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Abstract

Assessment of projects monitoring and evaluation practice processes an effect on performance is critical in identifying opportunities for improved Monitoring and Evaluation (M & E) project plan. The effects of degradation arise from poor land use practices such as deforestation which lead to soil erosion. Other existing challenges include minimal capacity in terms of facility, information, manpower and funding for effective rivers and watershed management. The general objective of the study is to assess role of monitoring and evaluation practices on performance of environmental project in Rwanda. The specific objectives were to identify the contribution project budget on performance of environmental project in Nyamasheke, to determine the extent to which project risks analysis contributes to the performance of environmental project in Nyabitekeri Sector, to assess the role of capacity building on performance of environmental project in Nyabitekeri Sector and to establish relationship between monitoring and evaluation practice and performance of environmental project. The study used three theories such as social action theory, Social Control

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Theory and Habituated Action Theory. For the study researcher used descriptive research design with mixed methods such as quantitative and qualitative approaches. The target population was the district environmental protection officers, monitoring and project risks analysts at sector level, and environmental project beneficiaries and in total they were 27 213 from whom a sample of 394 was selected. Simple random sampling technique was used and data was collected using the questionnaire, interview and documentation. The analysis of data was done using SPSS version 21 and bivariate analysis was used to assess the association between the independent and dependent categorical variables using ρ -values. The strengths of the associations were determined using simple and multiple logistic regression models, mean and standard deviation. Inference was made using a 95% confidence interval and a ρ -value < 0.05 . The results were presented in frequency, cross tabulation tables, pie charts and graphs. The study findings showed that monitoring and evaluation measured in terms of (project budget, project risks analysis and capacity building) played important role on performance of environmental project with ρ -value= 0.000, ρ -value =0.000 and ρ -value =0.042 respectively.

Keywords: *Monitoring, Evaluation, performance, environment. Environmental project*

1.0 Background of the study

According to Khan (2013), monitoring is seen as a mechanism providing data and keeping that managers employ this information to determine the results of the project and its consequences. This helps to determine whether the planned goals have been achieved or not. Evaluation uses the information and data produced by the tracking system as a way to evaluate the program's trends in results and effect. In certain situations, information collected may show a large deviation from implementation process, which may require the commitment of an assessment to test the theories and establishments on which the task strategy is based.

In Rwanda, performance of environmental project is influenced by activities of human within local, regional and central areas who actively participate in performance of environmental project programs. The contact between citizen and authorities towards performance of environmental project has reduced the extent level of environmental degradation (Ministry of environment Report, 2018).

1.1 Statement of the Problems

Project Monitoring and evaluation practice is one of the critical elements of the project management cycle. Internationally progressive projects hinge their success on continuous or routine process of data collection to measure extend of performance against target and goals. Controlled, Monitoring and evaluation practice significantly improve project performance Poor project performance attributes to limitations in application of monitoring and evaluation practice as a component of project management cycle (Westland, 2016).

Projects have adopted different approaches to monitoring and evaluation practice realizing different performance levels. In many instances M & E practice is enforced as a donor requirement where 10% of overall project budget is reserved for purpose of M & E. projects that have weak or lack specific monitoring and evaluation practice practices on average record low rating

performance as measured by scope, timeline and resource utilization. Projects that perform well are able to sustain themselves after the donor has pulled out (Robert, 2010).

Assessment of projects monitoring and evaluation practice processes an effect on performance is critical in identifying opportunities for improved M & E project plan. The assessment of regular project performance, enable the managers of projects to take corrective measures and at the same time inform future strategies in the course of initiation and in implementation of projects (Westland, 2016).

At Nyabitekeri Sector, rivers, watersheds are being exploited in agriculture and this has been degraded due to its relief dominated by sloping and steeply hills as well as inappropriate agriculture practices. The effects of degradation arise from poor land use practices in terms of deforestation which may result to soil erosion. The other issue is that minimal capacity in terms of facility, information, manpower and funding for effective rivers and watershed management still existing. Therefore, that is the reasons why researcher intends at assessing the role of monitoring and evaluation practice on performance of environmental project in Rwanda, a case of rivers and watershed management project in Nyabitekeri Sector.

1.2 Specific Objectives

- i. To identify the contribution of project budget practice on performance of environmental project in Nyabitekeri Sector
- ii. To determine the extent to which project risks analysis practice contributes to the performance of environmental project in Nyabitekeri Sector
- iii. To assess the role of capacity building practice on performance of environmental project in Nyabitekeri Sector

2.1 Theoretical Framework

2.1.1 Social Action Theory (SAT)

The Social Action Theory was established by Hirschi (1969) and assumes that all people are responsible towards project risk management because they operate in peer pressure or community perception for activities with low risks. This theory state that people are influenced to engage in low risks activities with safe and high risks activities call all individuals for prevention for the sake of safe working environment.

The implication of the theory is that project risk management is the task of all individual, institution or business organization regardless of location. An adequate project risk management may bring about effective environment performance of environment. In addition, community is basis to participate in environmental performance of environment.

2.1.2 Social Control Theory (SCT)

Social control theory is the theory established by Hirschi (1969) and shows the connectedness of organization about behavioral aspect related probability towards project risk management more specifically high risks. This theory states that all individual must be connected and affiliate with school or workplaces having responsibility towards project risk management.

Therefore, the implication of this theory is that the theory offers educational connectedness and engagement in risks reduction in such a way that employees are the one to engage and be committed voluntarily in risks awareness, management and reduction throughout safety programs. However, having ability to participate in performance of environment is important aspect of identifying and contributing to safe workplace with minimum risks.

2.1.3 Habituated Action Theory (HAT)

This theory was developed by Rhodes (1997) and put more emphasis on how to engage in managing high risks as they are the cause of vicious cycle of dangerous behavior if negative consequences are not swiftly realized. This theory argues that risks perception continues to decrease and risks tolerance continue to increase in vicious cycle. Behaviors are habituated and do not requires risks assessment. The implication of this theory is that every person regardless of age is committed to manage risks and this is meant to achieve environmental performance of environment.

2.2 Conceptual framework

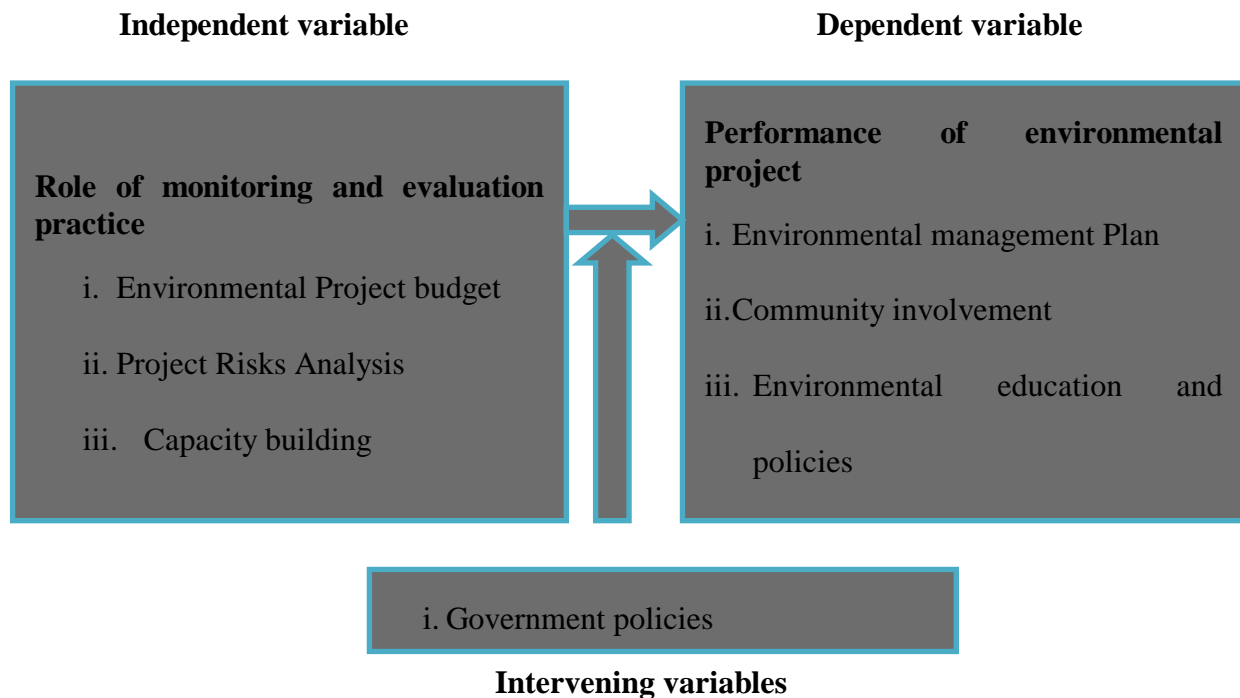


Figure 1: Conceptual Framework

Source: Research (2022)

3.0 Research Design

The current research was descriptive research design with mixed methods such as quantitative and qualitative approaches. Therefore, quantitative approach was used to collect statistical information while qualitative approach was used to collect qualitative information.

Target population

The content of this research is about assessing monitoring and evaluation on performance of environmental project in Rwanda, A case study of environment and climate change fund project in Nyabitekeri Sector, Western province. Therefore, the target population covered four important departments based on the needs of research. These include District environmental protection officers, monitoring and project risks analysts at sector level, and environmental project beneficiaries.

Sample size

The sample size is determined with basis of Yamane formula (1967). This increases assurance of sample size calculation and the sampling error is determined at the rate of 5% as probability chance of failure of research questions. Therefore, the formula is described as follow:

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

Where n: Represents sample size

N: Represents target population

(e): Represents sampling error equivalent to 5%

$$n = \frac{27213}{1+27213(0.05)^2} = \frac{27213}{1+27213(0.0025)} = \frac{27213}{69.0325} = 394.205 \cong 394$$

Since the population under the study are in four categories of different responsibilities, in order to know how many that was asked information for each category of the sample size, the sample ratio is computed as follow: $K=n/N$. This means that if $n=394$ and $N=27213$, therefore sample ratio or proportion is $103/27213=0.003$ for District environment project officers, $106/27213=0.004$ for monitoring and evaluation specialists at sector, $113/27213=0.003$ for Environment Project risks analysts at sector level and $26891 /27213=0.988$ for environmental project beneficiaries.

Sampling technique

Research used simple random sampling technique to select respondents among total targeted population. The use of this technique provides equal probability chance of population to be selected and contribute in achieving research objectives.

Data collection methods

To achieve research objectives, researcher used three types of instruments such as questionnaire, interview discussion and documentation and these was used to collect the necessary information on the research concept.

Data analysis procedures

After data process has been made, data was analyzed through SPSS version 21 and results was presented in frequency tables, pie charts and bar graphs. Bivariate analysis was used to assess the association between independent and dependent categorical variables using P-values. The strengths of the associations were determined using simple and multiple logistic regression models, mean and standard deviation. Inference was made using a 95% confidence interval and a <https://doi.org/10.53819/81018102t4086>

p-value < 0.05. The results were presented in frequency, cross tabulation tables, pie charts and graphs. As this research was quantitative approach, the results related to the monitoring and evaluation practices and performance of environmental project in Rwanda was presented based on research objectives.

4.0 Findings and Discussion

Objective one: Contribution of project budget on performance of environmental projec

Environmental risks continue to occur but government of Rwanda has put strong measures for risk reduction as strongly agreed by 63.5% and 35.5% of surveyed respondents also confirmed. As indicated, these risks may be as result of natural and manmade related cause. The level of risk analysis was agreed to be at 60.4%+38.6%= 99% in Nyabitekeri Sector. The study findings also indicated that most of risks arising in Rwanda more specifically in Nyabitekeri Sector result from human activities like livestock farming, carpentry, construction, fishing and other business related activities. All these risks were determined at the level of 60.7%+37.3%= 98%. As indicated by research participants, community play important role in project risks analysis of environment. This was assessed at the level of 61.4%+38.6%=98%. Therefore, project risks analysis reduced the probability of risks occurrence at the level of 67.5%+31.0%=98.5%.

Table 1: Contribution of project budget on performance of environmental project

Statement	SA (%)	A (%)	D (%)	SD (%)	N (%)	Mean	Std. Dev.
Sufficient budget led to environmental	258(63.2)	120(30.5)	11(2.8)	0(0.0)	5(1.3)	3.95	0.433
Properly allocation of budget led to environmental protection targets	249(63.2)	138(35.0)	0(0.0)	3(0.8)	4(1.0)	3.424	0.431
Pre- planned of project budget led to environmental performance	646(62.4)	144(36.5)	4(1.0)	0(0.0)	0(0.0)	4.10	0.335
Effective project budget has led to achievement of	234(59.4)	156(39.6)	4(1.0)	0(0.0)	0(0.0)	4.01	0.302
Mean and Standard Deviation Average						3.871	0.375

Source: Primary Data (2022)

SA: Strongly Agree, A: Agree, D: Disagree, SD: Strongly disagree, N: Neutral

Objective two: Level of project risks analysis on performance of environmental project

Environmental risks continue to occur but government of Rwanda has put strong measures for risk reduction as strongly agreed by 63.5% and 35.5% of surveyed respondents also confirmed. As indicated, these risks may be as result of natural and manmade related cause. The level of risk analysis was agreed to be at $60.4\%+38.6\%=99\%$ in Nyabitekeri Sector.

The study findings also indicated that most of risks arising in Rwanda more specifically in Nyabitekeri Sector result from human activities like livestock farming, carpentry, construction, fishing and other business related activities. All these risks were determined at the level of $60.7\%+37.3\%=98\%$.

As indicated by research participants, community play important role in project risks analysis of environment. This was assessed at the level of $61.4\%+38.6\%=98\%$. Therefore, project risks analysis reduced the probability of risks occurrence at the level of $67.5\%+31.0\%=98.5\%$.

Table 2: Level of project risks analysis on performance of environmental project

Statement	SA (%)	A (%)	D (%)	SD (%)	N (%)	Mean	Std. Dev.
There is environment risks	63.5%	35.5%	0.0%	0.0%	1.5%	3.85	0.437
Risks analysis let to performance of environment	60.4%	38.6%	1.0%	0.0%	0.0%	3.75	0.523
Risks are determined based on env. activities	60.7%	37.3%	2.0%	0.0%	0.0%	3.67	0.553
Community/ project beneficiaries get involved in project risks analysis	61.4%	38.6%	2.0%	0.0%	0.0%	3.77	0.512
Project risks analysis reduced the probability risks occurrence	67.5%	31.0%	1.5%	0.0%	0.0%	3.74	0.546
Average mean and Standard deviation						3.76	0.514

Source: Primary Data (2022)

SA: Strongly Agree, A: Agree, D: Disagree, SD: Strongly disagree, N: Neutral

Objective Three: Role of capacity building on performance of environmental projects Table

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Research findings conducted in Nyabitekeri Sector of Nyabitekeri Sector showed that capacity building remained an important aspect of performance of environmental project in Nyabitekeri Sector. This is because it has increased awareness of environmental protection as strongly agreed by 238(60.4). Therefore, 151(38.3) of surveyed respondents agreed. The study findings showed that with capacity building an effective environmental programs were achieved as strongly agreed by 239(60.7) and also agreed by 151(38.3) respectively. However, 242(61.4) of respondents strongly agreed that with Capacity building implies proper application of project design and conservation of environmental in Nyabitekeri sector. And this was also agreed by 144(36.5) respondents.

Table 3: Role of capacity building on performance of environmental projects

Statement	1(%)	2(%)	3(%)	4(%)	5(%)	Mean	Std. Dev.
Capacity building has led to awareness of environmental protection	238(60.4)	151(38.3)	0(0.0)	5(1.3)	0(0.0)	4.02	0.350
Capacity building led to establishment of environmental education programs	239(60.7)	151(38.3)	0(0.0)	0(0.0)	4(1.0)	4.04	0.348
Capacity building applies to proper design and conservation of environmental	242(61.4)	144(36.5)	8(2.0)	0(0.0)	0(0.0)	3.90	0.505
Average mean and Standard Deviation						3.98	0.401

Source: Primary Data (2022)

SA: Strongly Agree, A: Agree, D: Disagree, SD: Strongly disagree, N: Neutral

5.0 Conclusion

The overall conclusion of research findings is that the stated objectives were achieved and findings answered research questions. As indicated, the analysis found that there is significant role of monitoring and evaluation on performance of environmental project. Since the model was found to be significant, the researcher investigated the significance of each of the independent variable on the level of performance of environmental project. On this investigation, as it showed all factors (project budget, project risks analysis and capacity building) play important on performance of environmental project with p-value= 0.000, p-value=0.000 and p-value=0.042 respectively.

6.0 Recommendations

Changes in microenvironment continue to affect the environment. However, problems continue to increase including over exploitation of nature due to agriculture, sloping and steeply hills as well as inappropriate agriculture practices. In addition, degradation continue to arise from poor land use practices in terms of deforestation which leads to soil erosion. Based on these issues, it is important to undertake appropriate monitoring and evaluation practices to achieve performance of environment project. Beside, cooperation among local community, authorities, policy makers, countries as well as respect of international environmental standards on environment protection is needed to achieve the performance of environment.

More research is required to be conducted in deep on environmental protection in Rwanda as there is continuous business development. Therefore, there is a need to assess role of environment risks management practices on performance of environment, assessing impact of strategic policies on performance of environment and assessing the role of community to enhance environmental protection in Rwanda.

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