

RELATIONSHIP BETWEEN COMMUNITY ENGAGEMENT IN PROJECT PLANNING AND PERFORMANCE OF ROAD CONSTRUCTION PROJECTS IN JUBA COUNTY, SOUTH SUDAN.

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Abstract

Background

One of the important tasks in the new millennium was to find successful ways to engage the communities in shaping the future of road construction in Juba County. The study aims to examine the relationship between community engagement in project planning and the performance of road construction projects in Juba County, South Sudan.

Methodology

A cross-sectional study employing quantitative data collection methods. The study used a combination of both random and non-random sampling techniques. Simple random sampling was used because of its simplicity and the ability to allow all respondents an equal chance of being included in a sample.

Results

There is a positive correlation between community engagement in project planning and the performance of road construction projects in Juba City ($r = 0.241$ and $P \text{ value} < 0.01$) which gives us evidence that there is a significant positive relationship between community engagement in project planning and performance of road construction projects in Juba South Sudan. 44.6% of changes in the performance of road construction projects in Juba can be explained by community engagement in project planning, and the 55.4% changes are explained by other factors. An increment in community engagement in project planning in Juba leads to an increase in the performance of road construction projects in Juba by .214. The coefficient is significant at a 5% significance level since the $P \text{ value}$ ($0.00 < 0.05$).

Conclusions

Community engagement in the planning stage of the community road construction project has a significant influence on the performance of community-based road construction Projects.

Recommendations

The community road construction projects should hold capacity-building sessions for the members and the committee members to equip them with appropriate knowledge concerning the designing and development of community road construction projects.

Keywords: *Community Engagement, Project planning, Performance of road construction projects, Juba County.*

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Background

One of the important tasks in the new millennium was to find successful ways to engage the communities in shaping the future of road construction in Juba County. Over the years, community engagement and performance of road construction projects in Juba County in South Sudan has been significantly increasing as compared to other counties. In cases where the community participated, their concerns are mainly focused on value for money, compensation for any property to be destroyed, supply of locally available raw materials, casual jobs on site, and other such related activities. Community participation in project planning can be of two types; in the form of top-down programs

or bottom-up initiatives (Moser 1991). These two processes are the exact opposites of each other and differ based on whether governments/implementing agencies or the communities have the overall control of the program. Turner (1977) elaborates on the top-down and bottom-up approaches by comparing them with the heteronomous housing systems 'and the _autonomous housing systems 'respectively. The difference between the two systems is in the decision-making power of different actors at different stages of the housing process. Johnson (1983) in his book, *Development in South Asia*, explains the top-down and bottom-up developmental approaches using a simple example of the construction of a dam and the improved agricultural production as a

result. In most cases, dam construction is a top-down development process where all the decisions are made by the government or other agencies without seeking the consent of the people. Johnson explains that there can be a bottom-up development as well where the people may decide to adopt modern agricultural technologies to improve the overall production. Now these are two different kinds of developments, one is imposed while the other is self-chosen by the people. The principles of participation are rooted in Paulo Freire's psychosocial method in which people discuss their life situation, identify their problems, and plan for transformation (Mulwa, 2008) and Mahatma Gandhi's principles of self-help (Mansuri and Rao, 2004). The principles require developers to focus on creating critical awareness through experience-based learning, reflection on the people's life situations and finding out what to do with its inadequacies, planning for collective action to transform whatever is undesirable, acting to change the situation and finally identifying failures and successes from actions taken so that it informs the next plan of action (Ibid, 2008). It is a reversal from centralized standardization to local, diversity, and blueprint to the learning process, (Chambers, 1994). The higher the degree of community participation in a project, the greater the need for care in planning at the community level. This also means that communities that accept a higher level of community participation need greater support in their activities from the regional and national offices of the development agency. Two areas where a particularly high level of support is needed are manpower (Skilled) and training. Both areas have been major constraints to progress in the past (WHO 1986). The study aims to examine the relationship between community engagement in project planning and the performance of road construction projects in Juba County, South Sudan.

Methodology

Research Design

Category	Accessible Population	Sample Size	Sampling Techniques
Counties and Town Council Executives.	18	05	Purposive Sampling
Counties and Town Council Administrative leadership	16	05	Purposive Sampling
County residence	10	02	Census
Town Councils, chiefs, and Road User Committees	42	05	Simple Random Sampling
Town Council community members and town Council counsellors	42,503	397	Simple Random Sampling
TOTAL	42,589	396	

A research design is regarded as the conceptual structure within which research is conducted. The study used a

cross-sectional research design. It adopted quantitative approaches, the quantitative approach was used to quantify and analyze the data gathered from the study sample. The cross-sectional survey research design was preferred for this study because it was quick to conduct, data is only collected once it takes a snapshot of an ongoing situation, and it allows analysis or mapping out of the relationship between two or more educational variables. Quantitative data was used in the study. The quantitative method was selected because most phenomena were described in numbers and measures.

Study population

This study was conducted in Juba County. The target population for the study was 42,589 respondents according to the South Sudan Bureau of Statistics Census (2008). The population entailed the executive members of the leadership of Juba County, the technocrats, politicians, and the local community of Juba County.

Determination of the Sample Size

Sample size referred to a maximum number of respondents that was representative of an entire population. In other words, it is the subset of a population. From the above-identified accessible population of 42,589 respondents, a sample size of 396 respondents was determined based on Slovic's formula as calculated below;

$$n = \frac{N}{1 + N(e)^2}$$

1 + N (e)²

Where **n** is the sample size, **N** is the population and at the same time **e** is the error term which will be 0.05 therefore the sample size will be; **n = 42, 9 = 396**

$$1 + 42,9 (0.05)^2$$

The sample of the study consisted of 396 respondents; 05 Counties and the Town Council.

Executives, 05 Counties and Town Council Top Administrative leadership, 02 Counties' Local Road Contractors, 05 Town Councils & Chiefs, Road User

Committees, and 379 local community members as shown in the table 1.

Table 1: Accessible population, Sample size, and Sampling Techniques

Source: Juba County Five Year Development Plan (2012/17), determined based on the Krejcie & Morgan Mathematical Table (1970).

Sampling Techniques and Procedure

Sampling is used to get information about a population. That is because it is often too expensive, time-consuming, practically impossible, or unnecessary to canvass the whole population. The study used a combination of both random and non-random sampling techniques. Simple random sampling was used because of its simplicity and the ability to allow all respondents an equal chance of being included in a sample. This technique was applied to the identification of the local chiefs together with Road User Committees, and the community in the Town Council area to whom the questionnaires were administered. On the other hand, the purposive sampling method was used to select key informants for interviews. The purposive method was considered appropriate because it enabled the researcher to select the exact people who were involved in community projects in the area under study.

Data Collection Methods

Data collection is a process of collecting information from all the relevant sources in order to find answers to the research problem, test the hypothesis, and evaluate the outcomes. They were divided into two Primary and Secondary data collections.

Questionnaire

A questionnaire could be referred to as a predetermined written list of questions that may be answered by a respondent without supervision or explanation. It was developed in line with the objectives of the study and pretested for consistency as it allowed the respondents to give free and independent opinions. The questionnaire involved a series of direct closed and open-ended questions designed properly to get answers from the respondents with responses of yes or no. Questionnaires were distributed to collect quantitative data from the determined sample of, 02 members of Counties Local Road users, 05 members of Town Councils Local chiefs and Road User Committees, 379 members of Town Council community members, and town council counsellors. In case of non-response, the study will make a call upon respondents on whether they filled the questionnaire. A call-up enabled respondents to prioritize the study.

Interview

This is a method of data collection where the investigator gathers data through direct verbal interaction with the participant. It was adjusted by the researcher to meet many diverse situations. The researcher played a critical role in probing to acquire in-depth information about the key research questions of the study. The interview guide

was used to collect data from key informants who included 05 members of the counties and town council executive, and 05 members of the chosen county and town council administrative leadership. The interviews involved face-to-face discussions on issues about community engagement and the performance of road construction projects in Juba County located in South Sudan the choice of the method enabled the researcher to gain relationships with the respondents, in addition to aiding the researcher to probe for in-depth information and obtain clarity on any unclear issue.

Data Collection Instruments

Four main research instruments were used in the study including the key information interview checklist, questionnaire, and documentary review checklist as detailed below.

Interview guide/ Key informant Interview Checklist

The key information interview checklist or interview guide was used to collect data from key informants that included 05 members of the chosen counties and town council executive, and 05 members of the Juba County and town council administrative leadership. The interviews involved face-to-face discussions on issues about community engagement and the performance of road construction projects in South Sudan specifically Juba County local government. The choice of the method was to enable the researcher to gain a relationship with the respondents, in addition to aiding the researcher to probe for in-depth information and obtain clarity on any unclear issues.

Questionnaire survey

A composite of questionnaires was designed to capture information about community engagement and the performance of road construction projects in South Sudan especially in Juba County. The questionnaire was structured, with items that were easily interpreted by the respondents. Some items contained a list of alternatives from which respondents chose answers of their choice. In addition, the study used a five (5) Likert scale ranging from one (1) for strongly disagree to five (5) for strongly agree to means that the higher the number, the greater the influence of community engagement and performance of road construction project in Juba County, South Sudan. This was useful in the study as it helped in determining the relationship among the variables under investigation. The questionnaires were administered to two (02) members of Juba County locals, five (05) members of the town Councils, County chiefs and Road User Committees, three hundred and nine (379) members

of town council community members, and town council counselors.

The choice of this instrument was made because it helped collect opinions, views, and beliefs from a large number of respondents in a relatively short time. After all, the generally literate respondents answered the questions in private without being affected by the researcher's presence. The advantage of a questionnaire was that it looked at as the single most suitable tool for collecting independent opinions, feelings, attitudes, perceptions, and views from a large number of different categories of relatively literate respondents within a short time.

Documentary Review Checklist

This instrument contained the use of a list of the documents that were reviewed by the researcher to acquire more secondary data required for the study. Some of the documents that were included on the review list were: the Juba County Budget Performance Report (2019/2014), the South Sudan National Budget (2019/2024), Juba County Financial Report, (2018/19).

Validity and Reliability

To ensure quality instruments, validity, and reliability checks were conducted as explained below;

Validity of the Instrument

Validity refers to the degree to which results obtained from the analysis of the data represent the phenomenon under study. Content validity index (CVI) was computed to ensure that the measure included was an adequate and representative set of items that tap into the community engagement and performance of road construction projects in Juba County local government, South Sudan. In the study, the content validity of the questionnaire was obtained by identifying three people who were well-versed in the measurement of the study attributes to rate the items for relevance to the study variables. Each of them was asked to rate each question as relevant, quite relevant, irrelevant, or quite irrelevant. The CVI for the whole instrument was then obtained by calculating the number of items declared relevant by all three judges divided by the total number of items in the questionnaire. $CVI = \frac{\text{No. Of items declared relevant}}{\text{total number of items in the questionnaire}}$ If the $CVI \geq 0.70$, then the item is accepted as valid for the research purpose.

Reliability of the Instrument

Reliability is the degree to which an assessment tool produces stable and consistent results. The closer Cronbach's alpha to 1 (one), the higher the internal consistency reliability. To ensure reliability, the research instruments were pre-tested, and data was collected and analyzed. A micro field research exercise was carried out to enable the researcher to select the key questions that would enable him to obtain the relevant data to the topic

under study. In addition, the reliability measure was established by testing for both consistency and reliability. Consistency indicates how well the items measuring a concept are hung together as a set. Qualitative responses obtained from the group of 10 respondents and pretested using Cronbach's alpha reliability coefficient a feature embedded in SPSS revealed whether the items were positively correlated to one another or not.

Data Analysis

Data was managed and analyzed by using quantitative methods.

Quantitative Data Analysis

There are three objectives of data analysis which include; getting a feel for the data, testing the goodness of the data, and testing the hypotheses developed for the research. Statistical Package for Social Sciences (SPSS) version was used to enter and analyze the numerical data collected from the questionnaires. After data collection, the researcher organized the data by counting the responses from the questionnaires, coding, and tabulating them, after which the results were presented in groups according to the three research questions. Inferentially, data was presented using the simple linear regression - specifically model summary to determine the effect and variation in the dependent variable and independent variables under the study. Data was summarized descriptively in terms of frequencies, means, standard deviation, and percentages. In addition, the data was presented in tabular and graphical formats for discussion and interpretation.

Measurement of Variables

The study variables were categorized into the core independent variable and dependent variables. In this case, community engagement formed the independent variable while the performance of road construction projects represented the dependent variable. The variable measurement will be based on a five-point Likert scale of 5 = Strongly Agree (SA); 4 = Agree (A); 3 = Undecided (UD); 2 = Disagree (D); 1 = strongly disagree (SD) and was measured based on the ordinal measure since the items ranked or numerical data. On the other hand, nominal measurements were used on background variables, such as age, gender, and experience, among others.

Ethical considerations

The ethical issues for consideration in this study included confidentiality, anonymity, privacy, and informed consent which was required in all studies and research using human participants. In seeking consent from the respondents, the researcher explained the purpose of the study, the expected duration and procedures of the study, and what the information gathered was to be used for ensuring informed consent. The researcher ensured that privacy matters were

addressed from the inception of the research to the publication of the results. There were safety nets put in place to guarantee confidentiality. The instruments for collecting data guaranteed anonymity for all the respondents. The only amount of personal data that was collected for the research was the minimal amount needed to ensure a proper sampling of the population. Personally identifiable information was not collected nor maintained unless necessary and consented to by the respondents. The participants remained anonymous throughout the study even to the researcher himself. All the instruments, questionnaires, and interview schedules clearly explained the intention of the study to the

respondents. Respondents received full disclosure of the nature of the research, the benefits, and the risks involved with an opportunity to ask questions. The researcher also explained to respondents the major objective of research as being purely for academic purposes. The researcher thereafter requested respondents to give their opinions on the problem under study.

Informed consent

The purpose of the study was well explained to the respondents and consent was obtained from the respondents before data collection.

Results

Respondents Background Information

Table 1. Demographic Information

Gender	Frequency	Percent
male	198	50
female	198	50
Total	396	100
Age		
Under 20	23	6
21-30	28	7
31-40	113	28
41-50	68	17
Over 51 yrs.	164	41
Total	396	100
Marital status		
single	91	23
married	305	77
Total	396	100
Academic qualifications		
'O' level	339	86
Diploma	45	11
Degree	12	3
Total	396	100.0

The table presents the demographic information and shows that the gender of the respondents was 50% male and 50% female, while on Age 41% were Over 51 yrs. With 6% being Under 20yrs. The marital status of

respondents shows that 77% were married with 23% being single and finally on Academic qualifications 86% were O. level school leavers with 3% having a degree level of education.

Community engagement in the planning stage

Table 2, Community Engagement in Planning of Road Construction Projects Are you involved in your community road project?

	Frequency	Percent
Yes	385	97
No	11	3
Total	396	100
Does your community road construction projects practice any form of planning		
Yes	368	93
No	28	7

Total	396	100
If yes, who carries out the planning		
Management Committee	91	23
The Management and The Community	277	70
Total	396	100
Are you satisfied with the composition of the project?		
The management team of the community road construction		
Frequency Percent		
Yes	60	86
No	10	14
Total	70	100
Is your community road construction project management team efficient in its services?		
Strongly Disagree	11	3
Disagree	51	13
Neutral	91	23
Agree	147	37
Strongly Agree	96	24
Total	396	100

Table 2, presents answers to the question of whether the members are involved in their community road construction projects, 97% said yes, while 3% said no. On answers as to whether community road construction projects practice any form of planning 93% said yes while 7% said no. Further asked who carries out the planning 23% said the Management Committee, with 70% saying the Management and the Community. In answers to the question of whether the respondents were

satisfied with the composition of the project management team of the community road construction projects, 86% said yes while 14% said no. In answers to the question of whether the community road construction projects management team was efficient in its services, 37% were Neutral while 3 % strongly disagreed and 24% Strongly Agreed that the community road construction project management team was efficient in its services.

Table: 3, Descriptive Statistics Community Participation In the Planning Stage

	Likert scale					N	Mean	Std. Deviation
	Very much (5)	Much (4)	Not sure (3)	Not much (2)	Not at all (1)			
To what extent do Information sharing influence the sustainability of the community water project	24	39	1	6	0	70	1.8429	0.82770
To what extent do the nature of Consultation influence the sustainability of the community water project	21	36	1	12	0	70	2.0571	1.00557
To what extent do Decision making process influence the sustainability of the community water project	26	25	1	18	0	70	2.1571	1.18732
Average							2.02	1.0063

Table 3, Presents descriptive Statistics on the influence of Community Participation in the Planning and performance of community-based road construction projects in Juba County South Sudan, and shows this has a Mean average of 2.02 on a 5-point Likert scale, which

is 40% and a Std. A deviation of 1.0063, which is above 1.00 reflects a high disparity between respondents' opinions on the influence of Community Participation in Planning on the performance of community-based road construction projects.

Table 4: Correlation results between study variables Correlations.

Variables	1	2	3
Project planning (1)	Pearson Correlation	1	
	Sig. (2-tailed)		
N	396		

**. Correlation is significant at the 0.01 level (2-tailed). Source: Primary data

Table 4, The study revealed that there is a positive correlation between community engagement in project planning and the performance of road construction projects in Juba City ($r = 0.241$ and $P \text{ value} < 0.01$)

which gives us evidence that there is a significant positive relationship between community engagement in project planning and performance of road construction projects in Juba South Sudan.

Table 5: A regression analysis of the effect of community engagement in project planning on the performance of road construction projects

Dependent variable performance of road construction projects

Model	Unstandardized coefficients		Standardized coefficient	T	
	Sig				
	B	Std. Error		value	
Constant	.626			5.989	.000
Project planning	0.195		.214	4.721	.000
R squared	.476				
Adjusted R squared	.446				Sig 0.000

Source: field data (2024)

Table 5, From the findings, it can be explained that 44.6% of changes in the performance of road construction projects in Juba can be explained by community engagement in project planning, the 55.4% of changes are explained by other factors. Furthermore, an increment in community engagement in project planning in Juba leads to an increase in the performance of road construction projects in Juba by .214. The coefficient is significant at a 5% significance level since the P value ($0.00 < 0.05$). Therefore, it can be concluded that community engagement in project planning affects the performance of road construction projects in Juba.

Discussion

Community engagement in project planning and performance of road construction projects in Juba.

The findings revealed that there is a positive correlation between community engagement in project planning and the performance of road construction projects in Juba City. The findings are in line with the literature by Riege and Lindsay (2006) who studied community engagement in the public sector activities and stakeholder engagement in the public policy development. Based on public sector experiences in several countries in the Western World such as the USA, Australia, and the European Union, they established that successful public policy depended on the effective coordination of many stakeholders, necessitating a chain of processes that

involved analysis, evaluation, and reconsideration. This only occurred when Governments committed to policy objectives that were stated and communicated, honestly, and openly. Therefore, when stakeholders share information among themselves, it enables the identification of weaknesses and strengths thus improving the service quality of road construction projects.

Conclusions

Community engagement in the planning stage of the community road construction project has a significant influence on the performance of community-based road construction Projects. The Road committees, donors, and the government officials in the Ministry of Water hold prior consultations with the community members before the Road construction projects are deliberated, more so community members are involved in decision-making when designing the project structure, and location of road standpoints.

Recommendations

The community road construction projects should hold capacity-building sessions for the members and the committee members so as to equip them with appropriate knowledge concerning the designing and development of community road construction projects. This will enable the members to make suitable contributions to the project design.

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Conflict of interest

The author did not declare any conflict of interest

Author contributions

Modi John Molla designed the study proposal, collected and analyzed the data, and drafted the manuscript.

Dr. Mwesigwa Simon Supervised all the stages of the project to the drafting of the manuscript.

Dr. Ssembajjwe Ben was an external supervisor of the research project.

Ethical approval

The study was undertaken ethically by seeking permission before conducting the research in the form of a formal letter of request elaborating on reasons for undertaking the study and the study's purpose. The researcher also assured the respondents that any information submitted was treated with utmost confidentiality.

Availability of data

The use of published data in this study is subject to the copyright laws of Team University. Authorization to use this data may be sought from the school of graduate studies and research.

Author Biography

Modi John Molla is a student of Degree of Master of Educational Planning and Management at Team University, Kampala, Uganda.

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