

## **EFFECT OF PROJECT PLANNING PROCESS ON COMPLETION OF DEVOLVED GOVERNMENT WATER PROJECTS IN KENYA, KISII COUNTY**

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**Abstract:** *Public sector infrastructure projects are implemented in order to provide economic services from utilities that are central in promoting economic development. Unfortunately, statistics indicate that most of these projects are never completed on time. Data available shows that up to 57% public projects among counties in Kenya were completed late in 2018/2019 financial year. In Kisii County alone, five water projects that were started by the county government in the financial year 2013/2014 had not been completed by the financial year 2018/2019, indicating that there are challenges facing the completion of public projects. While determinants of this low completion among public projects have been studied empirically, studies focusing on water projects are scanty. Therefore, utilizing Kisii County as a case study, the overall goal of this study was to identify the variables that affect the completion of water projects in devolved units. The study's specific goals were to ascertain how the project planning process affected the completion of water projects in Kisii County. The study targeted respondents consisting of 50 project committee members and the 5 project managers each from Birongo, Riokindo, Chitangi, Nyaura and Mokenene water projects. A census of the 55 respondents was carried out. Data was collected using self-administered 5-point Likert scale guided structured questionnaires. The study discovered that the project planning process has a positive significant effect on the completion of water projects*

**Keywords:** *Devolved Unit, project planning process, water projects*

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### **I. INTRODUCTION**

#### **Project Planning on Completion of Water Projects.**

According to Nyandomo and Kongere (2010), planning is an institutionalized activity that entails a number of specified and coordinated actions and processes for carrying out operations for project identification, preparation, assessment, and execution. The project initiation phase, which legally approves a new project, planning, which defines and clarifies project objectives and chooses the best course of action to achieve them, among the processes are; executing that coordinate people and other resources to carry out the plan; monitoring and controlling that ensures high-quality achievements of the project plan and closing that formalizes acceptance of customers and other stakeholders should review the project to ensure its orderly completion. According to Meredith and Mantel (2016), project planning is the process of creating a set of instructions with enough specificity to inform the project team of exactly what has to be done and what resources to employ. According to Kerzner (2016), planning has several key advantages, including the ability to decrease or

eliminate uncertainty, increase efficiency, better grasp project goals, and serve as a foundation for work monitoring and management.

Several studies have been conducted on factors influencing project planning. Ali *et al.* (2013) found that a community's participation in project identification is the basic tool for achieving national goals of development. In their study carried out in Bangladesh, they found out that in order to implement governmental policies in right perspectives, the real clients of the governmental operations are to be involved at all stages of development intervention and especially in project identification. But because of bureaucratic preponderance and distrust by the successive governments to the people, community participation in project identification in a large scale in local development process remained beyond the reach of the ordinary people. This research however did not identify ICT as a factor in project identification. Furthermore, it was carried during a time when ICT was at its infancy.

In Kenya, multinational corporations and other businesses came to the fore and saw ICT as a vehicle for providing economic growth through participatory development, according to Nyokabi (2012), who conducted study on the impact of ICT on local community empowerment. Many people still believe that ICT can contribute to national development and that a nation cannot survive in the global world without this digital infrastructure.

Aminuzzaman (2018) in a study on governance of local communities found out that some invisible but serious issues characterize the quality and process of participation in project identification and governance of the rural local governments in India. Most critical ones included continued centralized control over the community projects maintained through the administration and the limited resources at its disposal; lack of effective institutional mechanisms that allow the poor and marginalized to participate in the planning, supervision, and/or implementation of development projects, as well as the crucial but frequently underappreciated role that members of parliament and other political stakeholders play in development planning and management. According to the study, these variables directly affect the quantity and quality of local accountability and popular participation of the general public in the operations of the development project. Aminuzzaman (2018) also observed that women and marginalized are excluded from major decision-making arenas in the rural power play and privileged distribution. This study did not consider the contribution of ICT to community involvement.

Empirically, several studies have explained the effect of various factors on completion of public sector projects. Ali *et al.* (2013) found that a community's participation in project identification is the basic tool for achieving national goals of development. In their study carried out in Bangladesh, they found out that in order to implement governmental policies in right perspectives, the real clients of the governmental operations are to be involved at all stages of development intervention and especially in project identification. Afrane (2011) carried out a study in Nigeria on stakeholder participation in project implementation. The study found out that the implementation process produced a mixture of results. The completion of the project and how it was affected by community ownership was however not established. Kimenyi (2015) carried out a study on identification and implementation of CDF projects in Embakasi Constituency in Kenya. The study found that sociocultural factors were the main factors that affected implementation of the projects.

In a study on community involvement in a case of the Makadara Constituency in Nairobi City, Kinyoda (2018) discovered that there is a low level of community involvement in CDF projects. A study on the variables impacting the completion of water projects in Kakamega County was done in 2016 by Kanda, Muchelule, and

Madadi. The study's goals were to determine the effects of client-related factors on project completion, including financial capability, owner intervention, imposition of contract duration, and decision-making competence. Similar to this, it was desired to understand the impact of contractor-related aspects such financial capability, equipment availability and quality, qualified personnel, and material availability. These elements significantly and positively correlated with the project's success.

In order to better understand the factors that affect the length of time it takes to complete water projects in Kenya's Water Service Boards from the perspectives of the contractor, client, and consultants, Wangari (2014) performed a study. It was discovered that a project's completion duration was dependent on the volume of funding and timeliness of the construction operations.

In Kenya's water services boards, Mutoro et al. (2017) looked into the impact of contractor capability and monitoring evaluation on project completion. The majority of contractors, according to the report, lacked capacity.

In Nairobi City County, Kenya's informal settlements, Owuor and Moronge (2017) assessed how the completion of water supply and sanitation projects was affected by stakeholder involvement. According to inferential statistics, there is a positive association between the accomplishment of water supply and sanitation projects in informal settlements and each determinant variable. The strongest correlation was established to be project funding. Both independent variables were found to have a statistically significant association with the dependent variable at ninety-five level of confidence. Khisa (2015) conducted a study that evaluated the influence of procurement process on completion of construction of road projects in Bungoma south sub-County. The study found that tendering process influence completion of road construction projects.

As Wangari (2014) states, the purpose of any public-oriented project is to address a particular issue for the socio-economic well-being of society. Public sector infrastructure projects are implemented to provide economic services such as electricity, telecommunications, water, and transportation, and are crucial for promoting economic development, according to Chandra (2012). Successful completion of a public project is therefore critical to all stakeholders if it is to achieve its intended benefits and improve the lives of the beneficiaries. Additionally, any delay in completion or poor delivery of public sector investments can increase the capital-output ratio in the sector, reducing the effectiveness of investments, as highlighted by Morris (2010).

Mbamali (2015) defines a successful project as one that is completed on schedule, within budget, and with satisfactory quality. Regrettably, many projects, especially those in the public sector, fail to meet their deadlines (Kanda, Muchelule & Madadi, 2016). Consequently, it is crucial to identify the factors that influence the completion time of public sector projects. The failure to implement such projects successfully means that the benefits associated with them, including improved services and corresponding economic gains, are delayed or may never materialize. This is particularly true for water projects in Kenya, as Afrane (2011) notes).

Numerous empirical studies have attempted to explore the reasons behind the failure of public sector projects, often drawing upon two primary theories, the Stakeholders Theory and the Agency Theory. The Stakeholders Theory postulates that public organizations are social entities that impact the well-being of multiple stakeholders. These stakeholders may be groups or individuals who interact with an organization and affect or are affected by the organization's goals. Successful organizations are judged by their capacity to create value for all their stakeholders. According to Kaptein and Van Tulder (2013), organizations can adopt reactive or

proactive approaches when integrating stakeholders' concerns in decision-making. Advocates of this theory suggest that involving more stakeholders in public projects enhances completion of water projects.

According to Henry (2019), the Agency theory provides the connection between public project delivery and governance where such governance mechanism is employed as a control to reduce the agency problem arising from the separation between ownership and management. The agency theory provides a framework for linking project implementation to governance by considering both as drivers of accountability. The likelihood that management will attempt to further their interests by utilizing information inconsistencies and asymmetry is decreased by effective governance procedures.

Kenya, like other Sub-Saharan African countries, heavily relies on clean water for its socioeconomic development goals (Water and Sanitation News, 2017). As such, the central and county governments aim to ensure that all Kenyans have access to clean and sufficient water for domestic use, as well as for key economic activities such as agriculture, irrigation, and industry. The government also recognizes that providing access to water is essential for poverty reduction strategies and the achievement of the Sustainable Development Goals (SDGs), as all eight goals are either directly or indirectly related to water access. By providing water to all, Kenya can hasten the UN target of halving the proportion of people without adequate and clean water by 2015 (Wangari, 2014). However, specific factors that affect the completion of water projects in devolved units have not been empirically established based on the reviewed studies.

A major problem found with the present patterns of project performance measurement is the lack of consensus on what constitutes successful project completion. Concerns concerning how success and failure are defined have been raised by a number of authors. Murray et al. (2012) notes, citing Morris and Hough (1996), that it is not always simple to define whether a project is a success or a failure. Project management models have not always agreed on a universal definition of what is meant by a project success (Shenhar *et al.*, 2012).

Accordingly, the factors causing success (or failure) have been similarly defined in limited proportions by different authors. Murray et al. (2012) discovered from the literature that despite being behind schedule and over budget, projects are frequently deemed to be technical successes. On the other hand, a project could be technically perfect while still being ahead of schedule and within budget. Willard (2015) who provided examples showing the various means by which success have been acknowledged substantiated this position. Within a definite context, Ludin and Soderholm (1995) observed that a project could be considered a success in the sense that it has successfully passed through each of the normal stage's sequential steps, including concepts, development, implementation, and termination.

Despite the government's efforts to improve access to water and sanitation services since the water sector reforms began in 2012, progress towards achieving the Vision 2030 Medium Term Plan goals for 2012 has been slow. For instance, just 60% of urban residents had access to safe water in 2011/2012, falling short of the 72% aim outlined in the Vision 2030 plan for that year. Similarly, just 55% of rural residents had access to safe water in 2012, falling short of the objective of 59% set by the flagship project for Vision 2030. The Annual Water Sector Review Report (2012) attributed the slow progress to challenges such as inexperienced project managers, inadequate monitoring of ongoing projects, inefficient resource utilization, and delayed disbursement of project development funds. To ensure that these targets are met, water services were devolved after the promulgation of the 2010 constitution, which emphasizes access to clean and safe water in adequate quantities and reasonable standards of sanitation.

Kisii County is a county in Kenya with the mandate of conserving, preserving, protecting, and availing water resources in sufficient quality and quantity to meet national demands. The county's Water Resources department is responsible for ensuring equitable allocation of water resources within the county. This can be achieved by completing county-funded water projects within the allocated time and budget. In the first five years of devolution, the Kisii County government initiated five water projects; Birongo, Riokindo, Chitangi, Nyaura, and Mokenene. However, research indicates that these projects were not completed within the stipulated period. Numerous studies have looked at the variables that affect the completion of water projects, but none have pinpointed the precise causes of project completion in devolved units, particularly in Kisii County.

## II. RESEARCH METHODOLOGY

This study employed a descriptive survey research design. According to Orodho (2015), a descriptive survey design is used in preliminary and exploratory studies to allow researchers to gather information, summarize, present and interpret it for the purpose of clarification. Creswell (2019) further postulates that a descriptive survey design is the most appropriate design in the behavioral sciences as it seeks to find out factors associated with occurrence of certain events and conditions of behavior. With this strategy, the researcher merely reports the situation as it is at a specific time and does not attempt to manipulate any variables. As a result, the design assisted in identifying the variables that affect the completion of water projects in Kisii County. This research targeted all the project managers and project committee members of the five water projects that were initiated in the county in last five financial years and are still on-going. Since each water project management committee has an average of ten members, the study therefore targeted 55 respondents consisting of 50 project committee members and the five project managers each from Birongo, Riokindo, Chitangi, Nyaura and Mokenene water projects. The committee members were targeted since they form part of the beneficiaries of the projects.

For the study's goals to be met, primary data was gathered. Questionnaires were the main method of collecting primary data. Members of the county-funded water project committee were surveyed using questionnaires that had both open-ended and closed-ended questions to gather primary data which was drawn in accordance with the set objectives of the study. Content Validity Index (CVI) was used to ensure validity of the questionnaires. To achieve this, the total number of items (Fisher, 2014) were divided by the relevant items in relation to the research objectives in the questionnaire. The validity was tested using the Cronbach's Alpha. Based on the following regression model, the effect of the factors influencing the completion of water projects in Kisii County was examined using the multiple regression method:

$$Y_0 = \beta_0 + \beta_1 X_1 + + \varepsilon \dots\dots\dots 1$$

In this case, the variables are defined as:

$Y_0$  – Completion of water projects

$\beta_0$  - The constant term

$\beta_1$  is the variables to be calculated.

$X_1$  – Project Planning Process

$\varepsilon$  - Term that was thought to be normally distributed.

The data was analysed and then presented in tables in the following section.

### III. RESULTS AND DISCUSSION

#### Reliability Analysis for Project Planning Process

The first independent variable of the study was Project Planning Process. This variable was measured by 6 items. The items were subjected to Cronbach’s alpha analysis. As shown below.

Table 1: Reliability for Project Planning Process

<b>Item-Total Statistics</b>					
Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PPP1	46.6087	21.067	.450	.543	.826
PPP2	46.6957	24.040	-.037	.491	.857
PPP3	46.4348	18.530	.756	.820	.799
PPP4	46.4783	19.261	.810	.796	.799
PPP5	46.6957	22.130	.219	.370	.845
PPP6	46.8261	19.696	.476	.656	.826

According to the findings in table 1 above, the 6 items had a Cronbach's alpha of 0.835. This indicates that the items were trustworthy and used in the main study to measure the project planning process variable.

#### Descriptive Analysis of Project Planning Process

The analysis in this section is aligned with the study's primary goal, which was to ascertain how the project planning process affected the execution of devolved government water projects in Kisii County. The descriptive results are shown in Table 2.

Table 2: Descriptive Results

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev.
You personally participated in the process of planning of the project.	4.9%	8.5%	6.9%	52.8%	26.9%	3.88	1.05
The project planning process was all inclusive	3.3%	4.6%	6.9%	57.7%	27.5%	4.01	.90
The project planning process had clearly defined objectives	7.5%	10.2%	20.0%	45.9%	16.4%	3.53	1.11
The plans relating to the project were well executed	6.9%	7.9%	11.5%	56.1%	17.7%	3.69	1.06
Project plans were open for scrutiny to all since they were available to everyone	13.8%	20.3%	9.8%	44.9%	11.1%	3.19	1.27
People were called to project planning meetings	3.0%	2.0%	4.6%	50.5%	40.0%	4.22	.86

The findings revealed that majority of the respondents agreed that they had personally participated in the process of planning of the project as evidenced by a mean of 3.88 and a standard deviation of 1.05. It was further established that project planning process was all inclusive as shown by a mean of 4.01 and a standard deviation of 0.90. The respondents stated that the project planning process had clearly defined objectives (Agree = 45.9%; Strongly agree = 16.4%; Mean = 3.53). Aminuzzaman (2018) in a study on governance of local communities found out that some invisible but serious issues characterize the quality and process of planning in project identification and governance of the rural local governments in India. Most critical ones included continued centralized control over the community projects maintained through the administration and the limited resources at its disposal.

**Correlation Results**

In the present study, correlation was used to explore the relationship among a group of variables as suggested by Pallant (2010). A correlation coefficient of +1 indicates that two variables are perfectly related in a positive linear sense; a correlation value of -1 denotes a perfect negative linear link between two variables, whereas a correlation coefficient of 0 denotes the absence of any linear relationship at all. A correlation coefficient between 0.0 and 0.19 is deemed "very weak," 0.20 and 0.39 is deemed "weak," 0.40 to 0.59 is deemed "moderate," 0.60 to 0.79 is deemed "strong," and 0.80 to 1.0 is deemed "very strong." In 2010, Pallant. Table 3 presents the findings of the correlation analysis.

Table 3: Correlation between Study Variables

	Y	X <sub>1</sub>
Y	1	
X <sub>1</sub>	.746***	1

Be aware that: \* < p 0.10, \*\* p < 0.05, \*\*\* p < 0.01

There are a number of inferences that may be made from the results in Table 3. First, all correlation coefficients between the independent variables (X<sub>1</sub>) is less than 0.50 in general and therefore there is no issue of multicollinearity between the independent variables. According to Gujarati and Porter (2019), multicollinearity exists in a set of data if the correlation coefficient is above 0.80 beyond which the variables will yield spurious results. Second, it has been indicated that project planning process (X<sub>1</sub>) is significantly and positively correlated with completion of devolved water projects in Kisii County. This is indicated by the correlation coefficient of 0.746 that is significant (p < 0.01). The implication is that if the project planning process is increased by one unit, the completion of water projects in Kisii county is projected to increase significantly by 0.746 units.

**Summary of Findings**

The main objective of this study was to assess the factors affecting how quickly water projects are completed in Kisii County, Kenya. The specific objectives of the study was to determine the impact of the project planning process on the completion of water projects in Kisii.

The project planning process has a significant positive impact on water project completion based on the regression results of the objective-based study. This means that, all other variables being equal, improved project planning significantly increases water project completion. It is therefore concluded that the project planning process is a key element in improving the completion of water projects in the organizations.

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