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## METHODOLOGY

### Research design

The research used the mixed method design which is a combination of quantitative and qualitative designs especially convergent parallel mixed methods design. The rationale for using mixed methods design is that it combines both qualitative and quantitative data within a single study hence complementing each other by integrating their strengths (Creswell, 1994). Quantitative data was collected from questionnaire distributed to project managers, EDCL M&E specialist and Expropriation staff, whereas qualitative data was collected from Quarterly and annual Progressive Reports.

### Target population

The population referred to as a target and a set of elements that the research focused on and to which the results obtained by testing the sample which should be generalized. Before conducting this research, the researcher examined the total population to draw relevant and reliable information for the success of this study. The total population of this study was all employees of Energy Development Corporation Limited (EDCL) involved in Rwanda Electricity Sector Strengthening Project (RESSP).

Population each category of RESSP employees

Category	Population Number(N)
Administrative Staff	46
Technical Staff	18
Total	64

Source: Energy Development Corporation Limited (EDCL) report, 2020

### Sample design

Reference to the Target Population of 64 employees, the population is lesser than 200, this scientifically implies the use of Census which is the procedure of systematically enumerating and acquiring and recording information about the members of a given population. In order to get the detailed information about contribution of Monitoring and evaluation system to the performance of Rwanda Energy Group (REG) projects, the assessment of the project

implementation, the related challenges and the developments priorities proposed in the study area, the researcher interviewed 18 Key persons including Project Manager (1), Program Coordinator (1), Electrical Engineers (4), Social Safeguards(4), M&E Specialists(2), Finance Specialists(2) and Expropriation staff(4) in Rwanda Electricity Sector Strengthening Project (RESSP) from EDCL and EUCL staff. Below is a table that shows the information about the key informants to be interviewed.

### **Data collection methods**

Data that were used in this study were categorized into two main categories. Those include primary data and secondary data. The primary data were the data collected for the first time, and thus happen to be original in character. On the other hand, secondary data were the data already collected by others (Kothari, 2004). In this study, these two categories of data were collected from various sources.

### **Data Analysis Methods**

After data collection and coding and clearing was followed with the help of SPSS 22<sup>nd</sup> version. Having done with coding, descriptive (mean, frequency & percentages) and inferential statistics (Karl Pearson correlation coefficient and regression model) were computed for quantitative data collected from questionnaires whereas thematic approach were used to analysis qualitative data collected from interview guide. Tables, graphs, and textual models will help in the presentation of collected data.

The regression model was used as follow:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Y=Project performance

$\alpha$ = Constant term

$\beta$ =Beta coefficients

X<sub>1</sub>= Activities of M&E Unit

X<sub>2</sub>= Clear goal and Project indicator setting

X<sub>3</sub>= Existence of M&E System

e= Error term

The study used the regression analysis modal to assess the contribution of monitoring and evaluation system to the performance of Rwanda Energy Group and the findings displayed using tables.



## DATA ANALYSIS, PRESENTATION AND INTERPRETATION

### Questionnaire Response Rate

Table shows that questionnaires returned rate was at 100 percent whereas interview was also successful at 100 percent of return rate. This tells us that all targeted persons responded to questions. Mugenda and Mugenda (2008) recommended that any research instruments return rate above 64 percent is considered representative enough for further analysis. Then, research instrument return rate in this study satisfied the criterion and the researcher was free to continue with further analysis.

Types of instruments	Number administrated	Number returned	% Response rate
Interview guide	18	18	100 %
Questionnaire	46	46	100 %
<b>Total</b>	<b>64</b>	<b>64</b>	<b>100%</b>

**Source: Primary data, 2021**

### Reliability analysis of the Questionnaire

Prior to the actual assessment, the researcher carried out a pilot study on 4 employees in Rwanda Electricity Sector Strengthening Project (RESSP), to pretest the validity and reliability of data collected using the questionnaire. The pilot study allowed for pre-testing of the research instrument. The results on reliability of the research instruments are presented in the Table below.

### Reliability of the questionnaire

Cronbach's Alpha was established for every objective to determine if each scale (objective would produce consistent results should the research be done later. The findings of the pilot study shows that all the four scales were reliable as their reliability values exceeded the prescribed threshold of 0.7(Mugenda& Mugenda, 2003)

**Reliability statistics**

Objective	4 Thematic items	Cronbach's Alpha
Objective one	4	0.84
Objective two	4	0.85
Objective three	4	0.95
Objective four	4	0.92
Total	16	
Overage		0.89

$$\alpha = \frac{k}{k-1} (1 - \frac{\sum_{i=1}^k \sigma_{2y_i}}{\sigma_{2x}})$$

Where: k = number of scale items,  $\sigma_{2y_i}$  = refers to the variance associated with item i,  $\sigma_{2x}$  = variance associated with the observed total scores,  $c^-$  = average of all covariance between items and  $v^-$  = average variance of each item.

**Activities of Monitoring and Evaluation Unit of Rwanda energy group in Rwanda Electricity Sector Strengthening Project (RESSP)**

The researcher established the relationship between Activities of Monitoring and Evaluation Unit of Rwanda energy group in Rwanda Electricity Sector Strengthening Project (RESSP). In this regards a correlation was done for establishing either positive or negative, significant, or insignificant correlation between dependent or independent variables. Karl Pearson correlational coefficient was computed to investigate the correlation between Activities of Monitoring and Evaluation Unit (delivered on time, quality, and budget). The decision rule was based on p-value approach. P-value approach said that if the levels of significant to hold the decision to either reject or uphold the null hypothesis was 5% or 0.05, which mean 95 percent degree of confidence level. Then, the probability obtained a sample mean given the value stated in the null hypothesis was true stated as p-value. If p-value is less or 5% ( $P \leq 0.05$ ), the null hypothesis will be rejected and accept alternative hypothesis vis- versa.

### Availability of M&E Unit

		<b>Correlations</b>		
		Availability of persons in charge of M&E	Availability of M&E Budget	A timely provision of funds for M&E
Availability of persons in charge of M&E	Pearson	1	.750**	.348**
	Correlation			
	Sig. (2-tailed)		.002	.001
	N	64	64	64
Availability of M&E Budget	Pearson	.750	1	.148
	Correlation			
	Sig. (2-tailed)	.002		.004
	N	64	64	64
A timely provision of funds for M&E	Pearson	.348**	.148	1
	Correlation			
	Sig. (2-tailed)	.001	.004	
	N	64	64	64

\*\* . Correlation is significant at the 0.01 level (2-tailed).

#### Source: Primary Data, 2021

As indicated in Table, there is significant correlations between planning for M&E and Availability of persons in charge of M&E ( $r=.348^{**}$ ,  $p=.001$ ), Availability of M&E Budget enabled delivery on time ( $.750^{**}$ ,  $p= 0.002$ ) and A timely provision of funds for M&E ( $r=.148^{**}$ ,  $p=.004$ ). These correlations were statistically significant given that the p value was  $< 0.05$  suggesting that the availability of M&E Unit influence the performance of Rwanda Electricity Sector Strengthening Project (RESSP). These findings were supported by the findings presented by Kawonga, et al. (2012), that poor setting goals for M&E lead to the failure of HIV project in countries.

### Relationship between the monitoring and evaluation system and project performance.

The study used the regression analysis modal to assess the contribution of monitoring and evaluation system to the performance of Rwanda Energy Group. The estimated coefficients values for linear regression were presented as follow:

Table **Regression results**

Coefficients a					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.985	.230		4.276	.000
Activities of M&E Unit	-.138	-.063	-.033	.600	.000
Clear goal and project indicators setting	.611	.070	.487	8.698	.000
Existence of M&E Systems	.150	.033	.086	1.551	.022
a. Dependent Variable: Project Performance (RESSP)					

By re-writing the estimated equation:

$$Y = 0.98 - 0.14X_1 + 0.61X_2 + 0.15X_3$$

The estimation results from SPSS shows that all independent variables (Activities of M&E Unit, Clear goal and project indicators setting and Existence of M&E systems) are statistically significant to dependent variable (Project Performance of RESSP), their probability values: .000, .000, .000 and .022 are less than 5 per cent level of significance respectively. To assess the contribution of monitoring and evaluation system to the performance of Rwanda Energy Group, results revealed that holding all other factors constant one unit increase in activities of M&E Unit will contribute to decrease of project performance by 14%, a one unit increase in Clear goal and project indicators setting influenced Project Performance (RESSP) to increase by 61% and one unit change in the Existence of M&E systems influenced Project Performance (RESSP). This means that any change of activity in M&E unit negatively affected the performance of Project Performance (RESSP) while Clear goal and project indicators setting and Existence of M&E systems had positive influence on the performance of Project Performance (RESSP).

## **SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

### **Summary of Major Findings**

The study was guided by three specific objectives and these were to assess the activities of Monitoring and Evaluation Unit of Rwanda energy group in Rwanda Electricity Sector Strengthening Project (RESSP), to examine the indicators of Rwanda Electricity Sector Strengthening Project towards its goal, to assess the relationship between the monitoring and evaluation system and project performance and provide recommendations for the improvement of monitoring and evaluation system for the performance of Rwanda Energy Group (REG). The findings showed that Activities of M&E unit, clear goal and project indicators setting and the existence of M&E system are statistically significant to the project performance, the results revealed that one unit change in activities of M&E Unit influenced negative change of project performance by a decrease of 14%, a one unit change in Clear goal and project indicators setting influenced Project Performance (RESSP) to increase by 61% and one unit change in the Existence of M&E systems influenced Project Performance (RESSP). The  $R^2 = .86$ , this coefficient of determination, which is the proportion of the variation in the dependent variable that is predictable from the independent variable(s) implies that all independent variables are fitted in this linear regression model as explanatory variables of project performance (dependent variable). The other finding to this study was that stakeholder involvement was an important aspect in enhancing performance of Rwanda Electricity Sector Strengthening Project (RESSP). Finally, the management participation in monitoring and evaluation was found to have a significant effect on performance of Rwanda Electricity Sector Strengthening Project (RESSP).

### **Conclusion**

It is concluded that M & E planning process, M & E technical expertise, and stakeholder involvement along with management participation in M & E have a positive and significant effect on performance of Rwanda Electricity Sector Strengthening Project (RESSP). Given this finding, the various responsible authorities should consider employing experts who will help them in coming up with effective monitoring and evaluation plans as this will help in guiding the planning process. Apart from that, the authorities should also consider upgrading the skills of their technical staff on monitoring and evaluation. Besides that, the various stakeholders in projects should be encouraged to play an active role while monitoring and evaluation of their projects. Last but not least, the management should assume an active role rather than a passive role in monitoring and evaluation.

## Recommendations

Based on the research findings, the following are the recommendations:

1. Improve the activities of Monitoring and evaluation unit of Rwanda Energy Group
2. Providing M&E trainings to staffs of Rwanda energy group .
3. REG should continue working through the RBM approach
4. Speed up the implementation of Planned activities and avoid the delays in expropriation and Tendering,
5. REG have to comply with schedule of project plan and Monitoring and evaluation Plan to ensure that PAPs signed their files and availed their supporting documents for the projects which require the expropriation.

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