

1 **Road Infrastructure Project Success: Understanding**
2 **the Role of Stakeholder Management in a Rural Setting**

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11 **Abstract.** This paper analyzed the effects of stakeholder management(SM) on
12 rural road construction projects using as a case study. Increasing road
13 construction projects failure and abandonment and the impact on the citizens'
14 wellbeing in two administrative areas were the motivation behind this research.
15 Several authorities support the position of a relationship between stakeholder
16 identification and management and rate of success of road construction
17 projects. The main research instruments used was a standardized questionnaire
18 based on Likert five-point scale. The data collected from the respondents in the
19 field were subjected to Analysis of Variance (ANOVA) F- Test. The result
20 showed that, there is a significant relationship between failure and
21 abandonment of road construction projects and the management of
22 stakeholders. Proper project stakeholder identification has a significant
23 contribution to the implementation of successful rural road construction
24 projects.

25 **Keywords:** Construction, Imo, Insurgency, Stakeholders, Road..

26 **1 Introduction**

27 Road construction projects provide most countries' fixed assets and major stimulus to
28 an improved and functional economy and hence qualify as infrastructure to the extent
29 that they belong to the group of "basic structures and facilities that are essential to the
30 generation of economic growth and development in modern economies" [1]. Like all
31 projects, road construction projects involve varying, differing, conflicting and
32 sometimes competing stakeholders' interest, objectives, backgrounds, responsibility
33 and authority such that can change over the course of the project life cycle. Examples
34 of such responsibility and authority may range from occasional contributions in surveys
35 and focus groups to full project sponsorship, which includes providing financial and
36 political support [2].

37 The European network for rural development in its EU review 2019 described
38 ‘stakeholder involvement’ as implying allowing the beneficiaries or project host to have
39 a say in the decisions that affect their lives and an opportunity to give their opinion
40 when development projects like road construction is being contemplated [2].According
41 to [3], defined a stakeholder as a person or group of persons directly or indirectly
42 affected by a project, as well as those who may have interests in a project and/or the
43 ability to influence its outcome, either positively or negatively. These may include
44 locally affected communities or individuals and their formal and informal
45 representatives, national or local government authorities, politicians, religious leaders,
46 civil society organizations and groups with special interests, the academic community,
47 or other businesses [4]. One ‘primary challenge’ and ‘critical task’ [5] and important
48 requirement of a good project manager and is the ability to coordinate the diverse
49 interests and sentiments of these stakeholders from the initial phase through to final
50 implementation [6]-[7].

51 Stakeholders can have an adverse impact on the project objectives and identifying
52 them is a continuous process that can be difficult but helpful in achieving success within
53 the project scope. These stakeholders should be classified according to their interest,
54 influence, and involvement in the project. A project can be successful in its entirety
55 when the construction organization is able to effectively manage all human and non-
56 human resources; this is done to deliver a facility that satisfies and exceeds the needs
57 of the client at the time it is required and within considerable budget range [8]. To-date
58 the concepts of cost, time, quality, and scope are viewed as important success metrics
59 especially in the context of value “exactitude, and equality” [9]-[10]. One way to meet
60 and exceed the needs of clients is by their involvement [8].

61 This paper focuses on the following:

- 62 1. Establishing the type of relationship between stakeholder management and
63 causes of success or failure of road construction projects in rural communities
64 in a developing country case.
- 65 2. Establishing inference from the relationship to guide future direction and
66 possible future research.

67 The other parts of this paper are: section II which is a short review of related
68 literature, section III is the materials and methods, section IV addresses the results,
69 discussions are in section V while section VI is the conclusion and future research
70 direction.

71 **2 Related Works**

72 The concept of stakeholder management as a function of project success abound in the
73 literature [2], [11]-[16]. In [17], the term’s origin was traced to Freeman’s 1984 work
74 and sees it as the individual or group that has an interest or some aspects of right or
75 ownership in the project, can contribute in the form of knowledge or support or can
76 impact or be impacted by the project”. For example, [11] proposed that for improved
77 stakeholder management, the project manager must integrate project risk management
78 principles and project management leadership. A very important factor according to
79 [11] is the identification of what constitutes project management leadership such as

80 core leadership skills, risk-smart attitude, accountability-based behavior and project
81 manager expertise.

82 [8], stated that stakeholder management is a significant component in managing a
83 firm as well as a project. In any project, and especially in construction projects, many
84 different and sometimes discrepant interests must be considered. It is argued that
85 meeting stakeholders' expectations and needs will favor the prospects of successful
86 projects, while failing to do so can cause projects to fail. Also, a project that does not
87 successfully manage its stakeholders is assumed to have failed even if it meets the
88 criteria of time, cost and quality. These critical factors pose a challenge to project
89 managers as opined by [17]. Hence [18] attempt to understand the influence of
90 stakeholders on projects using a social network analysis approach.

91 In [19], it was indicated that because of the uncertain and complex nature of
92 construction, it is important that a proper stakeholder analysis and engagement process
93 is carried out to successfully manage the process. Stakeholder analysis is seen as
94 ranging from identification, categorization, to assessment based on relevant influences
95 and relationships. Stakeholder analysis identifies all primary and secondary
96 stakeholders who have a vested interest in the issues with which the project or policy is
97 concerned. The goal of stakeholder analysis is to develop a strategic view of the human
98 and institutional landscape, and the relationships between the different stakeholders and
99 the issues about most they care. In the same vein, are the facts of non- "homogeneity
100 of stakeholder groups", their project complexity impact [20] and 'complexity' itself
101 being positively correlated with project uncertainty and risk [21] and failure [22].

102 In the same vein, [23] explained that conducting a stakeholder analysis helps project
103 managers to attempt to paint a picture of the stakeholder environment which will be
104 used to make decisions about management of stakeholders in the project. Stakeholder
105 analysis should be a continuous process that spans throughout the process of a project
106 life cycle to retain effectiveness and this should be done alongside stakeholder
107 engagement which requires managerial skills and effective communication [24].
108 Therefore, stakeholder analysis can be said to mean the process of identifying all the
109 persons, groups and institutions who may have an interest in a project and taking steps
110 to manage their interests and expectations so that the project runs as smoothly as
111 possible.

112 Justifying the need for stakeholder engagement, [3] stated that different stakeholders
113 will want different outcomes from projects. A vital part of stakeholder management is
114 managing these competing expectations from the initial phase through to final
115 implementation. Stakeholder priorities tend to change during the project lifecycle and
116 as such compounds the challenge; managing stakeholders represents a major political
117 challenge to project managers which if not properly handled will increase the incidence
118 of failed and abandoned road construction projects in the state.

119 Following [12], the importance of stakeholder engagement was further demonstrated
120 through the 'do-nou' concept of rural roads development. It may be adduced thus that
121 the Federal Government of Nigeria also appreciated the importance of rural road
122 construction. In [25], a 2010 world bank report on the rural access roads and mobility
123 projects in Nigeria (phase 2) revealed a huge procurement plan by the federal and state
124 governments.

125 Despite the review above, several states in Nigeria are still far from enjoying quality
 126 and improved roads including the Imo state used as a case study. This paper thus is an
 127 attempt to add to the bank of literature on the subject matter of enhancement of rural
 128 roads infrastructure through proper stakeholder engagement.

129 **3 Materials and Methods**

130 The field work was carried out in Owerri west and Owerri municipal local government
 131 areas of Imo State Nigeria though the use of structured questionnaires designed to get
 132 the level of involvement of the affected communities where rural roads were either
 133 awarded or in the process of construction. Using a convenient sampling, questionnaires
 134 were administered to 100 respondents in two local government areas in Imo State:
 135 Owerri West and Owerri Municipal respectively in Imo State Nigeria. Owerri is the
 136 capital of Imo state and accounts for most of the construction projects carried out in the
 137 last eight (8) years. Owerri Municipal is the seat of the government house while Owerri
 138 west is a major local government linking Imo state to Rivers state a very important state
 139 in Nigeria due to its oil and gas exploration activities. The sampling technique thus is
 140 both convenient (since the researcher's location is same Owerri) and purposive (since
 141 they were chosen deliberately due to the reasons above). However, during questionnaire
 142 distribution, random sampling of respondents was adopted as no choice of respondent
 143 was premeditated during the field exercise.

144 The feature and spread of the respondents were analyzed using the simple percentage
 145 technique. This is done by quantifying the views and opinions of the respondents and
 146 normalizing it in percentage. The test of hypothesis and discussion of results were done
 147 after data were subjected to analysis of variance (ANOVA) and F-Test using statistical
 148 package for social science (SPSS) software version 19. Although one hundred (100)
 149 questionnaires were distributed, only eighty (80) copies were returned correctly filled;
 150 thirty (30) had inconsistent response and were rejected while twenty (20) copies were
 151 not returned. The returned and correctly filled were fifty (50) and used for this analysis.
 152 The summary of the demography of the respondents showed 56% have experience of
 153 over 10 years. These were considered stakeholders since they reflect all interest groups
 154 either participating, interested or affected by the rural road projects in the area under
 155 coverage.

156 **4 Results**

157 This section was treated using research questions. The section presents the response
 158 and the deductions from them. The first question was to find out if material usage and
 159 quality of material used was responsible for the abandonment and failure of projects in
 160 Imo state. The responses as in table 5.

161 **Table 5:** Response to question one

Measurement scale	Respondents	Percentage (%)
Strongly disagree	2	4

Disagree	6	12
Neutral	5	10
Agree	12	24
Strongly agree	25	50
Total	50	100

162 Table 5 reveals that over 50% agreed to the assertion that indeed material
 163 quality and material usage was responsible for the failure and or abandonment of rural
 164 road projects in Nigeria. The ANOVA results can be seen in table 6

Table 6: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	60.400	4	15.100	4.512	.019
Within Groups	150.600	45	3.347		
Total	211.000	50			

165 **Decision rule:** Reject H_0 if $P\text{-value} < 0.05$ or $F_{CAL} > F_{TAB}$ Otherwise accept.

166 Since the F-sig. change is less than 0.05, the researchers rejected null hypothesis
 167 (H_0) and accepted the (H_a) alternative: The impact of road deterioration and constant
 168 accidents are significant on the material used and the quality of road construction
 169 projects in Imo State. Notice that in table 6, p-value is 0.019. Table 7 is used to test the
 170 second hypothesis which was to test the relationship between stakeholder management
 171 and success or failure of rural road construction project.

Table 7: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	62.200	4	15.500	5.416	.009
Within Groups	128.800	45	2.862		
Total	191.000	50			

172 **Decision rule:** Reject H_0 if $P\text{-value} < 0.05$ or $F_{CAL} > F_{TAB}$ Otherwise accept.

173 Here, the null hypothesis was rejected since F-Significant value was 0.009 which is
 174 less than 0.05. The implication is accepting the alternative which states that there is a
 175 significant relationship between rural road construction projects failure and poor

176 stakeholder management. The values 0.009 in table 7 is less than 0.05. Table 8 was
 177 used to test the third hypothesis which was to test project stakeholder identification.

Table 8: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	60.400	4	15.100	4.512	.019
Within Groups	150.600	45	3.347		
Total	211.000	50			

178 **Decision rule:** Reject H_0 if $P\text{-value} < 0.05$ or $F_{CAL} > F_{TAB}$ Otherwise accept.
 179 Since the F-Sig. value is 0.019 and is less than 0.05, null hypothesis is rejected, and
 180 alternative is accepted stating that Project stakeholder identification has a significant
 181 contribution on the implementation of successful road construction projects in Imo
 182 State.

183 5 Discussion

184 Please The following are the findings of the study:

- 185 1. The deterioration and failure of road construction in Imo state are significantly
 186 related to poor stakeholder engagement.
- 187 2. There exists a relationship between the quality of materials used and the
 188 accident rate in Imo state showing that poor or little quality materials used in
 189 rural road construction is seen by stakeholders as responsible for accidents
 190 along the Owerri west in particular. This location is important because it links
 191 the state to the oil region though Port Harcourt road.
- 192 3. Identifying the relevant stakeholders in a rural project has a significant
 193 relationship with the success or failure of the project.

194 The above results agree with the works of other researchers and more importantly
 195 that of [26] who suggested that one way to reduce the number of poor or abandoned
 196 projects in Nigeria is to integrate good project management principles during planning,
 197 robust monitoring and evaluation procedure. Evaluation presupposes review, and this
 198 is where stakeholder engagement cannot be ignored.

199 6 Conclusions

200 The conclusion reached from the results of this paper is that stakeholder identification
 201 and management significantly affect the success of road infrastructure projects in rural
 202 areas using Imo state as a case study (see table 7 and 8). It is a future research direction
 203 to repeat this same analysis in more than one project and locations. It is also worthy of

204 research if the interpretations across diverse locations. This will serve as comparative
 205 analysis of the respondents' diverse view about stakeholder management for effective
 206 project delivery.

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