

RISK MANAGEMENT PRACTICES AND FINANCIAL PERFORMANCE OF DONOR-FUNDED WATER, SANITATION AND HYGIENE PROJECTS IN SAMBURU COUNTY, KENYA

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ABSTRACT

Donor-funded Water, Sanitation and Hygiene (WASH) projects are central to improving access to safe water and sanitation in Kenya's arid and semi-arid counties, yet donor-funded projects continue to experience budget overruns, delayed implementation, weak fund absorption, procurement irregularities and accountability concerns. This study examined the effect of risk identification, risk assessment, risk mitigation and risk monitoring on the financial performance of donor-funded WASH projects in Samburu County, Kenya, and the moderating effect of donor regulation on this relationship. The study was anchored on Risk Management Theory and supported by Agency Theory and Institutional Theory. A positivist philosophy and descriptive and explanatory research designs were adopted. A census of 156 project managers, finance officers, procurement officers, monitoring and evaluation officers and field coordinators in 20 donor-funded WASH projects was undertaken, and 120 usable questionnaires were returned, a response rate of 77%. The instrument was pretested on 16 staff of WASH projects in Isiolo County and showed acceptable validity and reliability ($KMO = 0.845$; $\alpha = 0.81$ to 0.92). Data were analyzed using descriptive statistics, Pearson correlation, simple linear regression and hierarchical moderated

regression in SPSS Version 29. Risk identification ($\beta = 0.447$), risk assessment ($\beta = 0.574$), risk mitigation ($\beta = 0.535$) and risk monitoring ($\beta = 0.525$) each had a positive and significant effect on financial performance ($p < .001$), and together, as a composite index, explained 41.5% of its variance ($\beta = 0.644$, $p < .001$). Adding donor regulation increased the explained variance to 48.9%, and the interaction between risk management practices and donor regulation was negative and significant ($B = -0.093$, $p < .001$), raising the explained variance to 54.3%. All six null hypotheses were rejected. The study concludes that risk management practices improve the financial performance of donor-funded WASH projects, while increasingly stringent donor requirements weaken this contribution. It recommends integrated risk management throughout the project lifecycle and proportionate, risk-based donor oversight.

Keywords: Risk Management, Risk Assessment, Donor Regulation, Financial Performance, WASH Projects, Samburu County.

BACKGROUND

Organizations implementing donor-funded projects are increasingly expected to demonstrate accountability, efficiency and transparency in the use of financial resources, as development partners demand measurable outcomes and prudent financial stewardship (Organisation for Economic Co-operation and Development [OECD], 2023). Risk management refers to the coordinated activities through which organizations identify, assess, treat and monitor uncertainties that may affect the achievement of their objectives (International Organization for Standardization [ISO], 2018; Hopkin & Thompson, 2022). In donor-funded projects, risks may arise from financial mismanagement, fraud, procurement irregularities, political and environmental shocks, weak governance and inadequate monitoring, and organizations are increasingly integrating risk management into project planning, implementation and financial management (PricewaterhouseCoopers [PwC], 2023).

In this study, risk management practices were operationalized as four dimensions: risk identification, which involves recognizing and documenting potential threats through risk registers, stakeholder involvement and documentation of internal and external risks; risk assessment, which evaluates the likelihood and impact of identified risks and prioritizes them; risk mitigation, which involves contingency planning, internal controls, corrective actions and allocation of resources to reduce the likelihood or impact of risks; and risk monitoring, which involves continuous tracking and review of risks, compliance monitoring and updating of risk registers (ISO, 2018; Hopkin & Thompson, 2022).

Financial performance in donor-funded projects does not refer to profitability but to the efficient and accountable use of donor funds to achieve intended objectives. It was measured through budget absorption, cost efficiency, financial accountability and timely utilization of donor funds (OECD, 2023). Donor regulation refers to the reporting requirements, procurement guidelines, audit obligations, accountability frameworks and funding conditions that development partners impose on implementing organizations (United States Agency for International Development [USAID], 2023). Such requirements may strengthen financial discipline, but overly rigid or complex requirements may also increase administrative burdens and reduce the flexibility of project teams to respond to emerging risks (AbouAssi, 2012).

Samburu County is an arid and semi-arid county where recurrent droughts, erratic rainfall, long distances to water sources, dispersed pastoralist settlements and inadequate infrastructure limit access to safe water and sanitation (County Government of Samburu, 2023). Development partners such as UNICEF, Mercy Corps, ACTED and The Samburu Project have invested in boreholes, water supply systems, sanitation infrastructure and hygiene promotion (UNICEF, 2024). WASH projects in the county operate amid climate shocks, difficult terrain, logistical constraints and demanding compliance requirements, all of which expose them to financial and operational risks that may undermine budget absorption, cost efficiency and accountability.

Purpose of the Study

To examine the effect of risk management practices on the financial performance of donor-funded WASH projects in Samburu County, Kenya, and the moderating effect of donor regulation on this relationship.

Research Hypotheses

H₀₁: Risk identification has no statistically significant effect on the financial performance of donor-funded WASH projects in Samburu County, Kenya.

H₀₂: Risk assessment has no statistically significant effect on the financial performance of donor-funded WASH projects in Samburu County, Kenya.

H₀₃: Risk mitigation has no statistically significant effect on the financial performance of donor-funded WASH projects in Samburu County, Kenya.

H₀₄: Risk monitoring has no statistically significant effect on the financial performance of donor-funded WASH projects in Samburu County, Kenya.

H₀₅: Risk management practices have no statistically significant combined effect on the financial performance of donor-funded WASH projects in Samburu County, Kenya.

H₀₆: Donor regulation does not significantly moderate the relationship between risk management practices and the financial performance of donor-funded WASH projects in Samburu County, Kenya.

Conceptual Framework

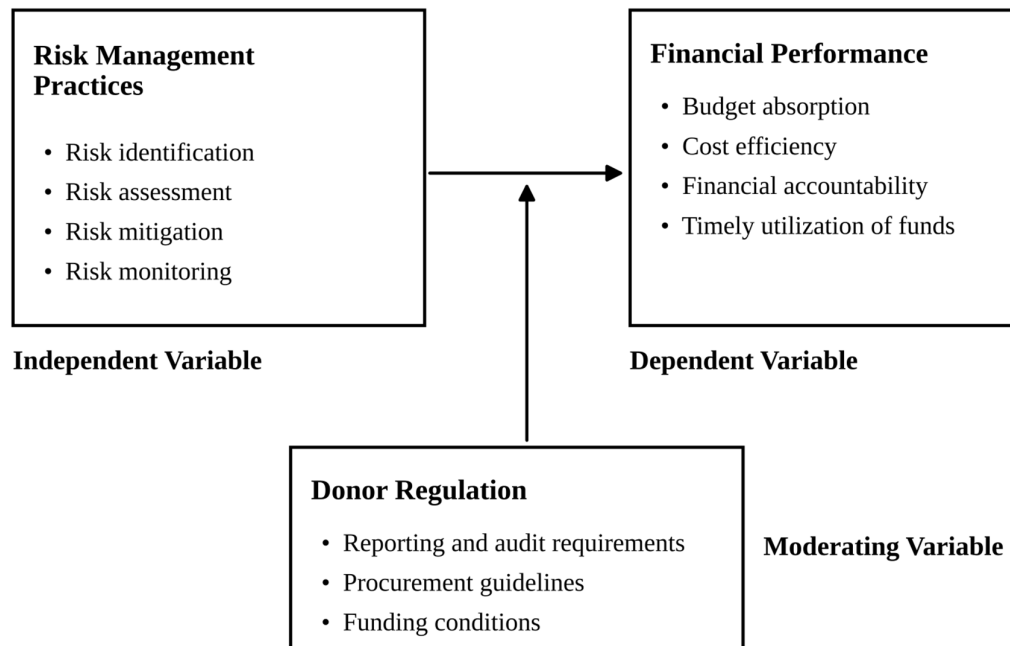


Figure 1: Conceptual Framework

Source: Researcher (2026)

Statement of the Problem

Donor-funded projects play a vital role in financing development in sectors such as health, education and WASH, particularly where government resources are inadequate. Despite substantial investment, many continue to experience budget overruns, delayed implementation, low fund absorption, procurement irregularities, audit queries and weak accountability, which reduce the efficiency of donor resource use and erode donor confidence (OECD, 2023).

In Kenya, the Office of the Auditor-General (2025) audited 213 donor-funded projects for the year ended 30 June 2024 and reported stalled projects, procurement irregularities, unsupported expenditure, unreconciled variances and weak financial reporting. Several projects had no risk management policies, disaster recovery plans or business continuity plans, and pending bills in donor-funded projects rose from KSh 35.8 billion in 2020/21 to KSh 68.9 billion in 2023/24. In Samburu County, recurrent droughts, water scarcity, dispersed settlements and difficult terrain have increased dependence on donor-funded WASH projects, which operate under demanding donor compliance requirements and are exposed to financial and operational risks that may affect budget absorption, cost efficiency and accountability.

Existing studies on risk management have largely focused on banks, hotels, health projects, agricultural and urban development projects, and non-governmental organizations in other contexts (Mongi, 2020; Njeru *et al.*, 2025; Wanjiku *et al.*, 2025; Twishime, 2023). Studies on WASH projects in Kenya have examined project performance or sustainability rather than financial performance (Kinuthia, 2023; Munyugi & Nteere, 2024; Awate *et al.*, 2025), and limited attention has been paid to donor regulation as a factor that may strengthen or weaken the contribution of risk management. This study therefore examined the effect of risk management practices on the financial performance of donor-funded WASH projects in Samburu County and the moderating effect of donor regulation.

THEORETICAL FRAMEWORK

Risk Management Theory

The study was anchored on Risk Management Theory, which is associated with Knight's (1921) distinction between measurable risk and unmeasurable uncertainty. The theory explains how organizations systematically identify, assess, respond to and monitor risks in order to reduce uncertainty and improve outcomes, and assumes that risks are inherent in all organizational activities and that formal, continuous risk management improves decision-making, accountability and performance (ISO, 2018; Hopkin & Thompson, 2022). The theory directly underpins the four independent variables. It has been criticized for assuming that risks can be adequately predicted and quantified, and for emphasizing formal systems while underestimating behavioural, cultural and political influences; comprehensive systems may also be costly for resource-constrained organizations. These criticisms are addressed in this study by examining whether the external regulatory environment conditions the benefits of risk management.

Agency Theory

Agency Theory, developed by Jensen and Meckling (1976), explains relationships in which a principal delegates responsibilities to an agent under conditions of divergent interests and information asymmetry. In donor-funded projects, donors act as principals who provide resources and implementing organizations act as agents who possess more information about project activities and expenditure. Risk identification and assessment reduce information asymmetry by disclosing threats to project resources; risk mitigation through approval procedures, segregation of duties and procurement controls limits the misuse of funds; and risk monitoring provides continuous oversight that enables timely detection of variances and corrective action. The theory also explains donor regulation as an oversight mechanism, while recognizing that excessive monitoring raises agency costs and may reduce the agent's flexibility.

Institutional Theory

Institutional Theory, advanced by Meyer and Rowan (1977) and DiMaggio and Powell (1983), holds that organizations adopt structures and practices that conform to their institutional environment in order to gain legitimacy and access resources. Coercive pressures from regulations, normative pressures from professional standards and mimetic pressures from imitation of successful peers lead organizations to adopt similar practices (Scott, 2014). Donor-funded organizations adopt formal risk management, financial controls and compliance mechanisms partly to satisfy donor requirements and maintain funding legitimacy. The theory has been criticized for emphasizing symbolic conformity over efficiency, which is relevant here because compliance with donor rules may not always translate into better financial outcomes. The theory therefore underpins donor regulation as the moderating variable.

Empirical Literature Review

Studies across sectors associate risk identification with improved performance. Mongi (2020) found that risk management, including the identification of risks, had a significant positive effect on the financial performance of commercial banks in Tanzania, and Njeru *et al.* (2025) examined the role of risk identification in the financial performance of three- to five-star hotels in Nairobi. Among donor-funded projects, Wanjiku *et al.* (2025) found that risk identification practices such as stakeholder engagement and documentation of project risks significantly influenced the performance of donor-funded health projects in Southwestern Kenya. These studies, however, were conducted outside the WASH sector or measured overall rather than financial performance.

Evidence on risk assessment and mitigation is similarly positive. In a systematic review, Anton *et al.* (2025) concluded that integrating structured risk management with sustainability considerations supports financial performance. Meliku *et al.* (2026) found that risk assessment was related to the performance of projects implemented by non-governmental organizations in South Sudan, while Aldeen and Sarhan (2024) examined the impact of risk management on project success among humanitarian organizations in Yemen. Twishime (2023) found that risk management practices improved the performance of the donor-funded Rwanda Urban

Development Project. These studies were conducted in other countries and sectors and did not consider the regulatory conditions imposed by donors.

Within the Kenyan WASH sector, Kinuthia (2023) examined the influence of risk management strategies on the performance of donor-funded WASH projects in Turkana County, Munyugi and Nteere (2024) examined risk management strategies and the performance of NGO-led WASH projects in Isiolo County, and Awate *et al.* (2025) examined risk management planning and the sustainability of donor-funded WASH projects in Nairobi City County. Juma (2024) similarly linked project risk management to the sustainability of donor-funded projects in Nairobi County. These studies focused on project performance or sustainability rather than financial performance, and none examined donor regulation as a moderator.

Studies on donor requirements show that they shape how implementing organizations manage resources. AbouAssi (2012) showed that NGOs respond in different ways to shifting donor demands, and AbouAssi and Tschirhart (2022) found that resource dependency and an organization's position in donor networks jointly shape NGO responses to donor demands. In Kenya, Aidah *et al.* (2026) examined donor policies as a moderator of the relationship between strategic agility and the financial sustainability of advocacy NGOs. No study identified examined donor regulation as a moderator of the relationship between risk management practices and the financial performance of donor-funded WASH projects.

RESEARCH METHODOLOGY

The study adopted a positivist philosophy and descriptive and explanatory research designs. The unit of analysis was the 20 donor-funded WASH projects implemented in Samburu County, identified from NGO coordination records, county WASH information and project documentation. The unit of observation was the 156 staff directly involved in managing these projects: project managers (33), finance officers (27), procurement officers (25), monitoring and evaluation officers (34) and field coordinators (37). Because the population was small and accessible, a census was adopted.

Data were collected using a structured questionnaire administered through Google Forms and shared through email and WhatsApp. Items were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The instrument was pretested on 16 staff of donor-funded WASH projects in Isiolo County, who were excluded from the main study. Content validity was assessed by a panel of experts, construct validity through factor analysis, and reliability through Cronbach's alpha computed on the main-study data. Table 1 presents the results.

Table 1: Validity and Reliability Results

Construct	Items	S-CVI	Factor Loading Range	Cronbach's α
Risk identification	6	0.84	0.54 – 0.81	0.81
Risk assessment	8	0.89	0.59 – 0.75	0.88
Risk mitigation	7	0.88	0.60 – 0.77	0.85
Risk monitoring	5	0.91	0.54 – 0.80	0.82
Donor regulation	8	0.92	0.65 – 0.78	0.90
Financial performance	8	0.93	0.61 – 0.81	0.92
Overall instrument	42	0.87		0.87

$KMO = 0.845$; Bartlett's test of sphericity $\chi^2 = 3480.21$, $p < .001$.

Source: Field Data (2026)

All constructs exceeded the 0.70 reliability threshold (Hair *et al.*, 2019), all factor loadings exceeded 0.50, and all content validity indices exceeded 0.80 (Davis, 1992), indicating that the instrument was valid and reliable. Data were analyzed in SPSS Version 29. Hypotheses H_{01} to H_{04} were tested using simple linear regression models of the form $Y = \beta_0 + \beta_1 X_i + \varepsilon$, where Y is financial performance and X_1 to X_4 are risk identification, risk assessment, risk mitigation and risk monitoring. Hypothesis H_{05} was tested by regressing financial performance on a composite risk management practices (RMP) index formed by aggregating the four dimensions. Hypothesis H_{06} was tested using hierarchical regression in three steps: $Y = \alpha + \beta_1 RMP + \varepsilon$; $Y = \alpha + \beta_1 RMP + \beta_2 DR + \varepsilon$; and $Y = \alpha + \beta_1 RMP + \beta_2 DR + \beta_3 (RMP \times DR) + \varepsilon$, where DR is donor regulation.

Response Rate and Respondent Profile

Of the 156 staff targeted, 120 returned usable questionnaires, a response rate of 77%. Field coordinators (25.0%) and project managers (23.3%) formed the largest groups of respondents, followed by finance officers (20.8%), monitoring and evaluation officers (17.5%) and procurement officers (13.3%). Women made up 61.7% of respondents, 65.0% were aged between 31 and 50 years, and 99.2% held at least a bachelor's degree. Most respondents were experienced, with 90.8% having worked for more than five years.

Descriptive Statistics

Table 2: Descriptive Statistics for Risk Management Practices

Statement	Mean	Std. Dev.
Risk identification		
Our organization maintains an updated risk register for project risks.	3.83	1.23
Stakeholders participate in identifying risks affecting project implementation.	3.38	1.15
Our organization identifies internal and external risks that may affect project performance.	3.70	1.14
Project risks are systematically recorded and documented in the organization.	3.63	1.07

Risk identification is conducted regularly throughout the project lifecycle.	3.61	1.08
Lessons learned from previous projects are used to identify potential risks in current projects.	3.58	1.22
Overall	3.62	1.16
Risk assessment		
Our organization assesses the likelihood of identified risks occurring.	3.72	1.19
Our organization evaluates the potential impact of risks on project objectives.	3.38	1.15
Risks are prioritized according to their severity and urgency.	3.63	1.11
Our organization uses risk rating tools or frameworks to assess risks.	3.51	1.19
Risk probability analysis informs project planning decisions.	3.49	1.19
Risks are assessed before major project decisions are made.	3.67	1.14
Risk assessment results are used to guide allocation of project resources.	3.48	1.20
Our organization regularly reviews risk assessment outcomes to support project implementation.	3.57	1.15
Overall	3.56	1.17
Risk mitigation		
Our organization develops contingency plans for significant project risks.	3.48	1.20
Effective internal control systems are in place to manage project risks.	3.47	1.11
Emergency response strategies exist for major project uncertainties.	3.25	1.17
Our organization implements corrective measures to address identified weaknesses.	3.53	1.15
Resources are allocated to support implementation of risk mitigation measures.	3.50	1.08
Risk mitigation strategies are regularly reviewed and updated to address emerging risks.	3.40	1.13
Staff receive adequate guidance and support in implementing risk mitigation measures.	3.26	1.21
Overall	3.41	1.15
Risk monitoring		
Compliance with project procedures and policies is continuously monitored.	3.69	0.97
Risk review findings influence project management decisions.	3.68	1.08
Emerging risks are identified and communicated promptly to relevant stakeholders.	3.50	1.08
Risk registers are regularly updated to reflect changes in the project environment.	3.61	1.11
Our organization has established mechanisms for tracking and monitoring identified risks.	3.57	1.10

Overall	3.61	1.07
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N = 120. Items measured on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree).

Source: Field Data (2026)

Table 2 shows that risk management practices were moderately well established. Risk identification recorded a mean of 3.62 (SD = 1.16); maintaining an updated risk register was the strongest practice (M = 3.83), while stakeholder participation in identifying risks (M = 3.38) and use of lessons learned from previous projects (M = 3.58) were the weakest. Risk assessment recorded a mean of 3.56 (SD = 1.17); projects most commonly assessed the likelihood of risks (M = 3.72) and assessed risks before major decisions (M = 3.67), but were weaker at evaluating the impact of risks on project objectives (M = 3.38) and using assessment results to guide resource allocation (M = 3.48).

Risk mitigation recorded the lowest mean of the four practices (M = 3.41, SD = 1.15). Corrective measures for identified weaknesses (M = 3.53) and allocation of resources for mitigation (M = 3.50) were rated highest, whereas emergency response strategies for major uncertainties (M = 3.25) and guidance and support for staff implementing mitigation measures (M = 3.26) were rated lowest. Risk monitoring recorded a mean of 3.61 (SD = 1.07), with continuous monitoring of compliance with procedures (M = 3.69) rated highest and prompt communication of emerging risks to stakeholders (M = 3.50) rated lowest. The relatively large standard deviations indicate considerable variation in risk management practices across projects.

Table 3: Descriptive Statistics for Donor Regulation and Financial Performance

Statement	Mean	Std. Dev.
Donor regulation		
Our organization adheres to donor financial reporting requirements.	4.22	0.74
Our organization complies with donor procurement policies during project implementation.	4.19	0.77
Our organization complies with donor audit requirements.	4.23	0.76
Project expenditures are incurred within donor-approved budget limits.	4.26	0.76
Donor monitoring requirements are consistently adhered to throughout project implementation.	4.23	0.79
Financial documents are maintained in accordance with donor requirements.	4.27	0.76
Our organization adheres to donor financial reporting timelines.	4.32	0.75
Our organization complies with contractual obligations stipulated by donors.	4.41	0.72
Overall	4.26	0.76
Financial performance		
Project funds are utilized within approved budget allocations.	4.02	0.90
Project objectives are achieved using available resources efficiently.	4.02	0.95
Financial reporting within the project is accurate and transparent.	3.68	1.11

Project funds are utilized according to approved timelines.	3.93	0.96
Our organization maintains strong accountability in managing donor resources.	3.99	0.91
Our project achieves a high level of budget absorption within the implementation period.	4.05	0.92
Project expenditures are effectively controlled to minimize unnecessary costs.	4.03	0.94
Financial resources are utilized in a manner that maximizes value for money.	4.05	0.93
Overall	3.97	0.96

N = 120.

Source: Field Data (2026)

Table 3 shows that compliance with donor regulation was rated very high ($M = 4.26$, $SD = 0.76$), with compliance with contractual obligations ($M = 4.41$) and adherence to reporting timelines ($M = 4.32$) rated highest and compliance with donor procurement policies ($M = 4.19$) lowest. Financial performance was also rated high ($M = 3.97$, $SD = 0.96$). Budget absorption and value for money ($M = 4.05$ each) and cost control ($M = 4.03$) were rated highest, while accurate and transparent financial reporting ($M = 3.68$) and use of funds according to approved timelines ($M = 3.93$) were rated lowest. Compliance with donor requirements was therefore rated more highly than the risk management practices that projects use to manage their own risks.

Correlation Analysis

Table 4: Pearson Correlation Matrix

Variable	1	2	3	4	5	6
1. Risk identification	1					
2. Risk assessment	.707**	1				
3. Risk mitigation	.520**	.523**	1			
4. Risk monitoring	.498**	.551**	.422**	1		
5. Donor regulation	.422**	.485**	.423**	.442**	1	
6. Financial performance	.447**	.574**	.535**	.525**	.581**	1

*** Correlation is significant at the 0.01 level (2-tailed). N = 120.*

Source: Field Data (2026)

Table 4 shows that all variables were positively and significantly correlated ($p < .001$). Among the risk management practices, financial performance was most strongly correlated with risk assessment ($r = .574$), followed by risk mitigation ($r = .535$), risk monitoring ($r = .525$) and risk identification ($r = .447$). Donor regulation had the strongest correlation with financial performance ($r = .581$). The strong correlation between risk identification and risk assessment ($r = .707$) indicates that the two practices tend to be implemented together.

Diagnostic Tests

The standardized residuals were approximately symmetric (skewness = -0.02 , SE = 0.221 ; kurtosis = 0.26 , SE = 0.438) with a mean close to zero (0.007), which together with the histogram and Q-Q plot supported the normality assumption. The Breusch-Pagan ($p = .63$), White ($p = .88$) and Glejser ($p = .68$) tests did not indicate heteroscedasticity. Tests of linearity showed significant linear components for all predictors and non-significant deviations from linearity ($p > .05$). Tolerance values ranged from 0.43 to 0.98 and variance inflation factors from 1.00 to 2.33 , indicating no serious multicollinearity. The assumptions of ordinary least squares regression were therefore satisfied.

Regression Analysis

Table 5: Simple Regression Results for Risk Management Practices and Financial Performance

Predictor	R	R ²	F	Constan t	B	β	t	Sig.
Risk identification	0.447	0.200	29.49	2.461	0.417	0.447	5.431	<.001
Risk assessment	0.574	0.329	57.85	2.150	0.512	0.574	7.606	<.001
Risk mitigation	0.535	0.286	47.34	2.278	0.496	0.535	6.882	<.001
Risk monitoring	0.525	0.275	44.87	2.184	0.495	0.525	6.698	<.001

Each row is a separate simple regression with financial performance as the dependent variable; F has df (1, 118). Standard errors of B: risk identification 0.077, risk assessment 0.067, risk mitigation 0.072, risk monitoring 0.074. Adjusted R²: 0.193, 0.323, 0.280 and 0.269, respectively.

Source: Field Data (2026)

Risk Identification and Financial Performance

Risk identification had a positive and significant effect on financial performance ($B = 0.417$, SE = 0.077 , $\beta = 0.447$, $t = 5.431$, $p < .001$), explaining 20.0% of its variance ($F(1, 118) = 29.49$, $p < .001$). The estimated model is $Y = 2.461 + 0.417X_1$. H_{01} was therefore rejected. Systematically identifying threats through risk registers, documentation and identification of internal and external risks enables project teams to anticipate challenges before they affect resources and implementation. The finding is consistent with Wanjiku *et al.* (2025), who found that risk identification practices improved the performance of donor-funded health projects, and with Mongi (2020) in the banking sector. From an agency perspective, early identification and disclosure of risks reduces information asymmetry between implementing organizations and donors. Risk identification had the smallest effect of the four practices, which may reflect the weaker ratings for stakeholder participation and use of lessons learned.

Risk Assessment and Financial Performance

Risk assessment had the strongest effect of the four practices ($B = 0.512$, SE = 0.067 , $\beta = 0.574$, $t = 7.606$, $p < .001$), explaining 32.9% of the variance in financial performance ($F(1, 118) = 57.85$, $p < .001$). The estimated model is $Y = 2.150 + 0.512X_2$. H_{02} was therefore rejected. Evaluating the likelihood and impact of risks and prioritizing them enables project teams to direct limited resources towards the threats with the greatest financial consequences. The finding is consistent with Anton *et al.* (2025), who linked structured risk management to

financial performance, and with Meliku *et al.* (2026), who related risk assessment to the performance of donor-funded NGO projects in South Sudan. The weaker ratings for impact evaluation and use of assessment results in resource allocation suggest that this practice could contribute even more if assessments were more fully integrated into budgeting decisions.

Risk Mitigation and Financial Performance

Risk mitigation had a positive and significant effect on financial performance ($B = 0.496$, $SE = 0.072$, $\beta = 0.535$, $t = 6.882$, $p < .001$), explaining 28.6% of its variance ($F(1, 118) = 47.34$, $p < .001$). The estimated model is $Y = 2.278 + 0.496X_3$. H_{03} was therefore rejected. Contingency planning, internal controls and corrective actions move risk management from recognizing threats to controlling their consequences, thereby safeguarding project funds and reducing avoidable losses. The finding is consistent with Twishime (2023), who found that risk management improved the performance of the donor-funded Rwanda Urban Development Project, and with Project Management Institute (2021) evidence that structured risk responses support delivery within budget. It also supports Agency Theory, under which controls limit the misuse of delegated resources. Risk mitigation was nevertheless the least developed practice, particularly with regard to emergency response strategies and support for staff.

Risk Monitoring and Financial Performance

Risk monitoring had a positive and significant effect on financial performance ($B = 0.495$, $SE = 0.074$, $\beta = 0.525$, $t = 6.698$, $p < .001$), explaining 27.5% of its variance ($F(1, 118) = 44.87$, $p < .001$). The estimated model is $Y = 2.184 + 0.495X_4$. H_{04} was therefore rejected. Continuous monitoring of compliance, periodic review of risks and updating of risk registers allow emerging issues, audit concerns and budget variances to be detected and addressed before they escalate. The finding is consistent with Kinuthia (2023) and Munyugi and Nteere (2024), who linked risk management strategies to the performance of WASH projects in Turkana and Isiolo counties, and with Agency Theory's emphasis on monitoring as a means of reducing information asymmetry.

Combined Effect of Risk Management Practices

Table 6: Model Summary for Risk Management Practices and Financial Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.644	0.415	0.410	0.592

Predictors: (Constant), Risk management practices (composite index). Dependent variable: Financial performance.

Source: Field Data (2026)

Table 7: ANOVA for Risk Management Practices and Financial Performance

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	29.29	1	29.29	83.65	<.001
Residual	41.32	118	0.35		
Total	70.62	119			

Dependent variable: Financial performance.

Source: Field Data (2026)

Table 8: Regression Coefficients for Risk Management Practices and Financial Performance

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	1.360	0.291		4.680	<.001
Risk management practices	0.736	0.080	0.644	9.146	<.001

Dependent variable: Financial performance.

Source: Field Data (2026)

Tables 6 to 8 show that the composite risk management practices index had a strong positive relationship with financial performance ($R = 0.644$) and explained 41.5% of its variance ($R^2 = 0.415$; adjusted $R^2 = 0.410$). The model was significant ($F(1, 118) = 83.65$, $p < .001$), and a one-unit increase in risk management practices was associated with a 0.736-unit increase in financial performance ($\beta = 0.644$, $t = 9.146$, $p < .001$). The estimated model is:

$$Y = 1.360 + 0.736RMP$$

H_{05} was therefore rejected. The composite index explained more variance than any single practice, indicating that identification, assessment, mitigation and monitoring are most effective when implemented as an integrated cycle. This supports Risk Management Theory's view of risk management as a continuous, structured process.

Moderating Effect of Donor Regulation

Table 9: Hierarchical Regression Model Summary

Model	R	R ²	Adj. R ²	Std. Error	ΔR^2	F Change	df	Sig. F Change
1	0.644	0.415	0.410	0.592	0.415	83.65	1, 118	<.001
2	0.699	0.489	0.480	0.556	0.074	16.90	1, 117	<.001
3	0.737	0.543	0.532	0.527	0.054	13.90	1, 116	<.001

Model 1: Risk management practices. Model 2: Model 1 + Donor regulation. Model 3: Model 2 + Risk management practices $\times$ Donor regulation. Overall model F: Model 1, $F(1, 118) = 83.65$; Model 2, $F(2, 117) = 55.91$; Model 3, $F(3, 116) = 46.02$ (all $p < .001$). F-change values for Models 2 and 3 were computed from the reported regression sums of squares. Dependent variable: Financial performance.

Source: Field Data (2026)

Table 10: Coefficients for the Moderated Regression Model (Model 3)

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	0.628	0.377		1.666	.098
Risk management practices	0.481	0.087	0.421	5.543	<.001
Donor regulation	0.398	0.099	0.302	4.005	<.001
Risk management practices × Donor regulation	-0.093	0.025	-0.242	-3.728	<.001

Dependent variable: Financial performance.

Source: Field Data (2026)

Tables 9 and 10 show that adding donor regulation to the model increased the explained variance from 41.5% to 48.9% ($\Delta R^2 = 0.074$), and adding the interaction term increased it further to 54.3% ($\Delta R^2 = 0.054$). Each step was statistically significant. In the final model, both risk management practices ($B = 0.481$, $\beta = 0.421$, $p < .001$) and donor regulation ($B = 0.398$, $\beta = 0.302$, $p < .001$) had positive effects, while the interaction term was negative and significant ($B = -0.093$, $\beta = -0.242$, $t = -3.728$, $p < .001$). The moderated model is:

$$Y = 0.628 + 0.481RMP + 0.398DR - 0.093(RMP \times DR)$$

H_{06} was therefore rejected. The negative interaction indicates that the positive effect of risk management practices on financial performance becomes weaker as the level of donor regulation increases. This pattern suggests that donor regulation acts partly as a substitute for, rather than a complement to, internal risk management: where donor reporting, procurement and audit requirements are extensive, they already impose many of the controls that risk management would otherwise provide, and they may also reduce the flexibility of project teams to respond to emerging risks. This interpretation is consistent with AbouAssi (2012) and AbouAssi and Tschirhart (2022), who showed that donor demands shape how NGOs manage their operations, and with the criticism of Institutional Theory that conformity with external requirements does not always translate into efficiency (Scott, 2014). From an agency perspective, intensive donor oversight raises agency costs and may limit the discretion that implementing organizations need to manage project-specific risks.

CONCLUSION

The study concludes that risk management practices significantly improve the financial performance of donor-funded WASH projects in Samburu County. Risk identification, risk assessment, risk mitigation and risk monitoring each had a positive and significant effect, with risk assessment having the strongest effect, and the four practices together explained 41.5% of the variance in financial performance. Risk management is therefore most beneficial when it is implemented as an integrated cycle that protects project resources, informs financial decisions and supports the timely and accountable use of donor funds. Donor regulation also contributes positively to financial performance, but it weakens the contribution of risk management practices, indicating that rigid or extensive compliance requirements may reduce the benefits that projects derive from their own risk management. Because the study was cross-sectional

and based on staff perceptions, the relationships should be interpreted as associations rather than causal effects.

Recommendations

Management of donor-funded WASH projects should institutionalize an integrated risk management process throughout the project lifecycle. This should include preparing and regularly updating risk registers, assigning responsibility for each risk, assessing risks by likelihood and impact, linking prioritized risks to mitigation actions and budgets, and reviewing risk registers during monthly or quarterly management meetings. Risk management should also be integrated into budgeting, procurement, cash-flow planning and reporting. Projects should strengthen the weakest practices identified in the study, namely stakeholder participation in risk identification, use of lessons learned, impact evaluation, emergency response planning and guidance for staff implementing mitigation measures.

Donors and funding agencies should adopt risk-based and proportionate oversight. They should harmonize reporting, procurement and audit requirements across funders, avoid duplicate reporting, tailor compliance requirements to the size, risk profile and capacity of implementing organizations, and provide clear procedures for budget realignment and approval of changes arising from emerging risks. This would maintain accountability while preserving the flexibility that projects need to benefit from their own risk management.

Policy makers, including the County Government of Samburu and national agencies involved in donor coordination, should provide guidance on minimum risk management requirements for donor-funded WASH projects in arid and remote areas and support capacity building for smaller implementing organizations. Future studies should adopt longitudinal designs, use objective financial data such as budget absorption rates and audit findings, compare donor-funded and non-donor-funded WASH projects, and test donor regulation as a moderator of each risk management practice separately.

REFERENCES

- AbouAssi, K. (2012). Hands in the pockets of mercurial donors: NGO response to shifting funding priorities. *Nonprofit and Voluntary Sector Quarterly*, 42(3), 584–602. <https://doi.org/10.1177/0899764012439629>
- AbouAssi, K., & Tschirhart, M. (2022). Testing the strategic response model to show joint effect of resource dependency and centrality in donor network on NGO response to donor demand. *Journal of Public and Nonprofit Affairs*, 8(1), 58–77. <https://doi.org/10.20899/jpna.8.1.58-77>
- Aidah, A., Waiganjo, E., & Njeru, A. (2026). The moderating role of donor policies on the relationship between strategic agility and financial sustainability of advocacy NGOs in Kenya. *Journal of Business and Strategic Management*, 11(2), 34–51. <https://doi.org/10.47941/jbsm.3587>

- Aldeen, M. A. S., & Sarhan, N. A. (2024). The impact of risk management on project success: A field study at humanitarian organizations in Yemen. *University of Science and Technology Journal for Management and Human Sciences*, 2(3), 131–156. <https://doi.org/10.59222/ustjmhs.2.3.5>
- Anton, C. E., Baba, C. M., & Bucşoiu, O.-A. (2025). Perspectives on integrating risk management and sustainability for financial performance: A systematic literature review. *Sustainability*, 17(8), 3456. <https://doi.org/10.3390/su17083456>
- Awate, F., Luhombo, A. C., & Karuu, R. N. (2025). Risk management planning and the sustainability of donor-funded water, sanitation and hygiene projects in Nairobi City County, Kenya. *Journal of Entrepreneurship & Project Management*, 9(3). <https://doi.org/10.53819/81018102t2512>
- County Government of Samburu. (2023). *County integrated development plan 2023–2027*. County Government of Samburu.
- Davis, L. L. (1992). Instrument review: Getting the most from a panel of experts. *Applied Nursing Research*, 5(4), 194–197. [https://doi.org/10.1016/S0897-1897\(05\)80008-4](https://doi.org/10.1016/S0897-1897(05)80008-4)
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160. <https://doi.org/10.2307/2095101>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.
- Hopkin, P., & Thompson, C. (2022). *Fundamentals of risk management: Understanding, evaluating and implementing effective enterprise risk management* (6th ed.). Kogan Page.
- International Organization for Standardization. (2018). *ISO 31000:2018 Risk management—Guidelines*. ISO.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Juma, J. N. (2024). *Project risk management and sustainability of donor-funded projects in Nairobi County, Kenya* [Master's thesis, Kenyatta University]. Kenyatta University Institutional Repository.
- Kinuthia, T. K. (2023). *Influence of risk management strategies on performance of donor funded projects: A case of water sanitation and hygiene (WASH) projects in Turkana County, Kenya* [Master's project, University of Nairobi]. University of Nairobi Digital Repository.
- Knight, F. H. (1921). *Risk, uncertainty and profit*. Houghton Mifflin.
- Meliku, G., Wani, N., & Kateregga, S. (2026). Relationship between risk assessment and performance of projects in non-government organizations in South Sudan: A cross-

- sectional study. *SJ Business Research Africa*, 3(2), 9.
<https://doi.org/10.51168/rmv13w12>
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340–363.
<https://doi.org/10.1086/226550>
- Mongi, B. (2020). Impact of risk management on financial performance of commercial banks in Tanzania. *African Journal of Business Management*, 14(6), 193–201.
<https://doi.org/10.5897/AJBM2020.8993>
- Munyugi, T. I., & Nteere, K. K. (2024). Risk management strategies and performance of NGO-led WASH projects in Isiolo County, Kenya. *International Journal of Social Sciences Management and Entrepreneurship*, 8(3), 566–578.
- Njeru, S. M., Mwangi, P., & Maranga, V. (2025). Role of risk identification on the financial performance of 3–5-star hotels in Nairobi City County, Kenya. *Journal of Hospitality and Tourism Management*, 8(2), 102–118.
<https://doi.org/10.53819/81018102t3157>
- Office of the Auditor-General. (2025). *Auditor-General's summary report on donor funded projects for the year 2023/2024*. Office of the Auditor-General, Kenya.
- Organisation for Economic Co-operation and Development. (2023). *Development co-operation report 2023: Debating the aid system*. OECD Publishing.
<https://doi.org/10.1787/f6edc3c2-en>
- PricewaterhouseCoopers. (2023). *PwC's global risk survey 2023*. PwC.
- Project Management Institute. (2021). *Pulse of the profession 2021: Beyond agility*. Project Management Institute.
- Scott, W. R. (2014). *Institutions and organizations: Ideas, interests, and identities* (4th ed.). Sage.
- Twishime, G. (2023). Assessment of risk management and performance of donor funded projects: A case of Rwanda urban development projects (RUDP) in Rusizi District. *International Journal of Novel Research and Development*, 8(4), d514–d521.
- United Nations Children's Fund. (2024). *Safe clean water: Climate-smart borehole in Samburu County*. UNICEF Kenya.
- United States Agency for International Development. (2023). *ADS Chapter 303: Grants and cooperative agreements to non-governmental organizations*. USAID.
- Wanjiku, M. N., Muchelule, Y., & Naikuru, G. (2025). Risk identification practices and performance of donor-funded health projects in Southwestern Kenya. *International Journal of Social Sciences Management and Entrepreneurship*, 9(3), 312–323.