

# Routine Program Monitoring And Performance Of Educational Building Infrastructural Projects: A Case Of Bungoma County, Kenya

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*Abstract: Monitoring and evaluation (M&E) are at the center of sound governance arrangements globally, regionally, nationally and locally as well. They are necessary for the achievement of evidence-based policy making, budget decisions, management, and accountability. However, there is limited focus on utilization of M&E systems and performance of educational building infrastructural projects in Bungoma County. The purpose of this study was to examine utilization of monitoring and evaluation systems and performance of educational building infrastructural projects. To achieve this purpose, the study endeavored to determine the influence of routine program monitoring on performance of educational building infrastructural projects. The study was grounded in the systems theory and guided by pragmatism paradigm. The study used descriptive survey research design and correlation research design. The target population consisted of 20 implementation committee members at the county level, 120 NG-CDF implementation committee members, 6 implementation committee members from the national ministry of education making the target population of 152. The sample size consisted of 110 respondents sampled by sampling each of the targeted strata. The study used questionnaires and interview schedules as research instruments. Both Qualitative and Quantitative data was collected and analyzed. Quantitative data was analyzed using descriptive statistics, correlation and regression analysis. While Qualitative data was analyzed using patterns features and themes. F- test was used to test the hypothesis. Analysis showed that performance of educational building infrastructural projects positively correlates with routine program monitoring ( $r = 0.856, p < 0.05$ ). The study showed that Routine Programme Monitoring ( $F = 320.41, p < 0.05$ ) significantly determines ( $R^2 = 0.7334$ ) the performance of the projects with an effect size ( $\beta_3 = 0.856, p < 0.05$ ). The findings therefore rejected the  $H_0$ , and the study concluded that Routine Programme Monitoring significantly influences the performance of educational building infrastructural projects in Bungoma county. Based on the findings, the study recommends that implementation committees to consist of more youthful minds for purposes of innovations and use of new technologies and more focus be put on building their capacity for M&E function.*

*Keywords: Routine Programme Monitoring, Performance of educational building infrastructural projects, Monitoring and Evaluation systems.*

## I. INTRODUCTION

Monitoring and evaluation as a subject faces diverse understanding from different people and has been evolving progressively over the last quarter. One of the early definitions

for monitoring and evaluation was contained in the guiding principles for the design and use of M&E in rural development programs. At that time, M&E were seen primarily as project-related activities. Monitoring was defined as a continuous assessment of both the project activities and of the use of

project inputs by community targeted to be empowered (Kontinen and Robinson, 2014).

In Sri Lanka, the government embraced the concept of having a system of monitoring and evaluation after realizing the need for effective and efficient service delivery. Sri Lanka's experience outlines strengths of monitoring and evaluation design, and weaknesses in the implementation part. In terms of design, the system is operating with fewer challenges. Discouragingly, these great strides are counter balanced by failures in implementation with everyday lapses (Turner, 2009). It has an effective M & E system which is web-based and comprehensive with the ability to capture progress in terms of implementation and results. The system provides stakeholders with on-line and real-time access to progress information. The system produces early warning signals and assists in troubleshooting of problem projects and projects behind schedule (Sivagnanasothy, 2007).

In Africa, Ghana developed a commission known as the National Development Planning Commission (NDPC) with the sole purpose of regulating and assimilating a monitoring and evaluation culture in governance (Ogboune, 2013). The NDPC adopted the Results Based Monitoring and Evaluation System (RBMES) and Results-Based Budgeting (RBB) in its Monitoring and Evaluation activities to ensure cost effectiveness, institutional capacity strengthening, promotion of good governance and accountability. For Kenya, the National Integrated Monitoring and Evaluation System (NIMES) was institutionalized in the year 2004 and later launched during the London investment summit 2012. There is a growing realization of the importance of utilization of Monitoring and Evaluation Systems in educational building infrastructural projects across the globe (Williams, 2007). This arises from widespread displeasure with the performance of educational infrastructural projects in Kenya, Africa and the world at large with the evidence of increasing poverty levels. In Bungoma County for example, the expected delivery of various educational infrastructural projects and programs has not been attained. Even those educational building infrastructural projects with the right technologies and adequate resources still do badly (Jamerson, 2012). This could be attributed to neglect of utilization of monitoring and evaluation systems, especially limited appreciation of Routine programme monitoring. The need to carry out periodic supervision of activities in progress to ensure they are on-course and on schedule in meeting the objectives and performance targets (Sinclair, 2005)

In a study commissioned by Institute of Economic Affairs (I.E.A) in the year 2014 among 25 counties to determine the impact of Community Empowerment Projects on the target community, it was revealed that only 38.7% of the counties have structured monitoring and evaluation systems in place (Institute of Economic Affairs, 2014). Poor resource absorption in the implementation of projects was observed. This was attributable to the approach adapted by M & E committees.

## RESEARCH OBJECTIVE

The study aimed to achieve the following objective;

- ✓ To examine how routine programme monitoring influences performance of educational building infrastructural projects in Bungoma County.

## RESEARCH HYPOTHESIS

The study tested the following hypothesis;

H<sub>1</sub>: Routine programme monitoring significantly influences the performance of educational building infrastructural projects in Bungoma County

## II. LITERATURE REVIEW

Theoretical and empirical literature was reviewed based on the concept of Routine Programme monitoring and performance of educational building infrastructural projects.

### ROUTINE PROGRAMME MONITORING

Routine Program monitoring is defined as the periodic supervision of activities in progress to ensure they are on-course and on-schedule in meeting the objectives and performance targets (Sinclair, 2005). Routine program monitoring generally means "to be aware of the state of a system, to observe a situation for any changes which may occur over time, using a monitor or measuring device of some sort (Zairi, 2005)." It is an essential process of organizational basic support system that could provide valuable information on the ongoing operations of the organization and on relevant program issues for the management, particularly the program development officers to make accurate and timely decisions (Khan, 2003). Normally, managers and program officers do carry out some monitoring activities as part of their overall work and from time to time evaluate their operations. Such reports make the basis for further review and research into specific areas by the M & E section and personnel. By synthesizing and collating information, the M & E section is expected to come up with analysis and conclusions for use in planning and quality decision-making by the organization. In a study on the influence of routine monitoring of educational projects and performance in china educational sector, Cecil (2012) undertook an empirical survey and analyzed data by correlative analytical methods.

A sample size of 172 respondents was selected by simple random. In the study, structured questionnaires and interviews schedules were used for data collection and structural equation modeling was used for data analysis. The results of the study by Cecil (2012) showed that routine monitoring has no significant influence on the performance of educational projects. The findings by Cecil (2012) contradict a study carried out by Jefferson (2012) on monitoring and evaluation systems and performance of development projects that indicate that an effective monitoring and evaluation system with a sustainable continuous reporting has the potential of enhancing the performance of the project in general. These findings confirm findings from a study on the influence of routine monitoring on service delivery in government agencies [Woodwork and Kelvin (2006)]. This study endeavors to

validate or negate the above findings by Cecil (2012), Kelvin (2006) and Jefferson (2012).

On Routine program monitoring and performance of educational building infrastructural projects, monitoring provides the background for reducing schedule and cost overruns while ensuring that required quality standards are achieved in project implementation (Crawford and Bryce, 2003).

Infrastructure is a major constraint to educational performance in Bungoma County according to the yearly reports on county performances. The report by Elimu Yetu Coalition on educational capacity of learning institutions 2015 reveals that 64% of secondary schools do not have school libraries and science laboratories in Bungoma County which could be attributed to the poor results in sciences and languages in national examinations. The report further acknowledges that 68% of boarding schools have boarding space problems following progressive enrolments yearly. This is due to increasing awareness for need of education in the county (Elimu Yetu Coalition, 2015).

The constitution of Kenya 2010 emphasizes on monitoring and evaluation as an integral approach in government activities to ensure that transparency, integrity and accountability principles prevail.

A review of an empirical study by Peterson (2010) among 3 states in the USA investigating the influence of Routine Program Monitoring as a component of a monitoring and evaluation system on implementation of education projects negates the relationship between Routine Program Monitoring with implementation of Educational building infrastructural projects.

## PERFORMANCE OF EDUCATIONAL BUILDING INFRASTRUCTURAL PROJECTS

The compound term of project management in the education sector is the application of knowledge, skills, tools and techniques to project activities in order to meet or exceed stakeholder needs and expectations from an educational project. This requires balancing of competing needs of scope, time, cost and quality, and also of stakeholders with differing needs and expectations. Educational Projects are carried out to meet a specific objective and they can be initiated by any entity ranging from individuals to institutions. Fundamental to this initiation is the resources aspect that determines the proponents of the project.

Since educational building projects are resource-intensive, governments are major project initiators as they usually have or can access resources required (Nokes and Kelly, 2007). From the square of time, cost, quality, and satisfaction proposed by Baker(2011) project performance becomes a hexagon of time, cost, quality, and achievement of strategic objectives of the client organization that initiated the project, satisfaction of final users and satisfaction of other stakeholders (Baker, 2011).

Government-infrastructure projects have a project cycle consisting of concept, design, tendering, initiation, implementation and commissioning stages. Management of the projects is normally in a tri-party form with the government as the financier, a project manager to administer

resources and activities, and the implementing entity inform of a contractor (Uher, 2009). Scope and quality specify what is to be achieved, the time aspect is established with specified start and end dates, whereas the cost element is in regard to the limited financial resources to be expended. These factors determine project performance. Although all these elements are interrelated, it is important to note that for building projects, delay has a major impact on a project's cost.

The traditionally-accepted measure of project performance is the basic cost- quality-time triangle. However, there are differences between various types of projects in determination of performance since measurement is carried out against pre-determined success factors (Hendrickson, 2008). For building projects, there have been studies carried out and attempts made towards development of evaluation models aimed at determining performance factors. However, there is no universally accepted basis due to the differing complexity, inherent nature and unique characteristics of such projects and thus this study sought to mitigate this identified research gap.

Kontinen and Robinson (2010) identified lack of monitoring tools, difficulty in defining performance indicators and short time allocation to M & E as some of the challenges that constantly face the project monitoring function. When M & E faces various challenges, its effectiveness is at stake hence impacting on the project success. Monitoring and evaluation exercise involves data collection and processing. Traditional control systems are characterized by "manual data collection, improper data sharing, and the gap between monitoring and control usually result in late identification of deviations in project performance". An effective monitoring and activity is one that identifies deviations in a timely manner and provides feedback appropriately; hence enhancing the chances of project success. In Kenya M & E is not automated. This may lead to delays in data collection and analysis (Kontinen and Robinson. 2010).

Further studies have been carried out to explore the possibilities of improving the productivity of projects by automating project monitoring and control. This will enable automatic data capturing and processing based on the actual project performance. Nonetheless, the studies also indicate that certain manually obtained data is still important in addition to the automatically collected data. Since full automation of M & E process may not be practically possible, it may be difficult to fully eliminate the problem of delays in detecting the variances (Yames, 2013).

## I. METHODOLOGY

The paradigm used in this study was pragmatism because both qualitative and quantitative data was collected and analyzed. It therefore called for a mixed approach. The researcher employed descriptive survey and correlation research designs. Descriptive survey design was suitable because it allows for both qualitative and quantitative surveys. On the other hand, correlation design enabled the researcher to determine whether or not any two variables were correlated.

The target population in this study consisted of twenty (20) County implementation committee members, one

hundred and twenty six (126) implementation committee members at the NG-CDF level from the nine constituencies, 14 officers per constituency and six(6) officers from the National Ministry of Education giving a total of one hundred and fifty two(152)as target population.

This was tabulated as follows;

The strata	Target population
County implementation committee	20
CDF implementation committee	126
MoE officials	6
<b>Total</b>	<b>152</b>

Table 3.1: Target Population matrix

The study sample was 110 respondents drawn from a target population of 152 using the Yamane (1967) formula, thus:

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

$$= \frac{152}{1 + 152(0.05)^2}$$

$$= 110$$

Where n = required sample size

N = targeted population (152 respondents)

e<sup>2</sup> = error limit (0.05)

The number of respondents was selected proportionally to get the sample size from each strata as shown in table 3.2

The strata	Target population	Sample size
County implementation committee	20	15
CDF implementation committee	126	91
MOE officials	6	4
<b>Total</b>	<b>152</b>	<b>110</b>

Table 3.2: Sampling Procedure

The selection of a sample from each stratum was based on proportionate method to ensure representation according to each stratum strength as shown in table 3.2.

The sampling technique used in selecting the sample strata was purposive sampling. Simple random sampling was employed in picking the sample size from each stratum.

The study's main instruments of data collection were questionnaires for the M & E committee members and interview schedules for key informants. The questionnaires helped in collecting quantitative data while the interview guides helped in gathering qualitative data.

This study used frequencies and percentages because of their ease in showing the research findings. Inferential statistics in form of Pearson's product moment coefficient, Analysis of variance, coefficient of determination and multiple regression analysis were used in this study to analyze quantitative data. The hypothesis was tested at a level of confidence of 95%.

### III. RESULTS

#### DEMOGRAPHIC INFORMATION OF RESPONDENTS

The respondents who participated in the study were asked to state, their gender, age, academic qualifications and whether they had ever attended any course in M&E to establish whether these had any implication on performance of educational building infrastructural projects.. The results are presented in table 4.1 for each category of demographic in focus.

Variable	Categories	Frequency(f)	Percent (%)
Gender	Male	65	62.5
	Female	39	37.5
	<b>Total</b>	<b>104</b>	<b>100.0</b>
Age	26 to 35 years	35	33.7
	36 to 45 years	43	41.3
	Above 46 years	26	25.0
	<b>Total</b>	<b>104</b>	<b>100.0</b>
Level of education	O – level	17	16.3
	A level	10	9.6
	Certificate/ diploma	44	42.3
	Graduate	25	24.0
	<b>Total</b>	<b>104</b>	<b>100.0</b>
Attended M&E Course	No	67	64.4
	Yes	37	35.6
	<b>Total</b>	<b>104</b>	<b>100.0</b>

Table 4.1: Socio-Demographic Characteristics of Respondents

On age, the study established that 35(33.7%) were in the age bracket of 26 to 35 years, 43(41.3%) in the 36 to 45 years and 26(25%) in 46 years and above. This implies that majority committee members are not youths and this could lead to lack of innovation to ensure modern infrastructure.

On gender, 65(62.5%) were male while 39(37.5%) were female. This shows that more men are considered in the formation of project committees as compared to women implying that building infrastructural projects remains a male domain.

As for the level of education, 17(16.3%) were 0' Level, 10(9.6%) were A' Level, 44(42.3%) were diploma holders, 25(24%) were graduates and none was post graduate. This implies that majority were holders of diploma and above and hence level of education was not wanting in building infrastructural projects.

Lastly on having attended M&E course or not, 37(35.6%) had attended an M&E Course while 67(64.4%) had not attended any M&E course. Majority of the committee members had not attended any course in M&E implying that committee members lacked the capacity for M&E hence poor performance of educational building infrastructural projects.

#### IV. ROUTINE PROGRAMME MONITORING AND PERFORMANCE OF INFRASTRUCTURAL PROJECTS

Indicators on Routine Programme Monitoring were; regular meetings, follow up site visits, stakeholder

participation in monitoring activities and program briefs. The sub-variables were tested using 4 items and results of responses summarized as shown in table 4.2.

Variable	S	D	U	A	S	Tot	Mea	S
	D				A	.	n	D
Conducting regular meetings to discuss building designs helps in tracking project implementation	F 0	3	3	39	59	104	4.4	.69
	% 0	2.	2.9	37.	56	100	8	6
		9		5	.7			
Project implementation is not successful without periodic visits to the project site to track progress	F 0	1	0	49	54	104	4.5	.55
	% 0	1	0	47.	51	100	0	7
				1	.4			
It's not a must for project implementers to involve stakeholder during their periodic monitoring activities	F 1	1	6	13	51	104	3.4	1.3
	9	5					4	2
	% 1	1	5.8	12.	49	100		
	8.	4.		5	.0			
	3	1						
Conducting program briefs is essential in restructuring and redirecting project implementation	F 3	0	1	45	55	104	4.4	.78
	% 2.	0	1	43.	52	100	3	5
	9			3	.9			
<b>Composite Mean and Std. Dev</b>							<b>4.2</b>	<b>0.5</b>
							<b>13</b>	<b>44</b>

Table 4.2: Descriptive Statistics for Routine Programme Monitoring

On the statement about conducting regular meetings to discuss building designs 59(56.7%) strongly agreed, 39(37.5%) agreed, 3(2.9%) were not sure, 3(2.9%) disagreed, giving a mean of 4.48 and standard deviation of 0.696. Majority agreed that regular meetings to discuss building designs helps in tracking the implementation of the project and hence facilitate performance of educational building infrastructural projects.

On the issue of project implementation not being successful without periodic visits to the project site to track progress, 54(51.9%) strongly agreed, 49(47.1%) agreed, 1(1%) disagreed and there was no response for not sure and strongly disagreed giving a mean of 4.50 and standard deviation of 0.557. This means that majority 103(99%) agree that performance of educational building infrastructural projects is influenced by periodic visits to project site.

About the issue of not involving stakeholders, 19(18.3%) strongly agreed, 51(49%) agreed, 6 (5.8%) were not sure, 13(12.5%) disagreed, while 1(14.4%) strongly disagreed, giving a mean of 3.44 and standard deviation of 1.32. This finding implies that the majority agreed that it is not a must for project implementers to involve stakeholders during periodic monitoring activities.

As for conducting program briefs, 55(52.9%) strongly agreed, 45(43.3%) agreed, 1(1%) were not sure while 3(2.9%) strongly disagreed, giving a mean of 4.43 and standard deviation of 0.785. Majority agreed, that conducting program briefs is essential for implementation of projects and influence performance of educational building infrastructural projects.

Views from interviews were in support of the feedback from questionnaires. In his own words, one of the respondents outlines as follows:

“Monitoring is a routine practice that we value so much during implementation of projects. We periodically collect data about projects and use it to effect changes. It's a practice that has yielded fruits so much so far” (Bungoma County CDE, 2017)”.

These findings lead to the conclusion that, Routine programme Monitoring enhances performance of building infrastructural projects in Bungoma county.

The findings of this study on periodic monitoring are in line with Cecil (2012) study on influence of Routine Programs on performance of educational projects who asserts that time to time monitoring platforms should be organized during the cycle of project implementation to enhance stakeholder involvement. Inferential statistical analysis showed that a positive correlation of ( $r = 0.856$ ,  $p < 0.05$ ) exists between Routine Programme Monitoring and Performance of educational building infrastructural projects while regression showed that Routine Programme Monitoring ( $F = 320.41$ ,  $p < 0.05$ ) significantly determines ( $R^2 = 0.7334$ ) the performance of the projects with an effect size ( $\beta_3 = 0.856$ ,  $p < 0.05$ ). The findings therefore rejected the  $H_0$ , and the study concluded that Routine Programme Monitoring significantly influences the performance of educational building infrastructural projects in Bungoma county.

#### V. PERFORMANCE OF EDUCATIONAL BUILDING INFRASTRUCTURAL PROJECTS

Indicators on performance of educational building infrastructural projects were; adherence to manual design specifications, quality of materials used, buildings completion rates and number of new buildings completed. The sub-variables were tested using 5 items in the research instrument and results of responses are summarized in table 4.3.

Variable	SD	D	U	A	SA	Tot.	Mea	SD
							n	
Institutions that adhere to building specifications as stipulated in the school safety guidelines	F 0	3	0	29	72	104	4.63	.639
	% 0	2.9	0	27.	69.	100	4	4
				9	2			
manual are less likely to encounter legal issues	F 15	13	6	51	19	104	3.44	1.32
	% 14.	12.	5.8	49.	18.	100	2	1
	4	5		0	3			
Cheap construction material are more sustainable than quality material	F 15	13	6	51	19	104	3.44	1.32
	% 14.	12.	5.8	49.	18.	100	2	0
	4	5		0	3			
It's not a must for buildings to conform to guidelines stipulated in the school safety manual	F 15	13	6	51	19	104	3.44	1.32
	% 14.	12.	5.8	49.	18.	100	2	0
	4	5		0	3			
Projects that don't aim at solving the local needs of a targeted population rarely find ownership from the community	F 0	9	6	47	42	104	4.17	.886
	% 0	8.7	5.8	45.	40.	100	3	2
				2	5			
Delaying the completion of a project is denying the targeted beneficiaries their rights	F 3	6	0	34	61	104	4.38	.968
	% 2.9	5.8	0	32.	58.	100	5	5
				7	7			
<b>Composite mean and std deviation</b>							<b>4.01</b>	<b>0.67</b>
							<b>5</b>	<b>4</b>

Table 4.3: Descriptive Statistics for Performance of Infrastructural Projects

On the issue of institutions adhering to building specifications, 72(69.2%) strongly agreed, 29(27.9%) agreed, 3(2.9%) disagreed, giving a mean of 4.634 and standard deviation of 0.6394. Meaning majority agreed that institutions that adhere to building specifications as stipulated in the schools' safety guidelines manual, are less likely to encounter legal issues. This implies that adherence to school safety guidelines manual enhances performance of building infrastructural projects.

On the issue of cheap construction materials, 19(18.3%) strongly agreed, 51(49%) agreed, 6(5.8%) were not sure, 13(12.5%) disagreed and 15(14.4%) strongly disagreed, giving a mean of 3.442 and standard deviation of 1.321. Majority agreed that cheap construction materials are more sustainable than quality materials. This means that quality materials do not influence performance of educational building infrastructural projects.

As for projects that don't aim at solving the local needs, 42(40.5%) strongly agreed, 47(45.7%) agreed, 6(5.8%) were not sure, 9(8.7%) disagreed while none strongly disagreed, giving a mean of 4.173 and standard deviation of 0.8862. Majority were in agreement with the assertion that projects that don't aim at solving the local needs of a targeted population rarely find ownership from the community.

This means that projects that don't aim at solving local needs influence overall performance.

As for delaying the completion of a project, 61(58.7%) strongly agreed, 34(32.7%) agreed, 6(5.8%) disagreed while 3(2.9%) strongly disagreed, giving a mean of 4.385 and standard deviation of 0.9685. Majority agreed that delaying the completion of a project is denying the targeted beneficiaries their rights. This means that delaying completion of a project affects performance of the project. The interviews brought out similar sentiments as one respondent had this to say;

*"Our committee tries to consider Monitoring and Evaluation, even though at a basic level in every of its operations to ensure that we enhance the performance of our educational building infrastructural projects. It's a practice we advise all other CDF committees to do so". (Bumula CDF, Project Manager, 2017)*

These findings are supported by a study done by Baker (2011) on Performance of Government projects using descriptive survey design and found out that project performance is a hexagon of time, cost, quality, and achievement of strategic objectives of the client organization that initiated the project, satisfaction of users and other stakeholders.

## VI. CONCLUSION

Descriptive analysis showed that Routine Programme Monitoring significantly influences performance of educational building infrastructural projects. Inferential statistical analysis showed that a positive correlation of ( $r = 0.856$ ,  $p < 0.05$ ) exists between Routine Programme Monitoring and Performance of educational building infrastructural projects while regression showed that Routine Programme Monitoring ( $F = 320.41$ ,  $p < 0.05$ ) significantly

determines ( $R^2 = 0.7334$ ) the performance of the projects with an effect size ( $\beta_3 = 0.856$ ,  $p < 0.05$ ). The findings therefore rejected the  $H_0$ , and the study concluded that Routine Programme Monitoring significantly influences the performance of educational building infrastructural projects in Bungoma County.

Interviews revealed that performance of building infrastructural projects heavily relies on Routine Programme Monitoring and it was concluded that, Routine Programme Monitoring significantly influences Performance of educational building infrastructural projects in Bungoma county despite lack of capacity for M&E by implementing committees and failure to embrace new technologies and innovations in infrastructural projects as a result of lack of youthful minds on committees.

## VII. RECOMMENDATIONS

The study showed that Routine Programme Monitoring as a component of monitoring and evaluation systems significantly influences Performance of building infrastructural projects in Bungoma. It is therefore recommended that, for delivery of successful building infrastructural projects, implementing committees should be balanced in gender, involve more youths for purposes of embracing new technologies and innovations and be capacity built to carry out the M&E function effectively.

## VIII. LIMITATIONS OF THE STUDY

Inadequate finances would have negatively affected the research process. However, to minimize on the cost of the study, a representative sample of the target population was picked. As for time constraint due to the magnitude of the research, the researcher devoted extra hours in order to accomplish the task, and the fact that county governments are new entities, M & E policy may not have been quite clear to the implementers and the researcher ensured that the research instruments captured any M&E system being utilized in Bungoma County.

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