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ABSTRACT

Community based organisations play important role in development and alleviation emergent adversities among rural and urban population in Kenya. It has been argued that CBOs working in conjunction with governments have actively participated in climate change mitigation and adaptation programs in order to improve the livelihood of those affected by the devastating results of climate change. Effects of climate change are becoming more severe and pervasive in Kenya, more especially in the arid and semi-arid regions. Against this background, the study seeks to establish the effect of financial management practices on financing climate change initiatives among community-based organizations in Kitui county, Kenya. The study was directed by the following specific objectives: to determine the effect of financing decisions on financing of climate change initiatives among community based organizations in Kitui county, to assess the effect of working capital management on financing climate change initiatives among community based organizations in Kitui county, to establish the effect of financial reporting on financing of climate change initiatives among community based organizations in Kitui county and to examine the effect of cash budgeting on financing climate change initiatives among community based organizations in Kitui county. The study used descriptive survey design and a target population of 60 accountants working in community-based organizations involved in climate change activities in Kitui county. The study enumerated all the 60 community-based organizations in Kitui county. The study used structured questionnaire to collect primary data. The study used descriptive analysis to generate means and inferential analysis to generate association between the predictor variables and financing of climate change initiatives. The findings of the study revealed that there was a strong negative and significant relationship between financing decisions and financing climate change initiatives. Additionally, the study found a strong negative and significant relationship between working capital management and financing climate change initiatives. The relationship between financial reporting and financing climate change initiatives was a strong positive and significant. Finally, the study revealed moderate relationship between Cash budgeting and financing climate change initiatives. The study therefore recommended that management of CBOs should institute regular audits in order to maintain appropriate balance between debt and equity.

Key words: *Capital Budgeting, Climate Change Adaptation, Climate Change Mitigation, Financial Management Practices, Financial Reporting, Financing Practices, Working Capital Management*

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BACKGROUND

Climate change is one of the significant issues across the globe, besides myriads of technological revolutions (OECD, 2020). Famously described as anthropogenic climate change, evidence of human activities is fast altering the earth's climate. The impact on subsistence and commercial activities as well as nature is so apparent (Bassen *et al.*, 2019). Globally, extreme patterns in temperatures, flooding, sea levels, ocean acidifications and wildfires are common. Extreme weather events like droughts and flooding are occurring more frequently and with greater intensity in Kenya as a result of rising temperatures and shifting rainfall patterns. (Bracking 2019; ROK, 2019). The extended droughts in Kitui and other arid and semi-arid lands (ASALs) has threatened to wipe out the natural and human resource base (Beck & Mahony 2018; Meyer *et al.*, 2020). Sustainability of economic growth and development in the economies of Kitui and other ASAL regions is thus in jeopardy (ROK, 2019).

According to Stockholm Environmental Institute (2016), there is need to reduce the percentage of Kenyans who rely on biomass and fossil fuel for cooking, transportation and industrial commercial production which currently stands at 4% of the GDP. Mobilization of funding for climate change needs to focus on initiatives aimed at reducing the impact of climate change as well as projects and resources that curtail occurrence of climate change. Such initiatives include capacity building, mainstreaming climate change information, developing and planting climate resilient seeds and seedlings, reforestation and climate early warning signs (OECD, 2020). According to UNFCCC (2019), issues such as clean energy initiatives, indexed insurance schemes, irrigation, water storage, disaster recovery and emergency response are additional initiatives that can manage climate change (Zarean, 2014).

Capacity building is a continuous evidence-based process of creating awareness and improving climate change interventions (USAID, 2012). Capacity building succeeds by instilling skills that can solve some problems and achieve climate change goals sustainably (OECD, 2006). Climate change mainstreaming involves integrating or incorporating climate change risks and actions into development planning and routine functions across sectors. (Chaudhury, Summerlin, & Ginoya 2020). Mainstreaming climate change in development creates sustainability and resilience to climate change hazards and vulnerability (Wamsler *et al.*, 2017). Mainstreaming climate change is viewed in the lenses of climate change funds integration, incorporating climate change information, climate and environmental policy integration and climate adaptation and mitigation (Bhandary, Gallagher, & Zhang 2021; Chaudhury *et al.,* 2020; Wamsler *et al.,* 2017).

Alleviation of the continuing impact of climate change requires financing climate change initiatives (Arumugam, 2022). Different concepts in climate change finance has been explicated in the existing literature and in different contexts by applying different theories. Nowadays, a side from financial systems and micro-economic policies, financial management practices is an essential area in climate change financing literature (Krogstrup and Oman, 2019).

Financial management practices encompass processes and procedures an entity creates and applies in managing its revenues, expenses, assets, liabilities and contingencies (Ali & Isak, 2019; Benard, 2019). It is a subset of financial management framework that spells out different activities aiding in managing risks and assists in monitoring an entity's financial and operational performance (Wolmorans, 2018). Norton (2012) and Regina (2012) have shown that among community-based organizations (CBOs) in South Africa, financial management practices offer a number of benefits including normalizing performance during times of economic turbulence and increasing market value of firms. It is thus crucial to hypothesize the importance of financial

management practices in financing climate change initiatives among CBOs in Kitui County.

Financing decisions involves balancing between equity and debt financing of the entity's programmes. Right mix of a firm's equity debt ratio is one that maximizes its market value (Nthenge & Ringera, 2017). CBOs are unique entities as they are owned by the communities and are financed largely through donor funding and philanthropy (Baker & Martin, 2011). The financial manager and resource mobilization managers must acquire the optimal finance combination for the company. The best available sources should be used to raise the necessary funds after the finance management and resource mobilization manager have decided on the optimal debt-to-equity ratio (Baker and Martin, 2011).

A company's short-term assets and obligations are managed through working capital management. It includes routine tasks that guarantee a company enough resources to go on with business as usual. (Datta, 2010). It relates to efficient management of cash receivables, payables and inventories. CBOs dealing with climate change initiatives requires daily cash resources for office and field operations. According to Abanis et al. (2013) and Mazzarol et al. (2015), the two most crucial components of financial management practices are working capital and cash flow management. Reliable cash flow and liquid assets are essential to an organization's ability to function and are the main focus of working capital management. CBOs make money from sale of climate resistant seedlings, solar equipment and more importantly donor funding.

Financial reporting is one of the most important factor in the corporate decision making (Shinoda, 2010). Ahmed, Babar and Kashif (2010) argued that financial reporting is a tool of governance and accountability. On the other hand, Ongosi and Otinga (2020) had an opinion that there was a relationship between organizational performance and financial reporting.

Cash budgeting is crucial as decisions made about it have a financial impact (Kilonzo & Ouma, 2015). Brigham (1995) asserts that cash budgeting decisions are more important for nonprofits than for for-profit businesses because a poor choice could jeopardize the nonprofit's ability to survive. Several methods have been employed to assess capital asset investments with the ultimate goal of optimizing the farm's worth. A number of financial management practices have been applied to manage climate risk and build resilience relevant to the local communities (Coger 2022). Financial management practices cannot only be determined by the impacts of climate change in respect to local environment such as Kitui but also can be based on peoples' perceptions and cultural factors which has increased vulnerability to climate change (Schipper 2020). Therefore, with the right resources, adequate information and modern capital management practices, CBOs can enhance accountability through financial reporting (Soanes 2021). In a nutshell, CBOs acts as instrument for empowering local people in making right decisions on the best financial management practices by devolving climate finances at most needed areas which form the basis for this study.

CBOs in Kitui County

CBOs in Kitui County supplements national and county government's climate resilience efforts through various mitigation and adaptation strategies. CBOs are registered in various ministries and sectors which deal with climate resilience such as; Education, food sustainability, youth, water and sanitation, health, and environmental conservation.

Kenya's vision 2030, often known as its long-term development strategy, aims to make the country prosperous and globally competitive by year 2030. In order to realize this objective, rural areas' economies are crucial (Government of Kenya, 2019). Therefore, CBOs are crucial to making this aspiration a reality. In Kitui County, there are 168 registered CBOs with missions that align with the government's 2030 vision. Of the 168 CBOs, 60 are registered by various national and county agencies

to offer climate related interventions. However, the question which remains unanswered is how can these CBOs apply financial management practices to attract adequate funds to compact climate change initiatives which is the problem the study intended to unravel.

Statement of the Problem

Financing of climate change initiatives in Kenya require efforts of both public sector players as well as private sector. The current financing strategy is estimated to USD 40 billion which need to be injected between 2020 to 2030 in order to facilitate climate mitigation and adaptation strategies (UNDP, 2020). Amidist these strategies, the investment gap in enhancement of climate change initiatives is still very low. Total cost of climate mitigation needs continuous finance scale up which require significant participation of private sector such CBOs. Although Kenyan government has continually worked to increase the budget on climate financing still there is a significant need of international support.

Kenyan government has enhanced support to CBOs on areas such as budget allocations and other financial management practices. Other crosscutting issues which negatively impacted climate change mitigation agenda such as financial management practices need to be addressed fully. For instance, according to (Olando & Kimuyu, 2019) financial management barriers have limited the ability of the CBOs to effectively finance climate mitigation and adaptation measures. In addition, the report by ROK (2020) suggest that availability of policy frameworks as well as increased financial allocation by donors, have not helped CBOs to mitigate severity of climate hazards and vulnerability among communities.

The question that remains unanswered is whether financial management practices can aid community-based organizations, specifically those in Kitui county to reverse the trend by ensuring effective financing of climate change mitigation and adaptation initiatives. The studies done depict bookkeeping, financial reporting, budgeting, working capital management practices and management accounting practices to be the most applicable in SMEs (Harvest & Sophia 2022, Mandipa & Sibindi 2022, Schaik 2023). However, these studies exhibited contextual gaps as well as methodological gaps which the current study intends to fill by examining how financial management practice; financing decisions, working capital management, financial reporting and capital budgeting affect financing of climate change initiatives among CBOs in Kitui county.

Objectives of the study

The study was based on the following general and specific objectives.

- To determine the effect of financing decisions on financing of climate change initiatives among community-based organizations in Kitui County, Kenya.
- To assess the effect of working capital management on financing of climate change initiatives among community-based organizations in Kitui County, Kenya.
- To establish the effect of financial reporting on financing of climate change initiatives among community-based organizations in Kitui County, Kenya.
- To examine the effect of cash budgeting on financing of climate change initiatives among community-based organizations in Kitui County, Kenya.

LITERATURE REVIEW

Theoretical Background

The agency theory, ecological modernization theory, and stakeholder theory served as the foundation for this investigation.

Theoretical underpinning

Agency theory was fronted by Berle and Means (1932) when they contextualized that modern firm is made up of owners (principals) and the managers (agents) who have opposing objectives in maximization of returns. Agency theory has undergone substantial transformation in the 1960s,

1970s and the 1980s (Jensen & Mickling, 1976; Eisenhardt, 1989; Cyert & March, 1992) to become the cornerstone of relationship between two contracting parties. Its applications in modern times has transcended traditional disciplines such as accounting, finance, economics, political science, strategy or organizational psychology to include climate financing (Basak & van der Werf 2019; Zogning 2017). Agency relationship is described as a contractual arrangement in which the principal (s) engages the agent (s) to perform some predetermined tasks on their behalf (Zogning 2017). The theory's central premise is that both the principal and the agent are value maximizers with conflicting goals, and that because of information asymmetry, the agent may not always behave in the principal's best interest. The Principal is capable of ensuring alignment with its own interests and limit divergence of agents' interest by creating or demanding a set of incentives and costs.

Climate change financing donors (principals) provide finance in various forms to the CBOs (agents) for the purposes of undertaking different initiatives aimed at eradicating or lowering climate change perils and vulnerabilities. In order to ensure alignment with the donor (principal) own interests and limit divergence to CBOs (agents) own interests, the donor will demand a raft of incentives and costs. In climate change financing, these incentives are conceptualized as financial management policy for accountability purposes.

Agency theory plays important role in understanding principal's accountability requirements through the financial management practices as exemplified in the Green Climate Fund and United Nations Framework Convention on Climate Change (UNFCCC) (Basak and van der Werf 2019). It has made a substantial contribution to our understanding of the mechanisms underlying the working relationships between recipients and donors (principals) in creating the accountability regime for both domestic and international financing for climate change. Conversely, the theory is predicated on the idea that people are selfish and individualistic, both as principals and as agents and must be subjected to some sort of tools, incentives and costs. However, Doucouliagos (1994) states that this assumption is not in line with the nature of complexity of human action. Moran and Ghoshal (1996) argued that the assumption made by this theory has a significant and negative impact on human behaviour. In other words, the assumption of this theory encourages human beings to be individualistic and self-interested and must be forced to account for own actions. The theory supports objective on financial reporting and cash budgeting as donor (principal's) provide incentives on climate change initiatives but the work is to be undertaken by the CBOs who are the agent in Kitui county in Kenya. Since Donor (principal) is the financier or the provider of the funds who will always ensure that the funds are properly utilized. On the other hand, CBOs acts as the agents since they need to give proper reports as well as prepare appropriate budget on how the funds given are expended.

Variables Review

Financing Decisions and Financing Climate Change Initiatives

Mugun, Odhiambo and Momanyi (2019) investigated the effect of financing decisions on the performance of micro-finance institutions in Kenya. Financing decisions was measured by debt to equity ratio. The study used random effect model to study 12 micro-finance institutions in Kenya. Random effect model showed that financing decisions measured by debt to equity ratio had negative insignificant relationship with performance of micro-finance institutions in Kenya. Equally a study by Wambua (2019) on the effects of debt-financing on the performance of non-financial firms listed on the Nairobi securities exchange (NSE). The study used secondary data and determined that debt to equity ratio had a negative but insignificant correlation with the performance of non-financial firms listed on the Nairobi securities exchange. The impact of total asset turnover and debt to equity ratio on return on equity in automobile businesses

listed on the Indonesian stock exchange was examined in a study by Nasution, Putri, and Dungga (2018). Ten companies were chosen for the study using purposive sampling. It was indicated that a higher debt to equity ratio suggests more risk to performance and vice versa. The results showed a negative association between debt to equity ratio and return on equity.

A study by Mpofu and Sibindi (2022) investigated the relationship between financing decisions and financing climate change programmes among CBOs in Western South Africa. The study employed systematic literature to survey 299 empirical studies conducted on the South African context. The key words in the literature search were financing decisions, climate change financing and financing strategies. The study found that CBOs depends on internal finance because internal finance is used as a last resort when CBOs fail to access climate financing from governments and formal climate financing entities. The failure could be as a result of information asymmetry and high default rate. Similarly, Hussein (2022) conducted a study on the effect of corporate financing decision on asset structure among companies offering services and goods listed on the Nairobi Securities Exchange. With a population of thirteen commercial and service companies registered on the Nairobi Securities Exchange and a descriptive study approach, the study found corporate decisions are positively correlated to firms' asset structure.

Momanyi and Njiru (2016) conducted a study on the impact of financing decisions on funding climate change adaptation among SACCOs in Nairobi County's informal settlement regions. Using a population of 200 SACCOs from Kibera, Korogocho, Mathare, and Mukuru Kwa Reuben, the study employed a descriptive research design. Primary and secondary approaches were used to collect data, and SPSS Version 21 was used for data analysis. The study found that among SACCOs in Nairobi's informal settlements, there was a substantial and positive association between the debt to equity ratio and the amount of funding allocated to climate mitigation programs.

Conversely, Kambi and Ali (2016) looked into how financing decisions affected the performance of climate funds run by commercial banks that are listed on the NSE. Descriptive research methodology and census were used in the study to identify study participants. Eleven commercial banks listed on the Nairobi Securities Exchange made up the study's population. According to the report, every bank had implemented sufficient financing decision-making procedures. Nevertheless, the study was unable to ascertain how finance decision-making processes affected climate financing, particularly with regard to vulnerability mitigation.

Working Capital Management and Financing Climate Change Initiatives

An analysis of the relationship between working capital management and the financial success of retail South African companies listed on the Johannesburg Securities Exchange (JSE) was conducted by Mandipa and Sibindi in 2022. A fixed-effect estimator was employed in the study to analyze a sample of sixteen retail enterprises from 2010 to 2019. While financial success was gauged by net operating profit margin, return on assets, and return on equity, working capital was determined by average inventory age, average collection period, or cash cycle, and average payment period. The average collecting period and the retail enterprises' financial performance were found to be negatively correlated by the study.

According to the study by Mazzarol et al. (2015) on working capital management and financing climate adaptation among 215 community help projects in Mombasa correlational design was adopted. The study's objective was to establish the ways in which working capital and cash flow management affect financial management techniques. According to the study, the mainstay of working capital management—liquid assets and consistent cash flow—are essential for community assistance programs to remain operational. Sales and

eventually receivables provide cash flows, indicating that a decline in sales or a growth in non-recoverable debt, which has an impact on the organization's performance, may be the cause of cash flow issues.

According to study by Sheriffdeen et al. (2020) on indicators for working capital management and institutional effectiveness of national climate financing mechanisms used qualitative analysis technique to determine climate financing mechanism among 290 social help groups in Indonesia. The study measured working capital by cash cycle, cash ratio and total accounts payable. The study proposed a unique framework which integrates twenty-one indicators into five components of working capital management. The study established that major weakness and strength of Indonesian climate financing institution was in its ability to manage working capital. The study recommended identification of significant legal gaps in the operationalization of climate change funding institutions is made possible by the incorporation of legal and regulatory framework.

A study by Akbar, Jiang and Akbar (2020) titled “Do working capital management practices influence investment and financing patterns of firms?”, examined the connection between Pakistani investment and financing patterns and working capital management. Over a ten-year period, listed non-financial enterprises were the subject of the investigation. Based on secondary financial data from 354 listed nonfinancial Pakistani companies between 2005 and 2014, the analysis was conducted. For analysis, it used the two-step generalized method of moment regression technique. The research discovered that having too much money invested in working capital had a detrimental effect on the sampled organizations' investment portfolios. Larger working capital levels were also linked to greater leverage ratios, suggesting that businesses with ineffective WCM practices were highly dependent on long-term debt to cover their short-term financing needs.

Financial Reporting Practices and Financing Climate Change Initiatives

A number of studies have discovered a strong and favourable correlation between funding different climate resilience initiatives and financial reporting practices. Agbemaya (2018) investigated how financial reporting affected SMEs' solar panel installation and small-scale irrigation project performance in Ghana's Ho Municipality. In order to accomplish its goal, the study sampled 200 SMEs in the municipality that were adapted to climate change. Descriptive and correlational analyses were employed. The study's findings demonstrated a favourable correlation between successful climate fund mobilization and appropriate financial reporting procedures. According to the study's findings, good financial reporting methods support SMEs' ability to make decisions, obtain financing, and grow their businesses.

Furthermore, Gulluscio et al. (2020) conducted a literature analysis on sustainable accounting reporting and climate change using a mixed approach. The study was titled "Role of Financial Reporting on Climate Financing." The focus of the literature search was on 600 published papers that came from Germany and the UK. The goal of the study was to ascertain how reporting and accounting for climate change affected climate change initiatives. The study discovered a connection between data and information provided and businesses' adoption of mitigation and adaptation plans for climate change. The authors draw the conclusion that there have been significant consequences of climate change on the goals and metrics associated with sustainable development target number 13, or climate action.

A study by Bracking and Leffel (2021), in a study titled “ Financial reporting quality and climate financing during periods of economic turbulence”, reviewed 350 journal articles on climate financing literature in attempt to place financial reporting at the epicentre of climate financing and governance. Data envelopment approach was used. The authors found that climate change reporting and

governance can be contextualized in a close relationship between financial management practices, more so financial reporting. Armstrong (2016), in their work on the role of financial reporting and transparency in corporate governance, reviewed 200 corporate governance journal articles published between 2005 to 2015 in Germany relating to large commercial banks. Using content and thematic analysis, the authors were able to determine the role of financial reporting in alleviating information asymmetries that exists in contractual relationships. Additionally, the study determined that financial reporting play an important role in the design and structure of incentive and monitoring mechanisms to improve credibility and transparency of information.

Cash Budgeting and Financing of Climate Change Initiatives

A cash budget comprises a plan that specifies the anticipated inflow and outflow of cash. As a result, it serves to illustrate the organization's financial situation as of a specific date (MarfoYiadom, 2020). In order to discover various features of cash budgeting, Schaik (2023) conducted a study on the reconciliation and comparability of cash budgeting, public money, and management. The study used 45 intergovernmental organizations in the Netherlands to compile financial statements using the international public sector accounting standards (IPSAS), which were reviewed and analysed. The study showed that more instruction is needed for better comprehension in order to compare actual budgets with budget forecasts.

Nguyen (2014) evaluated the correlation between cash budget management techniques and the Australian local government of Perth's climate mainstreaming initiatives. 200 senior account managers from the city of Perth's public finance management department were questioned for the study. To gather data for the investigation, the study used an exploratory design. According to the report, local governments were eager to assess and examine capital projects before deciding whether or not to participate in climate projects and initiatives.

A study by Harvest and Sophia (2022) on cash budget management practices and financial performance of listed deposit taking banks in Nigeria sought to determine the relationship between cash and bank balances between the year 2014 and 2020. The study sampled 20 banks to obtain data on annual reports and statements of accounts of sampled banks. Cash and bank balances, cash conversion cycle and cash turnover were used as independent variables. The study found that there is a positive significant relationship between cash and bank balances and return on equity.

The effect of cash budgeting techniques on the financial performance of small-scale manufacturers in Nairobi County, Kenya, was investigated by Mbogo, Olando, and Macharia (2021). The study focused on the financial performance of manufacturing small and medium enterprises in the county. Structured questionnaires were used to collect data from a sample of 156 small-scale manufacturers. Analysis for the study was done using structural equation modelling. The findings showed that the financial performance of SME manufacturing is favourably and significantly impacted by budgeting techniques. Moreover, the study's conclusions indicated that strategic action in budgeting procedures, such as cash flow planning, control, resource allocation, activity coordination, and financial position monitoring, could enhance the financial performance of a manufacturing SME.

Conceptual Framework

The relationship between the financial management practice indicators that make up the independent variables and how they impact the financing of climate change projects among CBOs in Kenya's Kitui County is depicted in Figure 1's conceptual framework.

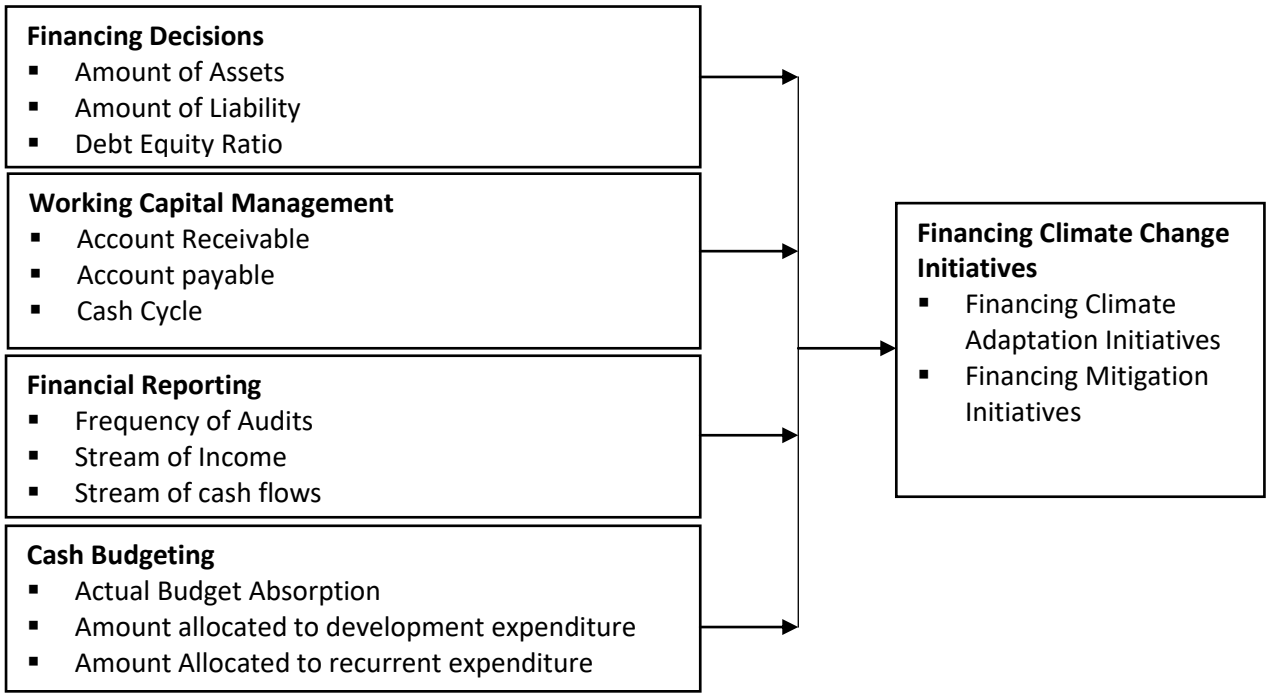

Figure 1: The Conceptual Framework

METHODOLOGY

Research design

According to Oso (2016), Cooper & Schindler (2014), Jill & Roger (2009), research design is the overall plan or strategy for data collection, measurement, analysis, and usage. It aims at obtaining desired and valid information that is sufficiently exact and accurate. This study applied descriptive survey research design. Descriptive survey research design, according to Kumar (2011), is the kind of design used to gather data about the phenomena's current status in order to characterize "what exists" in terms of variables or conditions in a situation. Since the study collected quantitative data on the nature and characteristics of the effects of financial management practices on financing climate change activities among community-based organizations in Kitui county, Kenya. The study considered this design appropriate since it facilitated gathering of reliable data that explained relationships between the independent and the dependent variables. It also helped in deriving quantitative measures helpful in making inferences about possible relationships that exists between independent and dependent variables (Babbie, 2010).

Target Population

A study's target population is the entire set of components that share the characteristics under investigation (Kumar, 2011). Researchers are strongly advised to identify and define the target population, sample population, and unit of observation (Mugenda & Mugenda, 2012; Oso, 2016). Individual CBOs involved in efforts to mitigate the effects of climate change and adapt to them served as the unit of analysis. Conversely, the CBOs' accountants served as the unit of observation from which the research data was gathered. Therefore, the target population of the study were 60 accountants of CBOs in Kitui County. The list of the CBOs is shown in appendix V. For this study the sampling frame was the register of 60 CBOs concerned with climate change programmes in Kitui county. Due to the relatively small number of the population of CBOs concerned with climate change mitigation and adaptation in Kitui county, the study adopted census method to study all the sixty (60) CBOs.

Data Collection Instrument

A data collecting instrument is a tool used to methodically and objectively gather primary or secondary data. Questionnaires were used as data gathering tools for the study. Using a standardized questionnaire, primary data for this study was gathered. The questionnaire was divided into two sections (A and B) to provide context for the various independent variables that were covered.

Data Collection Procedure

The study sought permission by way of licencing from National Commission for Science, Technology, and Innovation (NACOSTI) before any data was collected. Self-administered drop and pick method was utilized in the study. According to Saunders et al. (2009), the self-administered drop and pick method was quicker and allowed for a greater response rate.

Data Analysis and Presentation

Data analysis involves calculating specific metrics and looking for patterns or links across different data sets (Kothari, 2009; Uwe, 2017). Both quantitative and qualitative data were produced by the study. The means, frequencies and correlation coefficients of the items were generated using both descriptive and inferential statistics. Since they served as the basis for correlational and experimental studies, descriptive analyses were crucial. Because of its adaptability and ease of use, the Statistical Products and Services Solutions (SPSS) program version 20 was employed as a tool for study variable analysis.

Regression analysis was employed in the study to assess and determine a linear relationship as well as the causal impacts between the dependent variable (funding climate change efforts) and several independent factors (finance decisions, working capital management, financial reporting, and cash budgeting). To ascertain the degree of statistical significance at which each independent variable influences the dependent variable, multiple regression analysis was employed. To ascertain the significance level of the coefficients at 95%, the t statistic and P-value were employed.

The linear relationships between each independent variable and the dependent variable, as well as between each independent variable itself, were measured using a multiple regression model. Variables that were inconsequential or had an impact on the response were removed or kept using the model. According to the general model, the relationship between the dependent variable (Y) and the independent variables (Xs) was represented by the following regression equation, where ε stood for the error term.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where the above is the multiple regression model for dependent and independent variables association and

Y is the financing of climate change initiatives in Kitui county, Kenya

β_0 is the constant

$\beta_{1\text{-}5}$ are the associated regression coefficients

X_1 Financing practices

X_2 Working capital management

X_3 Financial reporting

X_4 Cash budgeting

ε the error term

Measures of Variables

The variables have been operationalised as:

Financing Decisions

Financing decision is concerned with balancing between internal sources, borrowing and allocation of funds for investment initiatives. Considerations for investment requires a right mix of internal and external sources of funds in order to maximize firm's market value. In this study, financing decisions is operationalized in terms of total assets and total liabilities. The ratio of the two measures gives debt equity ratio. In financing climate change initiatives, CBOs require right debt to equity ratio in order to optimize funds available to finance climate change initiatives. This measure had a reliability of 0.924.

Working Capital Management

Working capital management is the maintenance of good liquidity level for a business. In financing climate change initiatives, CBOs need to be liquid for day-to-day adaptation and mitigation initiatives. In this study, working capital is operationalized as account receivables, account payables and cash cycle. It produced a reliability measure of 0.983

Financial Reporting

Financial reporting is an aspect of good governance and accountability in financial management. Climate financiers who CBOs depend on for short term and long term financing require good accountability and governance mechanisms adjudged by financial reporting. Financial reporting is operationalized in terms of frequency of audits, stream of income and stream of cash flows. The reliability of the measure was coefficient alpha =0.899

Cash Budgeting

It is vital to CBOs because it helps them determine the effectiveness of funding various climate change initiatives. Sufficient funds budgeted accompanied by greater degree of budget absorption has been proven to be affective. Cash budgeting is measured using actual budget absorption, amount allocated to capital expenditure and amount allocated to recurrent expenditure. It had a reliability coefficient of 0.894

Financing Climate Change Initiatives

Finance for climate change is typically allocated to different forms of mitigation and adaptation. Aiming to prevent or mitigate the effects of climate change, adaptation tactics, strategies, and actions involve modifications to ecological, social, and economic systems. Initiatives to combat climate change include reforestation, capacity building, investments in infrastructure for coastal protection, diversification of crops and livelihoods, seasonal climate forecasting, and community-based disaster risk reduction. Early warning indicators of famine, insurance indexes, water storage, additional irrigation, catastrophe recovery, and emergency responses are all included. Human interventions known as mitigation strategies aim to lower the level of greenhouse gas emissions or make it easier for greenhouse gas reservoirs and sinks to occur. The reliability measure for financing climate adaptation and mitigation had a coefficient of 0.889.

RESULTS AND DISCUSSION

Sampling Adequacy Test

The Kaiser-Meyer-Olkin (KMO) sampling adequacy measure was employed to ascertain the suitability of the sample size. Globally approved KMO index values range from 0.5 to 1, per (Madg, 2008). Table 1's results demonstrate that the KMO test produced a value of 0.729 for each variable in this study, suggesting that the sample size was sufficient for analysis.

Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.729
Bartlett's Test of Sphericity	Approx. Chi-Square	200.287
	Df	10
	Sig.	.000

Test for Multicollinearity

The study sought to establish whether there was multicollinearity using variance inflation factor (VIF). Result shows that all the values for the variance inflation factor were below 4. The results concurred with Halcoussis (2005) who recommended that variance inflation factor of 4 is most acceptable. These results signified that there was no multicollinearity. This suggested that one predictor variable could not be predicted linearly

from the others, and as a result, the study's application of the linear regression model of no multicollinearity was noted. Table 2 presents the results.

Table 2: Results for Test of Multicollinearity (Variance Inflation Factor)

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Financing decisions	.438	2.282
Working capital management	.299	3.341
Financial reporting	.428	2.335
Cash budgeting	.291	3.440

Normality Test

Tests of normality, according to Gujarati (2002), ascertain whether the data is regularly distributed and well-modelled. A researcher needs to make sure that the distribution of the variables is normal. The data was subjected to the Shapiro-Wilk normality test, which indicates that if the figure is less than 0.5, the data are not regularly distributed. According to the study's specific aims, the statistics 0.803, 0.740, 0.845, and 0.842, respectively, explained the proportion of variance as a measure of multicollinearity. As may be shown in Table 3, the finance climate initiative statistic (0.954) was likewise greater than 0.5, indicating that all of the variables under investigation were normally distributed.

Table 3: Results of Tests of Normality

	Shapiro-Wilk		
	Statistics	**Df**	**Sig.**
Financing decisions	.803	57	.000
Working capital management	.740	57	.000
Financial reporting	.845	57	.000
Cash budgeting	.842	57	.000
Financing climate change initiatives	.954	57	.000

Pearson's Correlation Coefficients

A correlation matrix, which shows the correlations between the independent variables, was created. According to White, Korotayev, and Khaltourina (2004), a correlation matrix shows a relationship between a set of variables. The correlation coefficients between the variables displayed in the same rows and columns were calculated. The relationship between all the independent variables is represented by the correlation matrix in Table 4, where n is the number of cases, p is the significance level (2-tailed test), and R is the Pearson's correlation.

Using a two-tailed, 5% significance level Pearson correlation coefficient test, the strength of the linear relationship between the variables was determined. The amount and direction of the association between the predictor and the criterion variable were determined by the correlation coefficient. Table 4's findings show a substantial correlation between all predictor variables and the financing of climate change projects. A perfect negative correlation is represented by a correlation coefficient of -1, a perfect positive correlation by a correlation value of +1, and no correlation at all by a correlation coefficient of 0 (Kothari, 2014).

As indicated in Table 4, the computed Pearson correlation coefficient between financing decisions and financing climate change efforts was found to be -0.972. This suggests a strong negative association between the two variables, with p values of 0.000 and less than 0.05. Consequently, it

was determined that the two variables have a strong linear relationship. Conversely, working capital management showed a p value of 0.000 and less than 0.05 and a moderate but significant negative connection of -0.768.

The study determined the Pearson correlation coefficient between supporting climate change projects and financial reporting. The results showed a substantial positive association between the two variables, with a p-value of less than 0.05 and a correlation coefficient of 0.898. With a p value of 0.000 and less than 0.05, the Pearson correlation coefficient between cash budgeting and financing climate change efforts was calculated and found to be 0.618, indicating a modest but substantial positive association between the two variables.

Table 4.: Correlations between the Independent Variables and the Dependent Variable

		Financing climate change initiatives	Financing decision	Working capital management	Financial reporting	Cash budgeting
Financing climate change initiatives	Pearson Correlation	1	-.972**	-.768**	.898**	.618**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	57	57	57	57	57
Financing decision	Pearson Correlation	-.972**	1	.750**	-.874**	-.598**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	57	57	57	57	57
Working capital management	Pearson Correlation	-.768**	.750**	1	-.767**	-.655**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	57	57	57	57	57
Financial reporting	Pearson Correlation	.898**	-.874**	-.767**	1	.626**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	57	57	57	57	57
Cash budgeting	Pearson Correlation	.618**	-.598**	-.655**	.626**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	57	57	57	57	57

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

Inferential Analysis

The study used multiple regression to examine the impact of changing independent factors on the dependent variable for statistical modeling purposes. Because regression analysis can demonstrate the strength of the association between the independent and dependent variables as well as the significance of each predictor variable in the relationship to the study, it was chosen for this analysis. Both the general relationships and the particular relationships were provided by the study.

Tables 4.15, 4.16, and 4.17 displayed the overall multiple regression model's results. There was a relationship between financing decisions, working capital management, financial reporting, cash budgeting, and financing climate change activities, according to the results in the model summary in Table 5, with R= 0.979. The four independent variables accounted for 95.9% of the variation in the financing of climate change initiatives across CBOs in Kitui County, according to the value of R2 = 0.959. Other factors that were not related to the research problem could account for the remaining 4.1%.

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Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.979[a]	.959	.956	1.192

a. Predictors: (Constant), cash budgeting, financial reporting, working capital management, financing decisions
b. Dependent Variable: financing climate change initiatives

ANOVA was employed in the study to determine the regression mode's significance. With F=301.824 and p-value=0.000 being less than 0.05, the ANOVA findings in table 6 demonstrate that the model of financing climate change initiatives and financing decisions, working capital management, financial reporting, and cash budgeting were statistically significant. This suggested that the overall regression model performed well in forecasting the amount needed to fund climate change initiatives.

Table 6: ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1715.581	4	428.895	301.824	.000[b]
Residual	73.893	52	1.421		
Total	1789.474	56			

a. Dependent Variable: financing climate change initiatives

b. Predictors: (Constant), financing decisions, working capital management, financial reporting, and cash budgeting.

The purpose of the study was to find the variables' beta coefficients. The regression's beta coefficient demonstrates that while financial reporting and cash budgeting had a positive link with financing climate change activities, financing decisions and working capital management had a negative relationship. According to the results, every variable that was evaluated had a p value of less than 0.05, indicating statistical significance. The model was defined as follows:

$Y=118.638-78,507X_1-0.547X_2+1.586X_3+0.050X_4+\mathcal{E}$

Dependent Variable: financing climate change initiatives

Table 7: Test of Beta Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	118.638	8.128		14.596	.000
Financing decisions	-78.507	6.024	-.781	-13.032	.000
Working capital management	-.547	.461	-.054	-1.187	.001
Financial reporting	1.586	.589	.168	2.691	.010
Cash budgeting	.050	.029	.050	1.753	.015

Discussion

The first objective of the study was to determine the effect of financing decisions on financing of climate change initiatives among community-based organizations in Kitui County, Kenya. Analysis of data on this objective was based on the research suggestions that financing decisions has effect on financing climate change initiatives among CBOs in Kitui county. The study established that there was a strong negative relationship between financing

decisions and financing climate change initiatives. Total equity of CBOs was very important because it assisted CBOs to enhance its sustainability where there are no assets. In addition, findings indicated that CBOs needs to maintain some assets and stock to cushion them against lack of funds. Therefore, the study agreed with Mugun et al. (2019), Wambua (2019) and Nasution et al. (2018) who agreed that firms need to balance between debt and equity in order to remain sustainable. In addition, the study disagrees with Kambi and Ali (2016) who argued that there is strong positive and significant correlation between debt to equity and financing of climate mitigation programmes.

The results also concurred with Mpofu and Sibindi (2022) as well as Momanyi and Njiru whose studies proposed that financing decisions measured by source of financing, debt structure and length of financing are key to driving financing of business operations positively and negatively.

The study's objective was to evaluate how working capital management affected community-based organizations in Kitui County, Kenya, that funded climate change initiatives. The study's findings demonstrated the substantial negative impact that working capital management had on financing climate change initiatives among CBOs in Kitui county. This implies that CBOs and firms with longer cash cycle and higher cash ratio are more likely to have challenges financing operations including effectively financing climate change initiatives. It was clear that most CBOs had current ratio equal to one, meaning that the amount of current assets was almost equal to amount of current liabilities. In addition, the amount of account payable almost was equal to amounts receivable.

These findings support a study by Mandipa and Sibindi (2022), which hypothesized that there was a substantial negative link between retail enterprises' financial performance and their average collecting duration and cash cycle. Furthermore, the research validates the findings of Akbar and Jiang's (2020) study, which indicated a substantial negative correlation between working capital management techniques and investment portfolio, as determined by the cash ratio and cash cycle. The study also concurred with Sheriffdeen (2020), who examined the impact of working capital management and institution management of climate financing mechanisms using the cash cycle, cash ratio, and total accounts payable.

This objective of the study was to establish the effect of financial reporting on financing of climate change initiatives among community-based organizations in Kitui County, Kenya. The findings of this study reveal a positive and significant relationship between financial reporting and financing climate change initiatives. This implied that CBOs required good financial reporting mechanisms to enhance governance and accountability. It also meant that CBOs required good cash flow and streams of income to maintain proper financing of climate change programmes. These findings agreed with Agbemaya (2018) who confirmed that financial reporting practices had positive association with climate funds mobilization. In addition, the results concur with Gulluscio et al. (2020), who argued that there is a link between financial reporting and implementation of climate change adaptation and mitigation strategies of firms. Likewise, Bracking and Leffel (2021), found that climate change financing can be contextualized in a close relationship with cashflow and streams of income. The implication of financial reporting as a governance and decision-making tool is therefore imperative to climate change financing. In order to increase the credibility and transparency of information, it is essential to suggest—in light of the study's findings—that financial reporting, revenue streams, and cash flow all play significant roles in the design and construction of incentive and monitoring systems.

The fourth objective was to examine effect of cash budgeting on financing of climate change initiatives among community-based organizations in Kitui County, Kenya.

Results for cash budgeting shows that there was a positive significant relationship between cash

budgeting and financing climate change initiatives. It was clear that when higher proportion of budgeted funds are taken up, it was assumed a considerable amount could not go to intended purpose of financing climate change initiatives. The funds allocated for capital expenditure was well absorbed. This implied that CBOs had higher absorption rate for capital expenditure. These findings concurred with study by Harvest and Sophia (2022) who argued that there is a positive significant relationship between allocation for capital expenditure, actual utilization for capital expenditure and financing of climate change initiatives. In addition, Mbogo, Olando and Macharia (2021) acknowledged that budgeting techniques had a good and major impact on SMEs' manufacturing financial performance. Moreover, the study's conclusions indicated that strategic action in budgeting procedures, such as cash flow planning, control, resource allocation, activity coordination, and financial position monitoring, could enhance the financial performance of a manufacturing SME.

CONCLUSION

The general objective of the study was to determine effect of financial management practices on financing climate change initiatives among community-based organizations in Kitui county, Kenya. Financing climate change initiatives has been hailed as a key strategy in the fight against climate change and its effects on commercial and social lives of Kenyans. By focusing on effects of financial management practices, CBOs in Kitui county can propose climate financing operational modalities capable of efficiently managing climate change mitigation and adaptations for posterity. Much as the CBOs wish to provide impact in Kitui county and beyond, there is limited research in this area for practical implementation of climate change mitigation and adaptation. Many studies in this topic have focused on effect of climate change rather than on financing. This study adds knowledge by providing evidence-based choice of financial management practices that can lead to effective financing of climate change initiatives. This section provides summary of key points, the conclusions, the recommendations for further readings. It was established that all the independent variables had a strong relationship with financing climate change initiatives.

The study found a strong negative significant relationship between financing decision and financing of climate change initiatives. Based on the findings, it is imperative that CBOs engaged in climate financing should seek lower debt to equity ratio to avoid financial challenges and complexities associated with higher debts. With greater equity, stocks and less liabilities, the CBOs will have the leverage to set a side higher financial resources to finance climate change mitigation and adaptation.

Effective working capital management is imperative for liquidity and continuous operational performance. The study found a negative significant relationship between cash cycle and cash ratio and financing of climate change initiatives. From the findings, for effective financing of climate change programmes, the CBOs should put in place policies that seek to lower both cash ratio and cash cycle. This will increase the volume of funds needed to finance climate change initiatives.

In addition, Financial reporting as a financial management practice provides data and information for decisions making. The study found a positive significant relationship between financial reporting and financing climate change initiatives. It is imperative for CBOs to leverage financial reporting for decision making of financing climate change programmes. It was important that financial reporting provides governance mechanism required by donors for the purposes of judging prudent and transparent usage of climate funds.

Finally, the study found a strong positive significant relationship between cash budgeting and financing climate change initiatives. It is therefore important that absorption of allocated capital be monitored with a view to enhance effective financing of climate change programmes. With increasing cash

scarcity, effectiveness of cash budgeting is a key financial management practice for resource management. Thus, any organization involved in climate change should ensure higher rate of absorption of funds to intended programmes.

RECOMMENDATIONS

Based on the finding of this study, a number of recommendations were offered; The management of CBOs should institute regular audits in order to maintain appropriate balance between debt and equity. This will ensure effective debt management practices, liquidity performance and implementation of appropriate climate change investment decisions. Audits will also help implement proper credit policies and avoidance of liquidity stress in the course of their operations. Additionally, CBOs should consider instituting shorter cash cycle procedure and customer relationship management. This will increase liquidity, resource availability and effective management of receivables. In turn effectiveness in allocating resources for climate change mitigation and adaptation will improve.

CBOs in Kitui county should establish financial reporting frameworks acceptable to climate fund donors. This would spur financial accountability and governance. This will increase climate donor funds inflow. The CBOs can do this by adopting working procedures for regular financial reporting. CBOs should also institute effective uptake of budgeted funds into climate programmes. This should be done through customer or community awareness, effective planning and budget audits and reviews.

Recommendations for Further Research

This study offers topics for additional investigation in the future. To add to the body of existing knowledge, it would be essential to look into how climate finance instruments affect how well climate financing is doing in different nations, regions, and states. Furthermore, the study only included a small number of factors related to financial management techniques, such as cash budgeting, financial reporting, working capital management, and financing decisions. Additional factors pertaining to financial management practices, such as capital structure, accounting information systems, regulatory compliance, and other financial ratios, as well as the effectiveness of finance for climate change, may be taken into account in future research.

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