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Role of Environmental Accounting in Promoting Sustainable Business Practices A Case Study of Turkana County, Kenya

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Abstract:- This literature review examines the concept of environmental accounting and its potential impact on business sustainability, with a specific focus on Turkana County, Kenya. The review explores the existing literature on environmental accounting, including its global perspective, its application in Africa, and its relevance to the unique environmental and socio-economic challenges faced by Turkana County. The review also discusses empirical studies and theoretical frameworks related to environmental accounting and business sustainability. The findings highlight the importance of integrating environmental data and information into accounting systems and the potential benefits for businesses in terms of cost reduction, improved sustainability, and stakeholder engagement. The review concludes with the identification of research gaps and the significance of conducting a case study in Turkana County to contribute to the understanding of environmental accounting's practical implications in emerging economies.

I. INTRODUCTION

➢ *Background to the Study*

The creation of accounting and reporting methods for environmental accounting is a significant challenge for the accounting profession (Ozili, 2021; Biobele & Paul, 2012; Karimi et al., 2023; Schaltegger & Burritt, 2017). The awareness among accountants regarding the influence of environmental issues on various aspects of business management, accounting, audits, and disclosure systems is steadily growing. In response to this recognition, there is an increasing expectation for accountants to take a proactive stance in environmental protection. This expectation is particularly crucial as trade barriers diminish and the need to account for the costs associated with environmental degradation caused by industrial activities becomes more urgent. However, accountants face difficulties in accurately valuing and measuring environmental impacts. In the African context, there is a lack of widely accepted measurement techniques for environmental accounting. Therefore, there is a pressing need for accounting and reporting on environmental impacts, which has become an essential part of corporate accounting and reporting systems. Environmental accounting involves integrating environmental data into financial and managerial accounting systems, providing a comprehensive understanding of an organization's environmental performance. It is considered a vital tool for sustainable development and supports the communication of environmental activities and results. While research on environmental accounting is limited in regions with unique environmental challenges, such as Turkana County, Kenya, this study aims to fill the gap and contribute to the global conversation on environmental accounting and sustainability in businesses.

➢ *Environmental Accounting: A Global Perspective*

U.S. companies tend to adhere to Generally Accepted Accounting Principles (GAAP) and disclose their financial statements accordingly (Marta, 2014; EPA, 1995). A crucial document that companies must complete is the Form 10-K, which encompasses the annual report mandated by the Securities and Exchange Commission (SEC). This report includes financial information, as well as non-financial details such as company history, organizational structure, lines of business, risk factors, and industry conditions. Environmental considerations are integrated into Form 10-K through specific items, notably Item 303, which requires companies to discuss their financial condition and provide information about environmental contingencies.

Simultaneously, the Environmental Protection Agency (EPA), established in 1970, is dedicated to achieving a cleaner and healthier environment in the United States (Marta, 2014). The EPA develops and enforces regulations based on environmental laws passed by Congress. These two entities play distinct but interconnected roles in ensuring accurate financial reporting while addressing environmental concerns. They allocate a significant part of their budget to support environmental projects and studies through grants, conduct research in their laboratories, and collaborate with various stakeholders to protect the environment. The EPA also provides information on everyday actions that contribute to environmental well-being and publishes reports on its activities, including strategic plans, budgets and achieved results, with a focus on goals related to climate change, air quality, water protection, community cleanup, sustainable development, chemical safety, and pollution prevention (EPA, 1995).

- *Environmental Accounting in Africa*

The African continent, although accounting for a relatively small proportion of global greenhouse gas emissions, faces significant vulnerability to the consequences of climate change (Tauringana, 2019; Vardon, 2002). Numerous African countries have experienced severe impacts from extreme climate events, including devastating floods and cyclones, resulting in substantial loss of life and extensive damage to infrastructure. To address these challenges and achieve sustainable growth, Africa needs to implement climate adaptation strategies and adopt measures for climate mitigation, such as transitioning to renewable energy. Understanding and implementing environmental reporting and management in Africa is crucial, as they can lead to emissions reduction and demonstrate the commitment of African countries to global climate change responsibilities. Environmental accounting plays a vital role in achieving sustainable development by identifying environmental costs and benefits, evaluating intangible costs, and promoting sustainable business practices that preserve natural resources for future generations (Tauringana, 2019). The comprehensive approach of Environmental Accounting and Reporting (EAR) encompasses both financial and non-financial information, quantitative and qualitative data, and physical and monetary indicators to ensure the sustainability of business practices in Africa.

- *Environmental Accounting in Kenya*

The implementation of Environmental Management Accounting (EMA) practices in Kenyan businesses is not explicitly mandated by law, and awareness and adherence to environmental protection laws are limited (Wachira et al., 2019; Schaltegger et al., 2012; Osemene et al., 2016). The enforcement of environmental regulations is often the exception rather than the rule, partly due to inadequate infrastructure and challenges in detecting violations and corruption. While the adoption of EMA is not actively encouraged, there is a growing commitment to sustainability accounting in Kenya, with the government establishing regulations and policies, and the corporate sector showing increasing interest in the impact of environmental accounting on businesses. Environmental accounting aims to achieve sustainable development, identify environmental costs and benefits, and promote sustainable business practices for the preservation of natural resources.

- *Environmental Accounting in Turkana County*

Turkana County, with over 80% of its area being semi-arid, relies heavily on environmental resources to support livelihoods and alleviate poverty (TCSEAP, 2020). However, the county faces significant environmental degradation due to factors such as overgrazing, deforestation for fuel, poor farming practices, and lack of protection for water catchment areas. The hilly topography exacerbates soil erosion, leading to siltation in water storage facilities and dams when it rains. Despite these challenges, Turkana County has untapped potential for industrial investments in various sectors, including agriculture, fishing, geothermal and wind power production, water bottling, real estate, and crude oil exploration. The county has abundant surface and underground water reserves, as well as the largest wind power station in Lake Turkana, capable of generating significant electricity. However, the incorporation of environmental accounting practices to promote sustainability in Turkana's businesses has been lacking, despite the county's resource endowments.

II. LITERATURE REVIEW

The literature review highlights and emphasizes the importance of empirical studies and theoretical frameworks in understanding the relationship between environmental accounting and business sustainability.

A. *Empirical Literature*

This subsection presents a review of empirical studies that have examined the impact of environmental accounting on business sustainability. It discusses studies that explore the cost reduction potential of environmental accounting, the separation of environmental accounts from financial accounts, and the influence of green products on business sustainability.

- *Environmental Cost Reduction on Enhancing Businesses' Sustainability*

Duman et al., (2013) investigated environmental cost management within sustainable businesses. Their analysis actively focused on realizing efficient and effective environmental cost management within business activities to enhance market value and contribute to future sustainability. The study explored how organizational structure and activities impact environmental costs, particularly within businesses striving for sustainability and environmental friendliness. According to Duncan and colleagues (2013), businesses, in pursuit of their objectives, hold responsibilities towards employees, stakeholders, and the public, with the environment occupying a crucial role in these responsibilities. The study emphasized that, as part of sustainability, businesses should consider the needs of future generations while meeting current consumer demands. The environment is vital for business continuity and meeting consumer demands, equivalent to the importance of production factors. The study found that defining and measuring environmental costs incurred during a period is possible, and potential environmental costs can be minimized through environmental management accounting.

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A study on environmental cost-benefit analysis (CBA) by Atkinson and Mourato (2008) similarly aimed to enhance the delivery of environmental services that could have an impact on the environment. The paper examined advancements made in response to environmental issues and CBA policy constraints. The study concluded that current advancements in environmental CBA involve more than just routinely estimating monetary values to represent changes in environmental assets and services. Concerns on how advantages and expenditures are distributed among the rich and the poor have also given rise to distributional CBA, with certain minimal standards for practice arising. The study stressed the importance of establishing empirical values for use or transfer across different policy contexts and urged that future improvements in environmental valuation approaches be welcomed. It also emphasized how important it is to comprehend the costs and advantages of the environment to improve corporate sustainability.

- *Separating Environmental Accounts from Traditional Financial Accounts on Improving the Sustainability of Businesses*

In the year 2000, the United Nations conducted a study focusing on Integrated Environmental and Economic Accounting. The study aimed to explore the various applications of integrated environmental and economic accounting in policy- and decision-making processes. It delved into sectoral accounts, specifically examining forests, subsoil assets, fish, soil, and air emissions. Furthermore, the study discussed how information derived from integrated accounting could be effectively utilized in economic and environmental policies. Because of the essential roles that the environment plays in both economic performance and the creation of human well-being, the United Nations has underlined the significance of combining environmental and economic accounting. The aforementioned roles involve the utilization of natural resources in the processes of production and consumption, the capacity of the environment to retain waste through its many media, and the delivery of vital environmental services that sustain life and enhance human welfare.

A study by Saud, *et. al.*, (2020) noted that conventional national accounts, as commonly used, have only partially considered the environmental functions. These accounts primarily focus on market transactions and indicators that capture important factors related to welfare generation but fail to measure welfare itself comprehensively. However, the study highlighted that the increasing scarcity of natural resources poses a significant threat to sustained economic productivity, while economic activities can potentially compromise environmental quality by exceeding the capacity of natural sinks to absorb waste and pollutants. It was suggested in the study that conventional assessments may provide decision-makers false signals of success because they fail to take into account the societal and private costs linked to the depletion of natural resources and environmental deterioration. Consequently, society may be led down a path of non-sustainable development. To address this issue, the study emphasized the necessity of establishing separate environmental accounts that account for the full costs and impacts on the environment. Such integration is considered essential to foster sustainable practices across all aspects of the environment.

The goal of a study by Ismail et al. (2012) was to close the knowledge gap between accounting and economics in the context of environmental accounting. Their goal was to create accounting statements that included expenses, assets, and liabilities related to both the environment and finances to ascertain the "real" return for a tourism site. The idea of Environmental Accounting (EA), which enables companies and countries to disclose their financial/economic and environmental operations within a single framework, was examined in the study. Ismail and his associates suggested an EA reporting tool that included a balance sheet, physical unit statement, and income statement to do this. The "environmentally sustainable accounting statements" (ESAS) that emerged from these statements combined environmental assets and liabilities with financial terminology. To ensure compliance with conventional accounting standards, methods from environmental economics and national accounting were incorporated into ordinary financial statements during the development of ESAS.

- *Green Products Influence on Sustainability of Businesses*

Cuc et al. (2022) studied how consumers' intentions to purchase environmentally friendly products within the framework of the Green Deal were impacted by green marketing. Their empirical model revealed that digital tools had the most substantial impact on consumers' green behavior due to their user-friendly nature, although this ease of use had unintended side effects on ecological behavior. Researchers emphasized the importance of promoting green consumption through effective green marketing strategies and cultivating an environmentally friendly attitude to enhance sustainability practices. The study highlighted the need for further research to validate the impact of these measures on ecological consumer behavior.

Zhu and Sarkis (2015) identified the "green revolution" as a catalyst for green marketing, which aims to promote environmental protection, sustainable economic development, and reduce environmental pollution through green consumption. This, in turn, has led to the establishment of eco-labeling programs like China's Green Watch program, providing consumers with valuable insights into the environmental attributes of products. Businesses have increasingly integrated green issues into their marketing strategies in response to pressure from NGOs, government institutions, and environmental activists, as revealed by Zhu and Sarkis (2015). These pressures have prompted businesses

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to adopt environmental management measures, driven by supply chain demands, which, in turn, impact their market share. The competitive landscape has played a significant role in driving the adoption of environmental policies among businesses, as they strive to keep pace with competitors who have already embraced sustainable practices, showcasing their commitment to social responsibility. Furthermore, market opportunities have acted as triggers for green marketing, with companies and organizations recognizing the potential for increased market share by embracing environmentally friendly practices.

B. Theoretical Framework

This study is grounded in several social theories, including stakeholder theory, legitimacy theory, and critical theory. It explores different perspectives within the field of environmental accounting, with a specific emphasis on stakeholder theory. Stakeholder theory examines the disclosure of information to stakeholders, considering it both an obligation and a right. Stakeholders, referring to groups influenced by corporate activities or capable of influencing the corporation, play a vital role in the long-term survival of the organization. The organization's ability to adapt to stakeholders' interests and demands increases in tandem with their power and influence. According to the legitimacy hypothesis, organizations make an effort to match the social ideals they uphold with the generally recognized standards of conduct in the wider system in which they function. In order to give a thorough grasp of the dynamics of environmental accounting, this study expands on the analysis of these social theories.

➢ *Stakeholders Theory*

The Stanford Research Institute (SRI) first coined the term "stakeholder" to refer to groups that are essential to the organization's survival. The stakeholder theory holds that a firm's ability to succeed depends on its ability to manage relationships with these groups effectively (Parmar, Edward Freeman, Jeffrey S Harrison & Edward, 1983). Two models are presented by Freeman (1986) in the development of the stakeholder theory: the corporate social responsibility model of stakeholder management and the business planning and policy model. Stakeholder analysis in the first model is centered on identifying and assessing the support of important groups whose endorsement is essential to the company's continued existence. These parties could be suppliers, customers, owners, or public organizations. These organizations might not directly affect the firm, but their possibly contradictory actions are nonetheless taken into account when determining the firm's strategy and how best to allocate its resources in relation to the outside world.

The second model broadens the purview of corporate planning and analysis to include outside factors that could provide difficulties for the company, like environmentalists, regulatory agencies, and socially conscious special interest groups (Guthrie & Abeysekera, 2006). With the use of this paradigm, managers and accountants can create strategic plans that are flexible enough to accommodate changing social demands from non-traditional stakeholder groups. In order for businesses to effectively adapt to shifting social demands, the stakeholder theory highlights the significance of increased environmental awareness and encourages them to expand their corporate strategy to include non-traditional stakeholders, such as regulatory and hostile groups. The stakeholder theory emphasizes the importance of addressing environmental cost aspects and their appraisal in the context of environmental accounting and incorporating them into the financial statements.

➢ *Legitimacy Theory*

The widespread belief or presumption that an entity's acts are desirable, proper, or suitable within a socially built system of norms, values, and definitions is known as legitimacy (Schiopoiu, et al., 2013). Martens and Bui (2023) claim that legitimacy theory aids in promoting critical public debate and offers a useful framework for understanding firms' voluntary disclosure of social and environmental facts. However, one challenge facing legitimacy theory, as with any theory in general, is the occasional loose and imprecise usage of the term. This issue does not stem from the theory itself, but rather it is an observation that can be made about various theories across different disciplines.

According to legitimacy theory, a company's legitimacy can be divided into four stages. In the early phases of a firm's development, the first phase is called "establishing legitimacy," and it involves proving one's competence, especially when it comes to financial matters. While adhering to acknowledged standards of professionalism, the business must be conscious of socially constructed standards of quality and desirability. Most businesses function in the second phase, which is preserving legitimacy. In addition to continuous role-playing and symbolic assurance that everything is running smoothly, this phase involves efforts to foresee and stop future developments that can jeopardize legitimacy. But preserving legitimacy is not without its difficulties. Since community expectations change over time, legitimacy is a dynamic term that requires companies to adapt to their operational environment. Even if an organization was formerly thought to be respectable or genuine, it might lose its legitimacy (Schiopoiu et al., 2013).

When a company expands into new markets or modifies its current partnerships in existing markets, it is extending its legitimacy. It is imperative to aggressively and proactively expand legitimacy during this stage in order to win over the trust and support of wary potential stakeholders. When an incident, whether internal or external, puts legitimacy in jeopardy and necessitates a defensive response, it becomes necessary to defend legitimacy. During this phase, management's efforts to counteract the danger to legitimacy

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usually involve reactive and vigorous legitimacy efforts. In the capitalist system, it is normal for businesses to constantly defend their legitimacy, even in the absence of a significant occurrence. Fulfilling issues connected to competence and concerns related to the community, however, frequently conflict.

While meeting obligations to the greater community may come at the expense of satisfying investors, meeting stakeholder interests may occasionally come at the expense of community concerns. The final stage, defending legitimacy, has drawn a lot of interest from scholars studying accounting. It also offers a clear chance to investigate the vital connection between resources and legitimacy (Ashforth & Gibbs, 1990).

➢ *Critical Theory*

Critical theorists seek to challenge the existing norms and argue that traditional accounting practices are inadequate in addressing environmental issues. They contend that the objectives of firms are primarily focused on profit maximization rather than environmental protection (Gray, 2007). The core concern arises from the possibility that businesses may prioritize their objectives at the expense of the environment. It is not inherently problematic for entities to pursue their own goals such as growth or profitability. However, the issue lies in the potential trade-off where environmental concerns are disregarded in favor of corporate objectives.

One is unlikely to find a long-term solution for reducing environmental risks by addressing environmental concerns purely from the standpoint of business. This can be attributed to the fact that environmental preservation is not the primary goal of enterprises. Furthermore, ecological data was not intended to be measured and captured by conventional accounting techniques. Accounting practices, for example, did not originally incorporate the idea of quantifying the economic value given to a company by the collaborative efforts aimed at decreasing environmental effect (Wachira & Wang'Ombe, 2019).

III. CONCEPTUAL FRAMEWORK

This study focuses on the complex relationship between environmental accounting practices and business sustainability in Turkana County, Kenya. At the core of this investigation is the independent variable Environmental Accounting Practices, which is defined as the systematic tracking of environmental costs, environmental accounts, and green products. These practices are anticipated to wield direct and indirect influence on different facets of Business Performance. The dependent variable is representative of the distinct dimension of Business sustainability, it includes environmental sustainability which is the major key metric of the research. The measure of this component clarifies the sustainability of businesses and hypothesizes a positive direct impact of Environmental Accounting Practices on Business Sustainability.

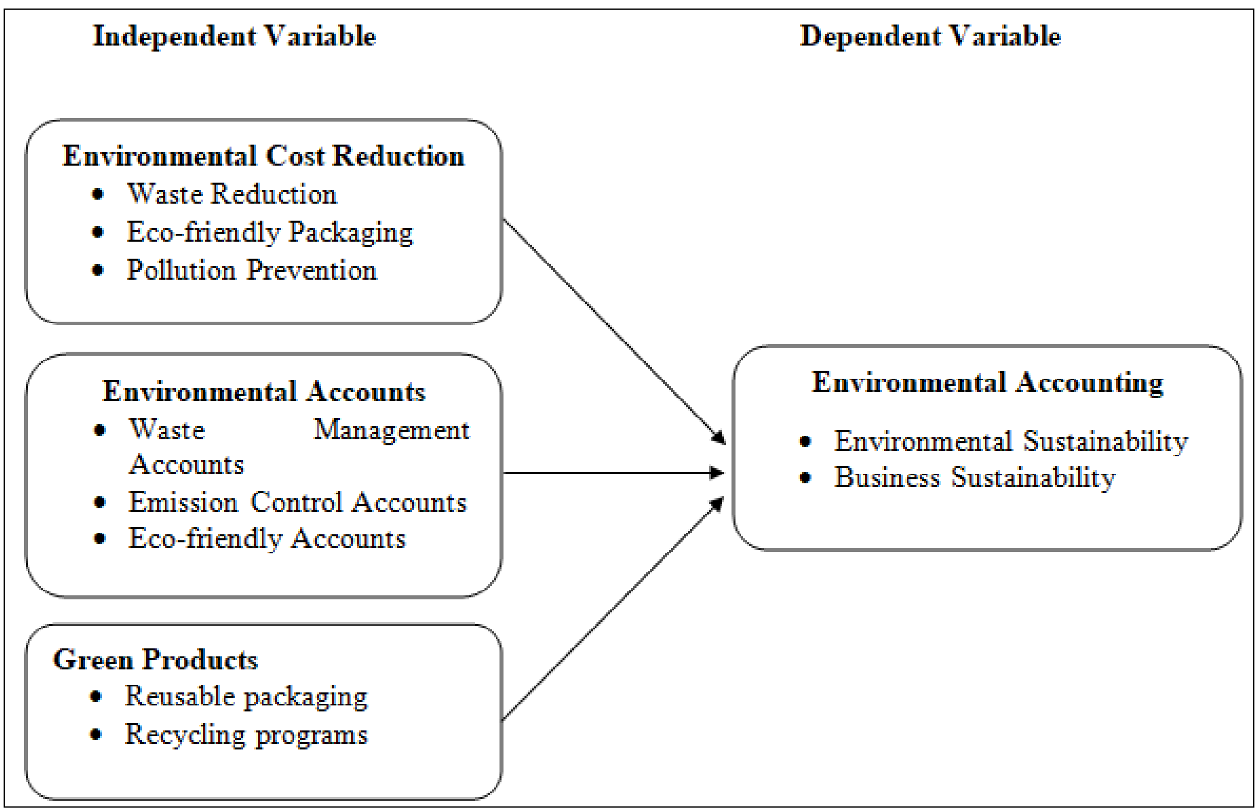

Fig 1 Conceptual Framework

IV. CONCLUSION

The literature review provides an in-depth analysis of environmental accounting and its impact on business sustainability, with a focus on Turkana County, Kenya. The review highlights the global perspective of environmental accounting, its relevance to Africa, and the specific challenges faced by Turkana County. It emphasizes the need for further research and a case study in Turkana County to contribute to the understanding and practical application of environmental accounting in emerging economies. The findings of this review lay the foundation for future empirical studies and provide valuable insights for policymakers, businesses, and researchers interested in promoting sustainability through environmental accounting.

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