A REVIEW ON ABANDONED CONSTRUCTION PROJECTS : CAUSES & EFFECTS

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Keywords : Review, Abandoned, Construction Projects, Mitigation.

Abstract. In some countries quite a number of construction projects that are either not completed or out rightly abandoned. This paper is an overview on abandoned construction projects, and the causes and effects due to the formidable situation relating to this issue. This was conducted referring to the studies and findings in the thesis and journals on abandoned projects. Few probable causes and effects are identified from various researchers based on studies conducted by them on this issue. It is found that most of the studies on the related matter was conducted mainly using questionnaires and also by conducting interviews with the relevant parties. There were various probable causes and implications that was identified from the studies and analysis that was carried out, which does not differ much from one another, and in fact some have suggested the mitigation measures for this issue. After reviewing the research and studies that has been conducted on the issue of abandoned projects, as a conclusion, it is notable to have a more thorough investigation on the existing problem up to this date and look into the whole issue from different aspects in depth.

Introduction.

When a progress of a certain work faces too many problems and seems to be impossible to continue further on resulting it to stop completely, it is therefore defined as abandoned project. According to [17], when a project has been started at an earlier date, but for some reasons has been stopped, it is described to be an abandoned project. Such abandonment are just not limited to buildings alone, but there are also roads, industrial structures, bridges, factories, dams, electricity, communication projects and so on, that gets abandoned as well. [9] stated that if projects are to be executed completely, planning is the most important agenda to be carried out, which [11] further added that the successful completion of a project depends onadequate planning where financial planning is also included.[13] discussed that the mission in developing infrastructural projects are mainly to bestow new and beneficial product and services to the community and also to stimulate the aesthetic part of the built environment. This intention is somehow compromised and not accomplished due to the continual issue of project abandonment.

It was reported by [12], that the Nigerian construction industry has become the world's place of dumping junks of abandoned projects, where these projects are estimated to be worth of billions. He further stated that Nigeria is a country which has many potential in the construction industry but to his surprise the country is experiencing such aimmensity of project abandonment. According to another report by [10], the issue of abandoned project was not given an adequate attention for a long time which has resulted a negative effect not only towards the construction industry but to thenational economy as a whole. For instance, there are about4000 uncompleted or abandoned projects belonging to the Federal Government of Nigeria with an estimatedcost of above 300 billionwhich will take 30 years complete. The table below shows the number of abandoned projects in Nigeria.

Project Title	Site location	Contract sum	Year	of	Completion	Contract
			inception		year	duration
А	Ondo Road Akure	500 milliom	1986		-	12 months
В	Oba Ile Road	10 million	2001		-	-
С	AlagbakaAkure	15 million	2003		-	-
D	AkungbaAkoko	11.5 million	2008		-	-
E	AlagbakaAkure	738 million	2008		-	10 months
F	OkeAroAkure	11.5 million	2008		-	6 months
G	AkungbaAkoko	44 million	1999		-	24 months
Н	IjuItaogbolu	3 million	2004		-	-
Ι	IyereOwo	11.5 million	2008		-	6 months
J	Owo	17 million	2007		-	-
Κ	Okitipupa	800 million	2007		-	-
L	Ode EkitanIlaje	10 million	2008		-	-
М	Ode EkitanIlaje	8 million	2008		-	-
Ν	Ode Aye	11.5 million	2008		-	6 months
						[18]

Table : Inventory of abandoned projects in Ondo State of Nigeria.

As said by [13], the construction industry has a supreme rolein the economy of any nation, where an economy which is activeusually experiences an increase in the constructionactivities as well, but in a slow economy, the existence of project abandonment tends to be more extensive. According to [15], the issue of abandoned projects is a global phenomenon that and this issue is a negative factor to the stakeholders of thoseprojects, let alone the public itself. In Malaysia, the impact of this issue has become more an unbearable to this state. For a better understanding of this issue in Malaysia, figure below shows the number of abandoned projects in the span of 20 years in Malaysia.

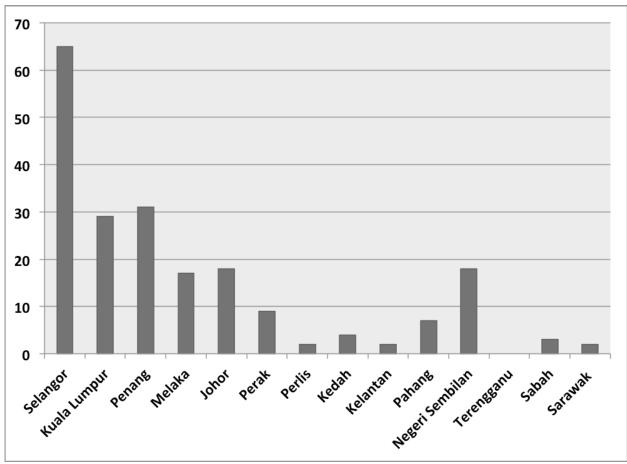


Figure – Malaysia's Abandoned Building Projects in the span of 20 years, with the comparison of number of projects in each state, [8]

The issue of abandoned construction projects istremendously effecting the industry in terms of economy, and needs a more serious outlook on this issue to have a better understanding of the problem so that the government could take the necessary steps to overcome this issue.

A Review on the Causes of Abandoned Projects.

The issue of project abandonments is plaguing the construction industry in some countries. Types of abandoned construction projects are building projects, roads, industrial structures, bridges, factories, dams, electricity, and communication projects, and so on. The abandonment of a projects gives an adverse effects on parties such as the developer, contractor, consultant and client. [20], as stated that the effects on these parties are in terms of unfavourable relationships, unreliable, lawsuits, conciliation, cash-flow problems, and a general feeling of anxiety towards each other. So, it is essential to define the actual causes of project abandonment so that its' prevention could be found.

[5], have stated in his study that there are several building project which has been seen to be having good potentials are abandoned atdifferent stages of the design and construction process.[6] and [7] has more or less the same reasoning on the failure or abandonment of a project, which are: 1) incorrect estimation; 2) unskilledpersonnel; 3) inadequate planning; 4) poor risk management; 5) misunderstanding of the work requirement; 6) poor qualitycontrol by regulatory agencies; 7) corruption and communicationgap among the personnel. They also further on added the other factors are 1) cost; 2) the developerand the contractors wherethe

clients have difficulties in engaging with the contractors and as well as with the designers where they do not meet to the expectations of the clients; and 3) contractors fail to prepare vital inputs such as materials, manpowerand machines efficiently on time. However, [14], have stated that there are situations that are not able to be predicted at the earlier stage, such as the Asian financial crisis which occurred from the year 1997-1998, causing an increase in the cost of building materials which ultimately led to project abandonment in some of the Asian countries. [3], is in the opinion that when all activities in a construction site stops completely, therefore the project is considered to be abandoned, whereas[2], has a different opinion where he states that as long as the possessor is facing some shortages financially, and is unable to continue with the project, therefore the project should be defined as suspended and not abandoned, where the project could be resumed once the possessor is financially stable.

The other causes of project abandonment given by [1],are government policies that are always inconsistent which brings to the lacking of accountability. He also added that there are high level of corruption which effects the construction projects, incompetent contractors, building materials which are not enough or unavailable, lack of utilities orinfrastructural facilities, unsuitable locations and so on, has been identified as some of the causes of project abandonment. [4], has admitted that abandonment is a well-known concept onconstruction projects in California, and this is due to the project's design which is so deficient that the contractor performs a massive amount of change orders and extra work, which ultimately causes the abandonment of the project. Therefore, it is incorrect to say that project abandonment only happens in the third world or developing countries. According to his study, [16], have identified that there are several categories of negative factors contributing to project abandonment, as shown in the table below.

Categories	Negative factors			
Project characteristic related factors	Difficulty of design and construction			
Procurement related factors	Inappropriate risk allocation among project team members			
	Inappropriate pricing/incentives of services rendered by contractors of			
	consultants			
	Faulty tender process			
	Ambiguities or mistakes in scope of work, specifications or drawings			
	Inadequate project feasibility studies			
	Lack of appropriate dispute resolution method			
	Poor contract administration			
	Site acquisition problems			
	Unclear lines of responsibility and authority			
	Inappropriate contract arrangements (traditional design-bid-build/design			
	& build/management contracting/etc.)			
	Inappropriate mode of financing project			
Project management factors	Inappropriate project planning and scheduling			
r tojeet management ractors	Project control problems			
	Bureaucracy and red tape within the project			
	Poor quality control			
	Problems of communication and coordination			
	Poor safety management on site			
Project participants related factors	Financial difficulties faced by the contractor			
	Financial difficulties faced by the owner			
	Delays in interim payments			
	Problems related to change orders/variation orders Involvement of large number of participants of project			
	Unavailability of materials and equipment			
	Incompetent contractors or subcontractors			
	Incompetent consultants			
	Unskilled/incompetent site workers			
	Shortage of site workers			
	Lack of motivation of site workers			
	Poor relationship among project team members			
	Inexperienced client/owner Relationship between contractor and labour (industrial relation)			
External factors	Adverse weather or acts of God			
External factors				
	Unexpected location difficulty			
	Negative impact of project towards society or environment			
	Lack of cooperation from local authorities			
	Unexpected bad economic conditions			
	Unfavourable government policy			
Other factors	Cultural clash among parties involved in project			
	Litigation			
	Fraudulent practices and briberies			
	[16]			

Table : Categories of negative factors that may adversely affect the success of projects.

A Review on the Effects of Abandoned Projects.

When a project is abandoned, there are definite negative effects that comes along with it. Whatever the causes that may lead to project abandonment, it overall effects the construction industry and the economic growth of a country badly.One of the clear effect of project abandonment is the waste of resources. According to [17], the waste of resources here are in the form of capital, material and human power. They further added that apart from that abandonment of a building project, tends to invite illegal activities which subsequently effects the safety and wellbeing of a community. When there is a project that is abandoned it therefore becomes a sore eyes to look at damaging the aesthetic vision of it andso on.They have also

explained that there is an effect on the socio-economic due to abandoned projects, where it isoverwhelming looking at the huge amount of moneyand resources lost on the part of the client who has invested on that particular project.

In Nigeria, from the findings of [13], the construction project abandonment effects are : 1) population of users getting disappointed of the proposed project; 2) lowering of the living standard; 3) wastage of valuable resources; 4) opportunities of employment becomes lower; 5) economic activities decreases; 6) decrease in the revenueaccruing to government; and 7) foreign loans are more difficult to obtain. Along with this researchers, [19] is also in the same agreement with them where in his qualitative research, he listed the effects of abandoned projects to be 1) unemployment; 2)reduction in government revenue; 3) reduction in economic activities; 4) lowering standard of living;5) wastage of equipment in site; and 6)an increase infinal cost of project. These effects are not much in difference with the effects suffered in Malaysia due to project abandonment, thus[14] further elaborated in Malaysia, the end users suffers in where they are unable to reside the houses on time as stated in the Sales & Purchase Agreement. Although they have not occupied the houses, yet they are obligated to pay monthly installments with interests to the banks. Apart from that, it is also common for vandalism of project sites due to project abandonment which have also led to illegal activities to be carried out at this particular places. They have also added that the other effects are price of raw materials increasing, building requirements changes, loans that are non-performing and land being foreclosed. In the meantime, the possibility of non-revival of abandoned projects where it is subjected as not viable, or there is no companies that are interested in investing for the purpose of revival, results to the economy loss.

There is no doubt that abandonment of a projects brings great effect to the construction industry which ultimately contributes to the downfall of the economic growth of a country. The causes and effects are not much different and are similarly faced by various countries who go through the issue of abandoned projects.

Suggestions on the Prevention on Abandoned Projects.

There have been several studies and researches on the issue of abandoned projects from different countries. From some studies there were certain suggestion and recommendations that has been given to overcome or prevent from the cases of abandoned projects from happening. This is to secure the image of the construction industry and the country's economy, and most importantly to save and prevent loses of money and valuable resources from happening.

For instance, [17] have enlisted some suggestions on overcoming the issue of abandoned construction projects in Nigeria. Some of it are permitting new projects that has the available resources, at the same time the process of selection of all favourable parties according to the contract should be characterized by accountability, transparency,honesty and integrity. Apart from that, the economic advantage in determining a new project should be the main criteria and not the political influence, which in such cases corruption at the level of Government and otherstakeholders in the housing sector should be curbedthrough Due process, Economic and Financial CrimeControl (EFCC), Budget Monitoring and PriceIntelligence Unit (BMPIU) and other Crime ControlAgencies.The need to set up a National Construction IndustrialBank in helping the situation when issues of abandoned projects are due to happen, is also highly recommended by these researchers.

Again in Nigeria, [13], in their study, have elaborated on some of their ideas indrastically reducing the projectabandonment effects. According to them, clients should definitely make an planningadequately for the project at starting point itself and should make sure there are sufficient funding available as estimated by the Quantity Surveyor also at the starting point as

well. The client should also appoint the services of competent construction professionals. An Architect who is appointed will be involved from the beginning stage preparing an economic design as required according to the cost plan as prepared by the QuantitySurveyor who also controls cost from the beginning and throughout the period of the contract. The clientshould not necessarily vary project scope. The progress payment to the contractor should be done accordingly through the valuation work done by the Quantity Surveyor and with the Architect'scertification. The government should also put a restriction on abandoning a project that has already been started just to input their new idea. The Government should take it as a priority to employ contractors with strong financial stand in executing contract works.

The proper measures that could be used in preventing the occurrence of abandoned construction projects, will also help to protect the welfare of the buyers as well. If any sort of prevention methods to resolve the issue of abandoned projects are successful, then this means saving money in millions, which ultimately contributes towards the growth of the country's economy.

Conclusion.

It is indeed a great regret that project abandonment is a big fallacy in a country's development. The ones who are affected by the issue of abandoned projects are not just developers and contractors, but also it is a great loss to people like labourers, government officers and clerks with middle income or average salaries, or even less than that.

There are also efforts in reviving an abandoned project, where the revival process consists of several stages and at the same time problems also arises during these stages. There have been some researches on the causes and implication of an abandoned project. There are also researchers who have recommended to study on the prevention to resolve this issue. There are some countries which have either recommended some solutions or have implemented measures and guidelines in resolving and preventing from project abandonment from occurring. Thus, the real question here is how far this measures, suggestions and guidelines have helped and been put in proper use in resolving or minimizing the issue of abandoned project.

[14], however have stated that it is crucial to say thatabandoned projects are not profitable towards the constructionindustry and has negative consequences on the economy of the country and most of the losses are on the end users. Therefore, it will be a great advance for the society, industry and country, if a vigorous attempts are made jointly by the civil and private sectors to end this problem of abandoned project.

References

[1] Adeleke S.A, "Abandonment of Federal Government Low-CostHousing Estate", Anunpublished HND project submitted to Departmentof Building Technology, Federal Polytechnic, Offa, 2005.

[2] Akindoyemi J.A, "Housing in Nigeria National Development", Lagos: Niser Reprint series No 83, Economics and Social journal, vol. 14, no. 3, pp. 315, 2005.

[3] Dawodu M.B, "Housing Strategies in Nigeria", Ibadan: NigerianInstitute of Town Planner Journal, vol. 3,pp. 10, 1987.

[4] Hicks, Mathew, "Project Abandonment: Separate LegalConcept", An article placed on internet under google search on projectabandonment, 2008.

[5] Kolawole O. J., "A review of Abandoned Projects cases inNigeria", A publication in Builder's Voice – A publication of NationalAssociation of Building Students – Federal Polytechnic, Offa chapter, Offa: Metro-print Concept, 2006.

[6] Makalah, Contoh, "Abandoned Construction project", A paperpresented at International Conference on Social Sciences and Humanities, 2008.

[7] Oyelola. W, "Engineers proffer solutions to project failure", Lagos: The Nation, The Nigerian Daily Newspaper, pp. 32, August 2010.

[8] National House Buyers Association, 2009, Abandoned, Stalled, Revived Projects Database, accessed from <u>http://www.hba.org.my</u>

[9]Akindoyeni. A, "The management of abandoned project", Journal of Nigerian Institute of Building, vol. 1, no. 2, pp. 27, 1989.

[10] Kotangora O.O., "Project abandonmentNigerian Tribune", 1993.

[11] Ogunsemi D.R., "The use of cash flowforecasting and effects on the abandonment of projectin Nigeria", 1991.

[12] Osemenan I., "Project abandonment NewWatch Magazine", vol. 1, vol. 15, June 1987.

[13] Olusegun A.E, Michael A.O, "Abandoned of Construction Project in Nigeria : Causes and Effects", Journal of Emerging Trends in Economics and Management Sciences (JETEMS), vol. 2, no. 2, pp. 142-145, 2011.

[14] Abdul Aziz Hussin, AbdelnaserOmran, "Implications of Non-completion Projects in Malaysia", ActaTechnicaCorviniensis-Bulletin of Engineering Tome IV, pp. 29-38, 2011.

[15] Ahmed Arizz Ahmed Azhar, "Un-abandon : Prevention & Recovery of Abandoned Projects in Malaysia", Deakin University, 2014.

[16] Yap, E.H., "Causes of Abandoned Construction Projects in Malaysia", UniversitiTunku AbdulRahman, Malaysia, 2013.

[17] OlapadeOlalusi, Anthony Otunola, "Abandonment of Building Projects in Nigeria – A Review of Causes and Solutions", International Conference on Chemical, Civil and Environment Engineering (ICCEE'2012), Dubai, pp. 253-255, March 24-25, 2012.

[18] Ondo State Ministry of Works, Inventory of Abandoned Projects, Ondo State of Nigeria, December, 2009.

[19] Aluko O.O, "Construction Project Abandonment in Nigeria : A Threat to National Economy, Knowledge Review", vol. 16, Iss. 3, pp. 18-23, 2008.

[20] S.M. Ahmed, S. Azhar, M. Castillo, P. Kappagantula, "Construction delays in Florida: An empirical study", Department of Community Affairs, Florida, 2000.