Construction Projects, Ghana

**1. Introduction**

Like many Sub-Saharan African countries, Ghana needs infrastructure development to fulfil its core mandate in all public sectors. These include providing educational facilities, hospitals, roads, portable drinking water, housing, sanitation, and many others for the citizens (Lundin et al., 2015; Damoah and Akwei, 2017). Foster and Garmendia (2010) noted that Africa requires \$93 billion for infrastructure development yearly to close the infrastructure deficit gap. Research has shown that Ghana alone needs 1.7 million housing units to e the housing deficit gap, which

could be increased to 2.0 million units in 2020 (Daily Graphic, 2018). Research has shown that the desperate need to acquire and develop infrastructure to address the deficit gap by governments, especially the government of Ghana, has led to inappropriate infrastructure development, which is often not needed. In addition, such infrastructure developed simply as status symbols without any benefits to the society and therefore provides little or no innovation to ensure infrastructure sustainability (Foster and Garmendia, 2010; Mold, 2012). Infrastructure projects which consume a lot of resources end up not benefiting the communities for which they were intended. The commitment of resources by the government to these projects is a concern to all stakeholders. (Market al., 2014; Wells, 2015). As a result of these impediments in the building industry, many infrastructure projects are abandoned either in their initial stages of development or at their completion stage. These have led to environmental hazards and a sharp decrease in the socio-economic growth of many countries worldwide.

Infrastructure sustainability is a significant concern to all project stakeholders at different stages of economic growth, social development, and environmental protection. Since several public infrastructure projects fail to meet their intended purpose as they are abandoned even after completion (Market al., 2014; Wells, 2015). In this regard, the sustainability of infrastructure projects is being questioned (Ahmad, 2016; Monnappa, 2020) due to project abandonment and their impact on the environment, economic growth, and social development (Doraisamy et al., 2015; Akhanolu et al., 2016; Atamenwan, 2020).

Research has shown that many studies have been done on the causes and effects of abandoned infrastructure projects (Doraisamy et al., 2015; Lundin et al., 2015; Damoah and Akwei, 2017; Atamenwan, 2020). However, there seems to be little or no research on the impacts of completed project abandonment and infrastructure sustainability. This study seeks to unearth the critical effects of completed projects but abandoned and provide suggestions that could be applied to lessen the negative impacts and improve infrastructure sustainability.

### *1.1 The situation of Ghana Government Projects(Completed but not used Projects)*

There are numerous non-operational and abandoned infrastructure facilities in Ghana, either completed but not in use or abandoned for several years after completion (Lundin et al., 2015; Amoah-Abban, 2017; Citi FM and Occupy Ghana, 2018). According to Citi-FM and Occupy Ghana, over One Billion United States Dollars (US\$1,000,000,000) have been committed to various Health Care Centres in Ghana, of which some are completed but not in use, while others have been abandoned (Citi- F.M. and Occupy Ghana, 2018), these include;

*Bank Hospital, Cantonments- Greater Accra Region:* This supposed bank hospital was completed in 2017 for 445.80 million Ghana cedis; recruitment started but is currently being reviewed. However, the hospital has not in operation.

*Ofankor Health Centre – Greater Accra Region:* The hospital was built alongside the construction of the “Pokuase/Awoshie Highway project,” though it was completed in 2016, it has not been put to the intended use.

*Bekwai District Hospital – Ashanti Region:* Construction work on this project started in March 2014 and was expected to be completed in September 2017. This 190-bed capacity facility hospital was expected to ease the pressure on the K.A.T.H. and enhance healthcare delivery in

and around the Bekwai Municipality. Alleged that although the main work on the facility has been completed, the government of Ghana is purported to have indicated that there are no funds to purchase medical equipment for the hospital to commence work. This has left the facility to become a breeding ground for moths, snakes, rats, and grasscutters, among others, while residents in and around Bekwai struggle to get better healthcare (Source: Ghanaweb)

*Teshie C.H.P.S. compound- Greater Accra Region:* Residents of ‘Teshie Camp Two’ in the Greater Accra Region are also yet to benefit from a Community-Based Health Planning and Services compound, otherwise referred to as C.H.P.S. Compound. The GH¢320, 000 facility has remained unused since its inauguration in 2016 (Anass S. Seidu/citifmonline.com/Ghana).

*District hospitals and integrated I.T.systems projects:* The government of Ghana intended to construct and equip 6 District Hospitals with I.T. Systems, at an estimated cost of (US\$175,000,000.00), to serve the following communities; “Sekondi Takoradi Municipality, Abetifi District, Guru- Tempene District, Kumawu District, Fomena District, and Dodowa District. A thorough examination of the facilities indicates that though these projects were completed in 2015, they are yet to be utilised (Citi Fm and Occupy Ghana, 2018).

### 1.2 Statistical Inventory of Some M.M.D.A.s completed Abandoned Projects

Several Metropolitan, Municipal, and District Assemblies (M.M.D.A.s) projects have been completed but have not been put to use. Others have been abandoned in almost all the regions in Ghana. The Auditor-General Report (2018) submitted that there are several Metropolitan, Municipal, and District Assemblies projects which have been completed but have not been put to use in almost all the 16 regions in Ghana. The statistical inventory in Table 1 below shows some of the completed projects of the Metropolitan, Municipal, and District Assemblies that have not been used.

Table 1: Metropolitan, Municipal, and District Assemblies Completed Abandoned Projects

<i>Regions</i>	<i>No. of Assemblies</i>	<i>No of Projects</i>	<i>Total Cost GH¢</i>	<i>Total Cost US\$</i>	<i>Year of Completion</i>
<i>Ashanti</i>	4	6	1,243,394.34	276,309.85	2016- 2017
<i>Brong Ahafo</i>	6	11	1,706,681.03	379,262.45	2014 -2016
<i>Central</i>	4	5	1,540,202.16	342,267.15	2014 -2017
<i>Eastern</i>	3	4	561,312.26	124,736.06	2015 -2016
<i>Northern</i>	6	11	2,143,895.19	476,421.15	2006-2017
<i>Upper East</i>	2	4	710,662.94	157,925.10	2013-2016
<i>Upper West</i>	2	6	756,495.80	168,110.18	2016
<i>Volta</i>	3	6	811,750.07	180,388.90	2016-2017
<i>Western</i>	3	4	1,551,910.07	344,868.90	2015 -2017
<b>Total</b>	<b>33</b>	<b>57</b>	<b>222,716,555.47</b>	<b>49,492,567.88</b>	

Source: Auditor-General Report, (2018)

From Table 1, it could be noted that almost all projects completed from 2015 to 2018 by Metropolitan, Municipal, and District Assemblies have been abandoned. A total of 57 building projects constructed with appreciable amounts of investment have been locked up in these projects without any sign of a return of investment to the nation's economy.

*1.3 Photo Gallery of Some Completed Abandoned Building Projects in Ghana*

The pictures below show some of the completed building projects that have been abandoned in the country. In examining the detailed elements of these projects in each case, the researcher had three specific preliminary questions in mind. These questions were What were the intended objectives of the project? How was the project selected and approved? What was the eventual outcome of the project? These questions helped the researcher identify the causes and impacts of completed project abandonment and propose solutions that could mitigate future occurrences.

*Community Day School at Sakumono-Tema West constituency*



Plate 1: Community Day School at Sakumono-Tema West constituency. Sources:

<https://www.pulse.com.gh/news/politics/photos-of-projects-mahama-e-block-abandoned-in-sakumono/rsj0y2w>

The pictures above show the abandoned community day school at Sakumono, in the Tema West constituency, completed in 2016. It was part of a 200 Community Day School project intended to be built by the government of Ghana throughout the country, known as E-blocks. The E-block in Sakumono was designed to serve Sakumono township and its environs in the Tema West constituency. Unfortunately, this magnificent tower has been completed, but the government has since its completion abandoned it.

*Health Centre at Ofankor – Ga North Municipal Assembly*



<https://starrfm.com.gh/2018/06/ofankor-health-centre-design-faulty-health-minister/>Plate2:  
*Health Centre at Ofankor – Ga North Municipal Assembly*

Source: <https://citinewsroom.com/2018/06/ofankor-residents-cry-over-abandoned-health-centre-video/><https://starrfm.com.gh/2018/06/ofankor-health-centre-design-faulty-health-minister/>  
The picture above shows some images of the abandoned Ofankor Health Center project in the Ga North Municipal Assembly. The Health Centre at Ofankor in the Ga West District of the Greater Accra region has been abandoned since it was completed in 2016. The facility was constructed by the government of Ghana through the Ministry of Roads and Highways, with funding from the African Development Bank. The health facility was expected to serve residents of Asofa, Ofankor, Omanjo, Dwenewoho, Mensah Addo, Parts of Sowutuom and some other communities within the Ga West Municipality.

*1502 Housing Units at “Tsopoli-Saglemi” Ningo Prampram District*



*Plate 3: (1502 Housing Units at Tsopoli-Saglemi) Ningo Prampram District- Great Accra  
Source: Daily Graphic, August 2018*

The picture above shows a section of the abandoned housing unit in Tsopoli-Saglemi in the Ningo Prampram District of Great Accra. In November 2013, sod was cut for the first phase of the Housing Project, in what was described as the most ambitious housing project in the West Africa sub-region. The project involved the construction of 5,000 housing units for sale to members of the public through mortgages provided by Ghana Home Loans. The first phase of 1,502 housing units was delivered and commissioned for use on June 15, 2016, at a total cost of \$179,904,757.78 (Daily Graphic, August 2018). The first phase of the project, which the former President of Ghana inaugurated on June 15, 2016, was to be occupied by residents, helping to reduce the national housing deficit. It has remained unoccupied almost two years after the facility had been completed and inaugurated to be used.

*Bank of Ghana Hospital – Accra*



*Plate 4: Bank of Ghana Hospital at Cantonments – Accra  
Source: Jay Wood, April 27 2020*

The picture above shows a 60-bed ultra-modern Bank of Ghana Hospital at Cantonments in Accra, completed in 2017. The facility, which cost GH¢445.8 million, is yet to be used, although all major equipment and other hospital materials have been duly installed.

The delay in the opening of the facility for the intake of patients has thus affected its utility bills marginally, as it still pays bills for the use of air-conditioners, among others. Moreover, issues have to do with the new board deciding on the model to attract private sector management of the hospital.

The above unfortunate situations in Ghana regarding infrastructure projects and their abandonment have been in existence for several years. For instance, most of *Ghana @ 50* projects have been abandoned, and some of those were completed but are still not in use. Examples of such seemingly abandoned projects are the "140 - golden jubilee kindergartens" and 10 – jubilee parks and toilets in all communities throughout the country" (Damoah, 2015: Lundin et al., 2015: Amoa-Abban, 2017). Not only that, but the list includes affordable housing projects in Asokore- Manpong, Koforidua, Tamale, and Wa (GNA, 2012: Lundin et al., 2015: Amoa-Abban, 2017).

#### *1.4 Infrastructural Sustainability*

It has been estimated that Ghana alone "needs 1.7 million housing units to be able to close the housing deficit gap", which may be increased to 2.0 million in 2020 (Daily Graphic, August 13 2018). Infrastructure project sustainability has become a significant concern in the Ghanaian construction industry. Twumasi- Ampofo et al. (2014) submitted that even projects initiated in the colonial period to provide shelter for the citizenry were abandoned. According to Amponsah (2013), in Ghana, some supposedly new housing projects are initiated for "political purposes", and others were commenced to please the electorates to secure their political affiliations. Such projects were abandoned in their initial stages. Therefore, it is not surprising that the infrastructure deficit in Ghana is increasing, and the negative impacts associated with such projects are excessive. The predominant increase in public infrastructure abandonment is quite alarming. This has created several adverse effects on infrastructure values and sustainability, including social, environmental, and economic issues. Besides, infrastructure developments need huge capital investment, so the expected benefits and capital returns are lost when abandoned. Studies have shown that the negative impacts of infrastructure project abandonment do not affect developers only but, to a greater extent, a loss to the state, communities, donors, and taxpayers (Olusegun and Michael, 2011: Ihuah and Benebo, 2014: Doraisamy, et al., 2015).

#### *1.5 Impacts of Completed Projects Abandonment in Developed Countries*

The impacts of building project abandonment in Malaysia affect buyers, developers, the construction industry, the environment, stakeholders, donors, creditors/debtors, and the national economy. According to Abdul and Omran (2011), housing buyers suffer because they cannot occupy the houses after "signing the S.P.A. with the developers, yet they were indebted to "pay monthly instalments with interest" on the amount borrowed from the banks to purchase the houses. Besides, the project sites are takeover by vandalism and criminals due to abandonment, which could lead to illegal activities carried out at that place. Then also other impacts such as

changes in building requirements, the land being foreclosed, and non-profitable loans were some of the significant effects of housing project abandonment in Malaysia. The non-revival of abandoned projects results in an economic loss (Doraisamy et al., 2015). There is no doubt that project abandonment significantly impacts state resources, contributing to a decrease in economic growth. Abdul-Rahman et al. (2016) submitted that environmental risk is one of the impacts of project abandonment, which needs consideration by all stakeholders involved in the housing projects. Although the environmental risk may not occur in every project, it could harm the housing project and the physical surroundings if it does happen.

The impacts of project abandonment could be classified as "economic, financial, legal, managerial, and system-based factors" (Doraisamy et al., 2015; Abdul-Rahman et al., 2016). Similarly, Yap et al. (2018) opined that the impacts of housing project abandonment could be classified as social, economic, and environmental factors. Other factors observed by the above researchers as impacts on housing projects were unforeseen risks, financial mismanagement developers winding up, non-conformance with specifications, conflicts and disputes among project parties. The other outcomes were a bad reputation and a lack of confidence in some government officials and developers in the building sector in Malaysia (Abdul-Rahman et al., 2016). A study conducted by Ariffin et al. (2018) on factors that contribute to the abandonment of building in the construction industry in Malaysia identified impacts of housing abandonment to include: reduction in employment opportunities, reduction in property values, wastage of resources, hideouts for criminals, increase in environmental problems, reduction in aesthetics of the neighbourhood, and health challenges.

### *1.6 Impacts of Completed Projects Abandonment in Developing Countries*

The major impact of project abandonment is the wastage of resources. Olalusi and Otunola (2012) submitted that the wastage of resources has expression in capital wastage, material wastage, equipment wastage, and human power wastage. Moreover, abandonment of building projects sometimes encourages illegal activities in these buildings. The result is that the security and well-being of those living in these communities where the project is located are threatened. Furthermore, abandoned projects become an aesthetic nuisance causing visual pollution to inhabitants living in the community or society has been identified by researchers as an impact of project abandonment. Besides, project abandonment impacts society and the state's economy, "looking at the huge amount of money and resources lost" (Ihuah and Benebo, 2014) as the state invested in that project. However, Olusegun and Michael (2011) identified seven impacts of building project abandonment on society in Nigeria, which include: 1) disappointment in the communities, 2) decrease in the social value of the communities, 3) wastage of the limited resources, 4) decrease in employment opportunities, 5) difficult to obtain foreign loans and investors, 6) decrease in economic activities and 7) decrease in revenue accruable to the state.

Before that, Olusegun and Michael (2011) and Aluko (2008) put forward six impacts of project abandonment on society, and these are 1) unemployment, 2) wastage of materials and equipment on-site, 3) decrease in economic activities, 4) reduction in the state revenue, 5) lowering social values, and 6) increase in the project cost. However, the major impact of abandonment includes "disappointment of the populace /users, low living standard, wastage of



resources, reduction in employment opportunities, and decrease in the tempo of construction activities, decrease in revenue accruing to the government, difficulty in attracting foreign loans” (Akhanolu et al., 2016; Atamenwan, 2020). Similarly, Mac-Barango, (2017) opines that the impacts of abandonment on immediate communities where the projects are located include infrastructure depravity and environmental pollution. Moreover, Ihuah and Benebo (2014) identified income reduction, environmental pollution, a decrease in property value, real property reduction, and property dispute issues as an impact of project abandonment on society. Besides, Akhanolu et al. (2016) submitted that has implications of infrastructure abandonment led to the demotivation of investors and a decrease in employment opportunities. According to Mac-Barango, (2017), impacts of abandoned projects include resource wastage, unemployment, decrease in construction activities, and reduction in state revenue. Others were issues such as obtaining development, operational and approval permits or licenses, which have been recognised as poor reputation and lack of confidence in government and some developers in the building industry. Nwanekezie and Nwanguma (2019) also identified eight impacts of infrastructure abandonment in Nigeria, which are reduction in employment opportunities, reduction in property values, a hideout for criminals, an increase in environmental problems, the wastage of resources, reduction in the aesthetical state of the neighbourhood, and health challenges.

#### *1.7 Impacts of Completed Projects Abandonment in Ghana*

Damoah (2015) identified twenty-six possible impacts of project abandonment on society in Ghana. These included: a decrease in economic growth, unemployment, loss of revenue, the collapse of local businesses, and a reduction in human empowerment. Others were discouragement of investment, loss of foreign grants, stricter donor regulations, the poor image of the state, lack of capacity, environmental pollution, and loss of properties. The rest were loss of revenue, loss of an election, emotional stress on citizens, relocation of services, denial of fundamental rights, imprisonment, accidents and even deaths. The study conducted by Damoah (2015) revealed that some of the effects of project abandonment directly impact society, whilst others indirectly impact the community. However, Amoah-Abban, (2017) opines that; capital lock-up, loss of interest, and loss of revenue were some of the impacts that affect clients. Similarly, loss of revenue, inability to pay creditors, accumulated interest on loans, and inability to pay workers were some impacts that affect developers, and those that affect the consultant were loss of revenue, inability to pay workers and the inability to fulfil tax obligations.

Moreover, Amoah Abban (2017) submitted that the impacts of building project abandonment in the Ghana construction industry include; socio-economic impacts, such as decline in property values, community and neighbourhood aesthetics problems, waste of resources, increased poverty levels, and unemployment. Other factors were environmental impacts, such as; impact on public health and safety, landscape modification, and erosion. The rest were; social effects, including promoting illegal activity and hideouts for criminals and encouraging further abandonment.

### *1.8 Impacts of Completed Infrastructure Abandonment on Property Values*

The significant impacts of infrastructure abandonment include a decrease in property value (Efenudu, 2010). Concerning the reduction in the property values, Abdul-Rahman et al. (2016) submitted that abandonment could affect infrastructure development within and around nearby communities where the projects are built, declining their values. This loss is related to the value of the property in terms of "the market value, which is the value at which a property would bring when determined by an open market, property value in use, property investment value, property liquidation value, the assessed value of the property, insurable property value, and property going concern value" (Efenudu, 2010). However, when the proposed project is abandoned, social value and visual aesthetics loss, which enhances physical environment pollution (Efenudu, 2010; Doraisamy et al., 2015). Then also, the unattractive nature of the properties, due to non-maintenance, and lack of needed facilities for operation, have remained incessant in the environment. For instance, building properties that have been raised but later become abandoned makes no aesthetic value to the neighbourhood and instead becomes visual pollution (Ayodele and Alabi, 2011; Doraisamy et al., 2015).

Ihauh and Benebo's (2014) studies identified eight impacts of abandonment on property values. These include; property value reduction, receivable income reduction, waste of resources, disappointment to clients and the populace, increasing negative effects on the environment, reduction in employment opportunities, loss of motivation to attract investment, and depriving the government of the expected revenue. Ayodele and Alabi (2011) opined that infrastructure abandonment influences resource wastage and loss of revenue accruable to the state. When this happens, the expected support and services provided by the project are declined, affecting all activities, including financial, social, and environmental movements, thus preventing the project from accomplishing its intended purpose (Doraisamy et al., 2015).

## **2. Research Method**

The study used an exploratory sequential mix method with a "pragmatic approach," combining "qualitative and quantitative" methods (de Salis et al., 2008; Jang et al., 2008; Catallo et al., 2013). The qualitative method was used to explore the impact of completed project abandonment, while the quantitative approach was used to validate the qualitative findings (Creswell and Clark, 2011; Creswell and Clark, 2017). Government personnel involved in project selection and approval, consultants, registered with M.M.D.A.s for project contracts, and direct end-users of abandoned projects provided primary data for the study. The main data collection procedures were semi-structured interviews, literature reviews, report analysis, and questionnaire surveys.

The study utilised secondary data on the statistical inventory of complete but abandoned government projects. Further, the researcher interviewed 45 people with experience in infrastructure development. They comprised 18 government officials working as planning officers, physical planners, heads of works, budget officers, presiding members, and coordinating directors. Others included nine regional planners, coordinating directors, and end-users from Ghana's Ahafo, Bono, and Bono East regions. Eighteen project practitioners represented the private sector, and professionals/consultants (valuers/estimators, architects, land economists,

estate managers, maintenance officers, and environmentalists) participated in the interviews. The data was triangulated using a quantitative approach, which improved the quality of the data (Yin, 2013). The qualitative findings allow the researcher to provide a list of the impact of completed project abandonment for the second phase of the investigations, which were evaluated and validated for the universality of the findings. The 330 surveys were distributed, and 320 responses were collected from respondents who were purposively selected from all 16 Ghanaian regions and included government officials, consultants, and end-users. These responders were project selectors, approvers, advisors, or designers in charge of selecting and approving government projects using ATLAS. Ti 8, the interview data were coded using the line-by-line analysis method (Yaman and Demir, 2015). As much as possible, interviewees' language and notions were utilised in coding. The "Mann-Whitney U-test in S.P.S.S." was also used to generate the relative importance index and mean score of the respondents' perspectives on the magnitude of the impact of completed project abandonment on the social, economic, and environmental situations in the quantitative analysis.

### 3. Results and Discussions

#### 3.1 Composition of the interview participants

Respondents of the interviews consisted of (18) government officials, (9) end-users, and (18) consultants totalling 45 which were expressed in percentages like 40%, 20%, and 40%, respectively, as shown in fig 1. This indicates fully saturated data for a study since all the participants related to the study area were involved in the data collection.

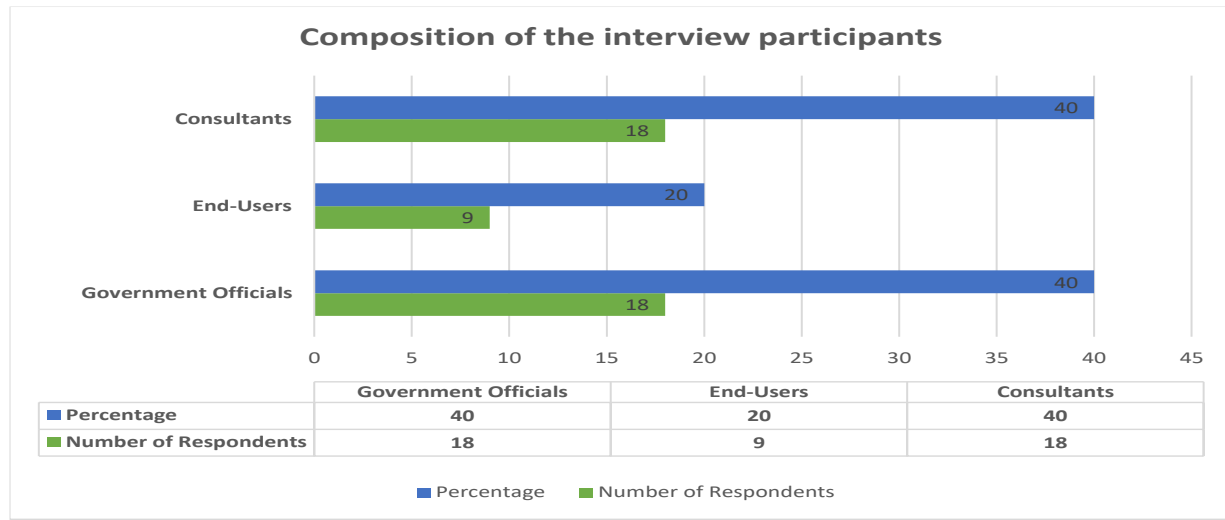


Figure 1: Composition of the interview participants

3.2 Questionnaire Distributed and Collected

Table 2 shows the breaks down of the questionnaires distributed and the percentage retrieved. A total of 330 questionnaires were printed and distributed to the respondents in all the 16 regions in Ghana. Representatives were recruited and trained to support the data collection. However, only 320 were retrieved from the 330 distributed, giving 97% of the total questionnaire printed and distributed.

Table 2: Questionnaire Distributed and Percentage Received

S/N	Zone	Regions	Distributed	Total	Received	Total	%
1	Central/Western	Ashanti	20	85	20	80	94
2		Central	25		20		
3		Western	20		20		
4		Western North	20		20		
5	Bono/Savanna	Ahafo	20	80	20	80	100
6		Bono	20		20		
7		Bono East	20		20		
8		Savanna	20		20		
9	Northern/Upper	Northern	22	85	20	80	94
10		North East	20		20		
11		Upper East	20		20		
12		Upper West	23		20		
13	Eastern/Southern	Eastern	20	80	20	80	100
14		Greater Accra	20		20		
15		Oti	20		20		
16		Volta	20		20		
<b>Total</b>		<b>16</b>	<b>330</b>	<b>330</b>	<b>320</b>	<b>320</b>	<b>97%</b>

3.3 Background Information of the Respondents

Table 3 gives background information on the respondents of the study as well as the role played in the project selection and approval. This depicts the credibility of the data collected since the participants are directly involved in the project selection and approval at various project stages.

Table 3: Respondent Background Information

Classification of the Respondents	Frequency	Percentage
<b>How do you relate to the project?</b>		
Planning officer	38	12%
Physical planner	43	13%
Head of works	51	16%
Budget officer	30	9%
Presiding member	16	5%
Coordinating Director	9	3%
End-user	6	2%
Structural Engineer	18	6%
Contractor	10	3%
Environmentalist	12	4%
Consultant	70	22%
Project Manager	5	2%
Community Project Committee Member	12	4%
<b>Total</b>	<b>320</b>	<b>100%</b>

3.4 Impacts of Completed Project Abandonment

Results from the interviews conducted with the government officials (G.O.), end-users (E.U.), and Consultants (CON) and the literature review revealed the following emerging impacts of completed project abandonment (I.P.A.) as shown in table 4.

Table4: Impact of Completed Project Abandonment

Impact of Completed Project Abandonment	Code	Interview Record			Percentage	
		G.O.	EU	CON	TOTAL	%
<b>ECONOMIC IMPACT</b>						
<i>Non-Operation of the Facilities</i>	IPA2	18	9	18	45	100%
<i>Financial Misallocation</i>	IPA5	17	9	18	44	98%
<i>Increase Poverty</i>	IPA8	16	9	18	43	96%
<i>Loss of total income receivable from real property</i>	IPA11	17	9	17	43	96%
<i>A decrease in revenue accruable to the state</i>	IPA12	17	8	17	43	93%
<i>Demotivation of investment</i>	IPA16	16	9	17	42	93%
<i>Waste of material and human resources</i>	IPA14	17	7	18	42	93%
<i>Loss of national economy</i>	IPA17	17	7	18	41	93%
<b>ENVIRONMENTAL IMPACT</b>						
<i>Visual Pollution</i>	IPA1	18	9	18	45	100%
<i>Lack of Maintenance</i>	IPA10	18	7	18	43	96%
<i>Increase the negative effects of environmental</i>	IPA18	16	8	17	41	91%

<b>SOCIAL IMPACT</b>						
<i>Promote the Spread of Fire</i>	<i>IPA3</i>	<i>18</i>	<i>9</i>	<i>18</i>	<i>45</i>	<i>100%</i>
<i>Provide Accommodation and Hideout</i>	<i>IPA6</i>	<i>18</i>	<i>8</i>	<i>18</i>	<i>44</i>	<i>98%</i>
<i>Reduction in Employment Opportunity</i>	<i>IPA4</i>	<i>18</i>	<i>9</i>	<i>17</i>	<i>44</i>	<i>98%</i>
<i>Increase migration of population</i>	<i>IPA7</i>	<i>18</i>	<i>8</i>	<i>17</i>	<i>43</i>	<i>96%</i>
<i>Social value Change</i>	<i>IPA9</i>	<i>18</i>	<i>8</i>	<i>17</i>	<i>43</i>	<i>96%</i>
<i>Denied the end user the use of the facility</i>	<i>IPA13</i>	<i>16</i>	<i>9</i>	<i>17</i>	<i>42</i>	<i>93%</i>
<i>Disappointing to the owner and the populace</i>	<i>IPA15</i>	<i>17</i>	<i>8</i>	<i>17</i>	<i>42</i>	<i>93%</i>
<i>Endangering the lives of the inhabitants</i>	<i>IPA19</i>	<i>18</i>	<i>7</i>	<i>16</i>	<i>41</i>	<i>91%</i>
<i>Loss of identity in the area</i>	<i>IPA20</i>	<i>17</i>	<i>8</i>	<i>15</i>	<i>40</i>	<i>89%</i>

Key: GO-Government Officials, EU-End User, CON-Consultants

### *3.5 Stakeholders Ranking Result of Impacts of Completed Project Abandonment*

The study identified 20 impact factors of completed project abandonment and categorised them into economic, environmental, and social impacts. These factors include visual pollution, non-operation of the facility, spread of fire from one building to another in cases of a fire outbreak, reduction in employment opportunities, financial misallocation, accommodation and becoming a hideout for criminals and other harmful creatures. It also increases rural-urban migration of population, increases poverty, social value change, and lack of maintenance. The study's respondents have ranked these 20 impact factors using average mean values and important relative index (R.I.I.) values. Results from the ranking have been presented in Table 5 and grouped into three headings, namely most critical, more critical, and critical impacts of completed project abandonment, for discussions in this section.

Table 5: The Views of Stakeholders on the Impacts of Completed Project Abandonment

Impact of Completed Project Abandonment	Overall		
	Mean	R.I.I.	Rank
<b>ECONOMIC IMPACT</b>			
<i>Non-operation of the facility</i>	3.90	0.781	2
<i>Financial misallocation</i>	3.85	0.769	5
<i>Increase poverty</i>	3.77	0.754	8
<i>Loss of total income receivable from real property</i>	3.74	0.749	11
<i>Decrease in revenue accruable to the state</i>	3.74	0.748	12
<i>Waste of material and human resources</i>	3.71	0.741	14
<i>Demotivation of investment</i>	3.67	0.767	16
<i>Loss of national economy</i>	3.65	0.730	17
<b>ENVIRONMENTAL IMPACT</b>			
<i>Visual pollution</i>	<b>3.93</b>	<b>0.787</b>	<b>1</b>
<i>Lack maintenance</i>	3.76	0.753	10
<i>Increases the negative effects of environmental</i>	3.62	0.724	18
<b>SOCIAL IMPACT</b>			
<i>Promote the spread of fire from one building to another in case of a fire outbreak</i>	3.87	0.773	3
<i>Reduction in Employment opportunity</i>	3.85	0.770	4
<i>Provide accommodation and hideout for criminals</i>	3.84	0.768	6
<i>Disappointing to the owner and the populace</i>	3.68	0.736	15
<i>Increases migration of population</i>	3.78	0.756	7
<i>Social value change</i>	3.77	0.754	9
<i>Denied the end user the use of the facility</i>	3.73	0.747	13
<i>Endangering the lives of the inhabitants of the environment</i>	3.58	0.715	19
<i>Loss of identity inthe area</i>	3.57	0.714	20

### 3.6 Economic Impacts of Completed Project Abandonment

From table 4, the impacts of completed project abandonment were ranked and categorised based on the country's economic, social and environmental. A total of 20 impacts were identified, consisting of 8 economic impacts, three environmental impacts, and nine social. From the findings, the non-operation of the facility ranked first as the most critical impact on the economy, with a mean score of 3.90. Still, the overall ranking was in the second position. This result agreed with the studies by (Ayodele and Alabi, 2011: and Doraisamy et al., 2015: and Yap et al., 2013) that the non-operation of a facility was one of the critical impact factors of completed project abandonment.

Financial misallocation with a mean score of 3.85 was ranked second and fifth in the overall ranking. Financial misallocation as an impact of completed project abandonment has been identified by the studies of Yap et al. (2013) as a critical impact of completed project abandonment. Further, completed project abandonments have an economic impact by Increasing poverty with a mean score of 3.77 and was ranked 3rd and 8th on the economic and overall effects, respectively. Loss of total income receivable from the real property having a mean score value of 3.74 was in the 4<sup>th</sup> position and 11<sup>th</sup> overall position; also, decrease in revenue accruable to the state with a 3.74 as a mean score value have a ranking of 5 and an overall rank of 12. Previous researchers like (Efemudu, 2010: Ihauh and Benebo, 2014: Abdul Rahman et al., 2016: Amoah-Abban, 2017: Ariffin et al., 2018: Nwanekezie and Nwangunia, 2019) have confirmed these results in their various studies that loss of total income receivable from the real property was critical impact factor of project abandonment. A decrease in revenue accruable to the state as an impact of completed project abandonment has been identified in the previous studies conducted by (Abdul and Omran, 2011: Ihauh and Benebo, 2014: and Damoah, 2015).

Waste of material and human resources with a mean score value of 3.71 has an impact on the economic condition of the country with a rank of 6<sup>th</sup> and an overall position of 14<sup>th</sup>. This factor was identified by Abdul and Omran (2011) as one of the critical impacts of project abandonment. Demotivation of investment with a mean score of 3.67 was in the 7<sup>th</sup> and 16<sup>th</sup> overall position, while loss of national economy with a mean score of 3.65 obtained 8<sup>th</sup> on the ranking and 17<sup>th</sup> on the overall ranking.(Abdul and Omran, 2011: Ayodele and Alabi, 2011: Olusegun and Michael, 2011: Damoah, 2015: Nwanekezie and Nwangunia, 2019) have agreed with this fact. In the final analysis, the impact of completed project abandonment that it demotivates investment was ranked sixteenth by all respondents in the ranking list. This factor has been confirmed by (Ihauh and Benebo, 2014: and Damoah, 2015: Yap, et al., 2013) in their various studies.

### *3.7 Environmental Impacts of Completed Project Abandonment*

Visual pollution with a mean score of 3.93 ranked 1st and 1st in the overall ranking. Lack of maintenance and increases in the negative effects of environmental with a mean value of 3.76 and 3.62 were ranked 2nd and 3rd respectively.; and also, overall ranking was 10<sup>th</sup> and 18. Visual pollution as an impact of completed project abandonment has been identified by eminent researchers like (Efemudu, 2010: Ayodele and Alabi, 2011: Olulusi and Otunola, 2012: Damoah, 2015: Doraisamy et al., 2015: Amoah-Abban, 2017: Mac-Berango, 2017: Ariffin, et al., 2018: Nwanekezie and Nwangunia, 2019), who opined that one of the critical impacts of project abandonment was visual pollution which in turn degraded the beautiful nature of the environment. According to Doraisamy et al. (2015), one of the purposes of infrastructure project development was beautifying the environment, but this purpose could not be achieved due to abandonment. Previous studies conducted by (Olulusi and Otunola, 2012: Ihauh and Benebo, 2014: Doraisamy et al., 2015: Abdul Rahman et al., 2016: Amoah-Abban, 2017: Ariffin et al., 2018: Nwanekezie and Nwangunia, 2019) agreed to this result.



### *3.8 Social Impacts of Completed Project Abandonment*

The study identified nine social impacts of completed project abandonment. From the findings, Promoting the spread of fire from one building to another in case of a fire outbreak, having a mean value of 3.87, was ranked 1<sup>st</sup> and 3<sup>rd</sup> in the overall ranking. Reduction in Employment opportunity with 3.85 as a mean score value was 2<sup>nd</sup> in the position of the nine identified social impacts of completed project abandonment. On average, the issue of reduction in employment opportunities as an impact of completed project abandonment was ranked in the fourth position by all respondents in the ranking list. This factor has been confirmed by previous researchers like (Olusegun and Michael, 2011; Ihauh and Benebo, 2014; Damoah, 2015; Amoah-Abban, 2017; Mac- Berango, 2017; Ariffin et al., 2018; Nwanekezie and Nwangunia, 2019). However, providing accommodation and hideouts for criminals with a mean value of 3.84 were ranked 3<sup>rd</sup> and overall 6<sup>th</sup> position. The following researchers have confirmed the above results (Abdul and Omran, 2011; Olulusi and Otunola, 2012; Amoah-Abban, 2017; Ariffin et al., 2018; Nwanekezie and Nwangunia, 2019) in their various studies. The owner and the populace have a mean value of 3.68 with a ranking of 4<sup>th</sup> position. All respondents ranked this factor as the fifteenth impact of completed project abandonment in the overall ranking list. Studies by Ihauh and Benebo (2014), Akhanolu et al., 2016, and Atamenwan (2020) are in consonant with the findings in this study. Increases population migration with a mean value of 3.78 with a ranking of 5<sup>th</sup> position and 7<sup>th</sup> in the overall ranking. Respondents ranked social value change 6<sup>th</sup> with a 3.77 mean score value and an overall ranking of 15<sup>th</sup>. Several studies have confirmed this result (Efemudu, 2010; Abdul Rahman et al., 2016; Atamenwan, 2020). Several studies include (Efemudu, 2010; Abdul and Omran, 2011; Olusegun and Michael, 2011; Olulusi and Otunola, 2012; Ihauh and Benebo, 2014; Amoah-Abban, 2017; Mac- Berango, 2017; Ariffin, et al., 2018; Nwanekezie and Nwangunia, 2019) have agreed to this fact.

The end-user using the facility with a mean value of 3.73 was ranked 7<sup>th</sup> and overall ranking 13<sup>th</sup>. Loss of identity of the area with a mean score of 3.57 was ranked 9<sup>th</sup> in position and 20<sup>th</sup> in the overall ranking. Endangering the lives of the environment's inhabitants, having a mean value of 3.58, was positioned 8<sup>th</sup>, with an overall ranking of 19<sup>th</sup>. This factor has been confirmed by the studies conducted by (Olulusi and Otunola, 2012; Amoah-Abban, 2017; Ariffin et al., 2018; Nwanekezie and Nwangunia, 2019).

## **4. CONCLUSION**

To reduce project abandonment and promote infrastructure sustainability, this study evaluated the magnitude of the impact of completed projects but not in use based on Ghana's economic, environmental, and social issues. The study was conducted using a "pragmatic approach," an exploratory sequential mixed method study that contained both qualitative and quantitative data. A semi-structured interview was used to collect primary data from government officials, consultants, and end-users. The 45 interviewees were chosen using a purposive sampling technique, including 18 government officials, nine regional planners, coordinating directors and end-users, and 18 project practitioners and professionals/consultants. The interviews were taped, transcribed, and coded using the ATLAS line-by-line analysis method. Ti 8. Based on the

findings of the qualitative studies, the researchers have proposed a list of 20 factors that significantly impact complete project abandonment consisting of 8 economic impacts, three environmental impacts, and nine social impacts.

Further, A survey questionnaire was used to acquire quantitative data to validate the qualitative studies. Three hundred twenty government officials, consultants, and end-users from Ghana's 16 regions were handed the questionnaires. The relative importance index and mean score of the respondents' perspectives on the causes of completed project abandonment were calculated using the quantitative analysis "Mann- Whitney U-test in S.P.S.S." Findings indicate that complete project abandonment significantly impacted the nation's economy, society and environment, which requires critical attention to sustain the country's infrastructural development. The overall crucial impact among the 20 identified is visual pollution, with a mean score of 3.93 ranked 1<sup>st</sup> and 1<sup>st</sup> in the environmental impact category. Also, the non-operation of the facility ranked first as the most critical impact on the economy, with a mean score of 3.90. Still, the overall ranking was in the second position. In addition, under the social impact category, promoting the spread of fire from one building to another in case of a fire outbreak, having a mean value of 3.87, were ranked 1<sup>st</sup> and 3<sup>rd</sup> in overall ranking. Therefore, the study concludes that the complete project abandonment in Ghana and its economic, social, and environmental impacts are significant to the sustainability of infrastructural development and the country's economic growth.

## **5. Recommendation**

The study recommends that project planners use adequate project-selection criteria for infrastructure project selection at the initial project stage for the country's infrastructural development to be sustained. Since infrastructure development is recognised for requiring a large capital commitment, abandoned completed projects have a significant economic, social and environmental impact. As a result, it's upsetting and mystifying to see a much-needed infrastructure development project abandoned after it's completed. This is critical for Ghana's economy and the construction industry's long-term viability. To utilise a good selection technique and engage the end-user, critically looking at the planning and project selection stage is required and will go a long way to assist in selecting a user-need project. Improved will-be user happiness is essential for lowering non-use projects, which leads to complete project abandonment. Finally, a continuous professional development programme on project selection and approval criteria is highly recommended.

## **Acknowledgment/Funding**

This research is supported and part of collaborative research at the Centre of Applied Research and Innovation in the Built Environment (C.A.R.I.N.B.E.), F.E.B.E., University of Johannesburg.

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