HARMONIZATION OF ENVIRONMENTAL-SOCIAL STANDARDS AND MONITORING AND EVALUATION SYSTEMS OF INFRASTRUCTURE PROJECTS: A CASE OF MOMBASA SPECIAL ECONOMIC ZONE, MOMBASA COUNTY, KENYA

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF ARTS IN MONITORING AND EVALUATION OF MOUNT KENYA UNIVERSITY

JULY 2025

DECLARATION AND APPROVAL

Declaration by the student

This project is my original work and has never been presented for any academic award in any institution.

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ABSTRACT

The development of the Mombasa Special Economic Zone (SEZ) by the Kenyan Ports Authority (KPA), financed by Japan International Cooperation Agency (JICA), has progressively encountered issues with the environmental and social standards established by local regulations in contrast to those of the financial agency. The discrepancy frequently led to significant delays in project initiation, with some phases deferred for nearly two years. The non-standardization among these criteria has heightened the risk, in severe instances, of international collaborators retracting this support. The absence of uniformity results in inefficient resource utilization, leading to inflated expenses that compromise the overall cost-effectiveness of monitoring and evaluation. The disparity in standards presents a significant challenge for compliance, as projects strive to meet both local and international environmental and social standards. The purpose of this study is to analyze the influence of harmonizing environmental and social standards on the monitoring and evaluation (M&E) systems of the Mombasa Special Economic Zone by the Kenya Ports Authority (KPA), Kenya. The objective of the study is to analyze the harmonization of environmental and social standards in terms of accuracy of M&E data collection, M&E outcomes, cost-effectiveness of M&E, and M&E standards in the Mombasa Special Economic Zone by the Kenya Ports Authority. The study uses institutional theory. The study employed a mixed-methods approach, combining both quantitative and qualitative methods. The study used a descriptive study design. The target population in this study included all individuals directly involved in the monitoring and evaluation (M&E) processes of the Conditional Grant Infrastructure project by JICA at KPA, Mombasa. The study conducted a census and used questionnaires, key informant interview and focus group discussion as tools for data collection. The study analyzed quantitative data using both descriptive and inferential analysis, while qualitative data were analyzed using content analysis. The study is significant in terms of stakeholder satisfaction. Infrastructure projects involve a diverse range of stakeholders, including government agencies, contractors, local communities, and environmental organizations. Non-harmonized standards may cause confusion or dissatisfaction among such stakeholders and may lead to delays or, worst, conflicts. The investigation, therefore, into this problem will be instrumental in providing recommendations that may be useful in restoring stakeholder confidence in the M&E results, thereby facilitating the harmonious execution of projects. Based on the study findings, it is concluded that harmonizing environmental and social standards significantly enhances the effectiveness of monitoring and evaluation (M&E) systems in infrastructure projects. Specifically, harmonization promotes consistency and uniformity in data collection, improves the quality, timeliness, and strategic alignment of reports, optimizes resource allocation and reduces duplication, leading to cost-effective monitoring and evaluation (M&E) practices, and strengthens methodological alignment, accountability, and data comparability.

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LIST OF ABBREVIATION AND ACROYNMS

CVIS	South Interoceanic Highway
EIA	Environmental Impact Assessment
EMS	Environmental Management Systems
GASBOL	Bolivia-Brazil Pipeline Project
M&E	Monitoring and Evaluation
PAPs	Project Affected Persons
JICA	Japan International Cooperation Agency
KPA	Kenya Ports of Authority
KII	Key informant interviews
FGDs	Focus Group Discussions
ERC	Ethics Review Committee
NACOSTI	National Commission for Science, Technology, and Innovation
ESF	Environmental and Social Framework
EIA	Environmental Impact Assessment

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Within the framework of more comprehensive multi-level governance structures, subnational administrations in the majority of countries bear the responsibility of providing essential services and infrastructure. Conditional grants are commonly employed to fund public services and investments under the jurisdiction of municipal governments (Hadley, Williamson, & Yilmaz, Serdar, 2023). Beyond performance reporting and grant monitoring, evaluation enables agencies and grant recipients to gain a deeper understanding of the degree to which stated objectives are being accomplished. Evaluation may encompass inquiries regarding the execution of grants, the efficacy or impact of specific tactics employed in grant operations, and inquiries concerning the understanding of the significant background for achieved results or a deeper understanding of outcomes across different populations served. An evaluation can yield outcomes that enable organizations and grant recipients to acquire knowledge about effective strategies, target audiences, and specific situations (Office of Management and Budget, 2024).

An effective monitoring system should encompass data about both groups of variables (final and intermediate indicators). These data would be gathered using various methodology and by multiple organizations. Crucially, the requirement for data on various indicators in a robust monitoring system does not imply that a single institution should be responsible for collecting all data. This would be both undesirable and inefficient. Intermediary indicator data are often gathered by the treasury or finance ministry, as well as sectoral ministries at both the central and local levels, using financial and management information systems (Prennushi, Rubio, & Subbarao, 2002).

The processes of monitoring and evaluation (M&E) serve many purposes. Quantifying government operations, developing and monitoring performance metrics across multiple sectors and over time, assessing programs, and considering various goals, these actions can be executed and integrated. It will surely be feasible to employ M&E only as a means to enhance openness and accountability, by providing the public with wider access to information regarding the operations and outcomes of government initiatives. M&E can also be directed towards administrative objectives, specifically to incentivize performance within ministries and agencies.

However, without the use of M&E to guide the allocation of public funds, a vital component of managing a successful public sector would necessarily be absent (World Bank, 2010).

Insights, (2018) contends that the increasing recognition of the adverse environmental and social impacts of major infrastructure projects has elevated sustainability concerns to the forefront of infrastructure funding discussions in economically growing nations. Although foreign financiers, especially multilateral development banks (MDBs), maintain rigorous requirements of environmental and social (E&S) 'safeguards' in their infrastructure financing, governments that borrow may lack the ability or internal motivation to adhere to these norms.

According to Line, Hawley, and Krut (2002), the present patterns indicate that we have embarked on a new stage of reporting that prioritizes social responsibility. However, a notable segment of corporations still had not yet adopted environmental reporting. While several corporations generated comprehensive, entirely electronic-based reports detailing their worldwide social and environmental impacts, others faced challenges in establishing localized environmental management systems (EMS).

Since they were combined into the system of "Safeguard Policies" in 1998, the qualitative standards of the World Bank and the procedural standard of "Environmental Assessment" have become even more important in the environmental risk analysis of multilateral banks. The rigorous implementation of the Safeguard Policies in the Environmental Impact Assessment (EIA) of the Chad-Cameroon pipeline project, authorized by the World Bank Board in June 2000, strengthened their standing in the global lending market. In 2003, the largest commercial banks operating abroad, such as Citibank and WestLB, voluntarily pledged to comply with World Bank standards in key projects. Financed by both commercial and international financiers, the Baku-Tiblisi-Ceyhan oil pipeline serves as the “test project” for conformity with this optional norm (Nickel & Robelus, 2008).

The World Bank launched its new "Environmental and Social Framework" (ESF) in 2016. This document outlines the bank's approach to protecting the environment and people when lending money. This structure is very important because the World Bank's policies set an example for other MDBs and bilateral donors. The new framework has fewer rules than the old one, and it gives countries more autonomy in how they address E&S issues. The ESF supports the increased use of countries' own domestic safeguard systems in World Bank projects, even though the World Bank typically employs its own safeguards for infrastructure loans.

This is crucial for respecting national sovereignty and the distinct circumstances in each country. In addition, it reduces the extra work that countries must undertake to comply with both their own E&S laws and the rules set by MDBs (Insights, 2018).

An examination of the South Interoceanic Highway (CVIS) in the southern Peruvian Amazon reveals that the project's decision-making process did not adequately consider environmental and socioeconomic factors. This choice was endorsed by a wide range of stakeholders enthusiastic about the road's construction. The following changes in the terrain, mainly deforestation and illegal gold mining, serve as evidence that the implemented measures were inadequate in controlling the migratory and resource exploitation activities induced by the roadway (Dammert, 2019).

The Bolivia-Brazil Pipeline Project (GASBOL) is used as an example in Quintero (2006) to illustrate how environmental and social measures can be studied. The primary objective of the GASBOL project was to supply Bolivian gas to the Brazilian market. It is 3,150 kilometers long and goes from Rio Grande, Bolivia, to Porto Alegre, Brazil. The Project had to deal with a lot of environmental, social, and institutional problems. These problems were partly caused by the fact that it spanned two countries, had to deal with uneven infrastructure, involved complicated institutional agreements, involved indigenous communities, and was located in environmentally sensitive areas. The design, construction, implementation, and operational stages of the project were all well-managed, despite these significant challenges. As a result, GASBOL has become a model for how to run large infrastructure projects. Many positive outcomes resulted from the project's innovative approach to helping people and protecting the environment.

Karugaba (2021) concurs that the development of crucial oil roads presents numerous social and environmental issues, such as disrupting essential services like water, roads, electricity, and health, depletion of land, release of excessive noise and dust, air pollution, soil erosion, obstruction of drainage systems, and loss of valuable vegetation. Utilising emission-reducing machinery, engaging specialists in evaluating the environmental consequences of road construction, implementing tree and vegetation planting along the built roads, facilitating access to titled land for displaced individuals, providing compensation for all destroyed properties, and offering affected persons a fair relocation and start-up package are crucial measures to enhance environmental and social performance.

Cultivating a shared understanding of and harmonizing conflicting viewpoints on environmental and safety protections is a significant problem for all stakeholders. A significant number of African nations approach collaboration with Multilateral Development Banks (MDBs) from a very ideological standpoint. Government stakeholders sometimes perceive E&S safeguards as Western concepts that are not aligned with the challenges particularly encountered by emerging nations. However, this viewpoint differs from that of other MDB stakeholders, who use a far more technical approach to collaboration on safeguards. Their perception is that the primary conflicts are focused on the process rather than sovereignty, such as the need for improved communication and coordination among various stakeholders throughout implementation (Insights, 2018).

The above suggests that synchronizing environmental and social criteria for infrastructure projects is essential to ensure the effectiveness of monitoring and evaluation procedures. The disparities in these criteria among foreign funding sources often lack alignment with the relevant local regulations, creating significant challenges for project execution accompanied by delays, distortions, and conflicts among the parties involved. Effective data collection, outcome evaluation, and compliance with local and international standards are contingent upon the harmonious functioning of the monitoring and evaluation (M&E) systems. This phenomenon not only results in project delays and escalated expenses, but also diminishes stakeholder satisfaction and, fundamentally, impacts the success and long-term viability of the initiatives (Line et al., 2002, Nickel & Robelus, 2008; Insights, 2018). Hence, this study will contribute to the development of a unified strategy that establishes efficient mechanisms for monitoring and evaluation procedures. Thus, the latter would ensure the seamless execution of data gathering, the transparency and cost-effectiveness of initiatives, and strict adherence to the specified criteria. Moreover, it would establish a connection between the ongoing implementation of environmental and social protections by global investors and local regulations, so establishing a structure that guarantees responsibility, durability, and alignment among few parties involved.

1.2 Statement of the problem

Kenya's KSh 42 billion Special Economic Zone at Dongo Kundu has stalled repeatedly because 1,648 Project-Affected Persons (PAPs) had to be resettled before Japan International Cooperation Agency (JICA) could release further grant funds. A KSh 1.4 billion compensation scheme, paused in 2023 for an audit of 1,759 claimants, resumed only in August 2024, leaving site works idle for roughly 12–18 months and keeping 97 investor applications on hold. The crux was a clash of safeguard rules: JICA's resettlement framework treats people who have occupied land for five years or more as legitimate claimants, whereas Kenya's EMCA regime recognizes ownership only through title deeds. This stand-off already inflated supervision costs, blurred baseline data, and forced KPA's monitoring-and-evaluation (M&E) teams to juggle two conflicting indicator sets, undermining data accuracy and stakeholder confidence (JICA, 2015).

Although policy reports acknowledge the delays, and studies have explored M&E structures at KPA (Ng'etich & Kisimbii, 2020) they stop at organisational design. There is a limited empirical study on whether aligning Kenya's and JICA's environmental-social standards actually improves M&E performance, specifically in terms of the accuracy of data collection, the quality of reported outcomes, cost-effectiveness, and compliance with recognized M&E norms in port-led infrastructure. By analyzing the Dongo Kundu project through these four lenses, this study will fill that gap and generate evidence-based recommendations for KPA and its international partners on how harmonized safeguards can facilitate smoother funding flows, credible data, and ultimately, the faster delivery of Kenya's flagship SEZ.

1.3 Purpose of the study

The purpose of this study was to analyze the influence of harmonizing environmental and social standards on the monitoring and evaluation (M&E) systems of infrastructure projects at the Kenya Ports Authority (KPA), Kenya.

1.4 Objectives of the study

The following were the objectives of the study;

i. To analyze the influence of harmonization of environmental and social standards on the accuracy of M&E data collection in the infrastructure projects at the Kenya Ports Authority.
ii. To investigate the influence of harmonization of environmental and social standards on M&E outcomes in the infrastructure projects at the Kenya Ports Authority.
iii. To assess the influence of harmonization of environmental and social standards on the cost-effectiveness of M&E processes in the infrastructure projects at the Kenya Ports Authority.
iv. To analyze the influence of harmonization of environmental and social standards on M&E standards in the infrastructure projects at the Kenya Ports Authority.

1.5 Research Questions

The study sought to answer the following research questions;

i. What is the influence of harmonization of environmental and social standards on the accuracy of M&E data collection in the infrastructure projects at the Kenya Ports Authority?
ii. How does harmonization of environmental and social standards influence M&E outcomes in the infrastructure projects at the Kenya Ports Authority?
iii. Does harmonization of environmental and social standards influence the cost-effectiveness of M&E in the infrastructure projects at the Kenya Ports Authority?
iv. What is the influence of harmonization of environmental and social standards on M&E standards in the infrastructure projects at the Kenya Ports Authority?

1.6 Significance of the study

This highlights the impact of a lack of harmonization between environmental and social standards on the accuracy of data collected and analyzed in M&E processes. Inaccuracies within large-scale infrastructure projects, even at a small scale, can prove highly consequential, as informed decisions depend on the accuracy of data. This highlights the challenges presented by non-harmonization and demonstrates how M&E data quality and reliability can be improved, ultimately contributing to better project outcomes. Additionally, probable beneficiaries of the study are good decision-making processes.

The study is significant in terms of stakeholder satisfaction. Infrastructure projects involve a diverse range of stakeholders, including government agencies, contractors, local communities, and environmental organizations. Non-harmonized standards may cause confusion or dissatisfaction among such stakeholders and may lead to delays or, worse, conflicts. The investigation, therefore, into this problem was instrumental in providing recommendations that could be useful in restoring stakeholder confidence in the M&E results for the harmonious execution of projects.

This touches on another important area of significance, particularly in cost-effectiveness regarding M&E studies. These inefficiencies, due to the lack of harmonized standards, ultimately result in increased costs, duplication of efforts, and waste of resources. This paper examined the origins of these inefficiencies and offered strategies to optimize resources and minimize operational costs. The study's findings can be utilized by KPA and other relevant parties to achieve improved financial project outcomes, yielding continued benefits to the economy as a whole. This study also examined the impact of non-harmonization on compliance with environmental and social standards. Compliance with such standards is not only a regulatory necessity but also a crucial aspect for infrastructural projects, particularly in terms of sustainability and social accountability. The study provided recommendations on how to improve adherence to both local and international standards, thereby enhancing environmental governance and social governance. This paper has a significant policy implication. The challenges of non-harmonization lay the foundation for policy reforms that align local and international environmental and social standards. Such alignment could facilitate Kenya's monitoring and evaluation (M&E) practices in its infrastructure sector, enhance global competitiveness, and support the goals of sustainable development.

1.7 Limitations of the study

In infrastructure projects, information is often sensitive regarding funding, contracting, and project outcomes; sometimes, access to the data would not have been possible for crucial review due to issues of confidentiality. To that end, accessibility to certain data required for an in-depth review of the M&E processes, particularly aspects such as the accuracy of data collected and adherence to environmental and social standards, could be limited. In light of this, the research will be based on publicly available reports, anonymized datasets, and secondary sources of data from previously conducted studies or official project summaries. Furthermore, the research study aims to establish collaborations with key stakeholders at the Kenya Ports Authority to gain access to non-confidential information, thereby enriching the findings while protecting sensitive information.

Most projects dealing with infrastructure development at the Kenya Ports Authority are long-term, and the impacts of non-harmonization of standards on M&E processes cannot be readily observable within this relatively short study period. This study, therefore, aimed to target projects with a longer life cycle or where implementation has already been done, from which data can be acquired to model short- to mid-term effects of non-standardization. Expert interviews and stakeholder consultations were also conducted to gather information on the likely long-term effects, so that even if this study can capture only the short-term effects or outcomes, there could be useful projections and recommendations.

1.8 Scope of the study

The study focused on harmonization of environmental and social standards and monitoring and evaluation (M&E) of infrastructure projects. The study specifically examined: the accuracy of M&E data collection, M&E outcomes, the cost-effectiveness of M&E, and M&E standards. The study will be carried out in Mombasa, Kenya. The study used a descriptive design. The study was conducted between February 2025 and May 2025. The Development of the Mombasa Special Economic Zone, implemented by Kenya Ports Authority with a conditional grant provided by the Japan International Cooperation Agency, formed the core of the study. This specific case is particularly relevant for understanding the challenges and implications arising from the lack of harmonization between international donors' environmental and social standards and local regulatory frameworks.

1.9 Assumptions of the study

i. The study assumed that the M&E processes adopted in the different infrastructure projects in KPA follow the same framework, hence a standardized comparison of how harmonization of environmental and social standards impacts data accuracy, M&E outcomes, cost-effectiveness, and standards.

ii. The data received from KPA, international agencies, and relevant stakeholders is presumed to be accurate and up-to-date. It is also assumed that data would be sufficient to draw meaningful inferences, particularly from public reports and anonymized sources.

iii. The study assumed that harmonization of environmental and social standards is one of the major factors affecting the monitoring and evaluation processes in the aforementioned projects.

1.10 Operational Definition of the Key Terms

Accuracy	Refers to the degree to which the data collected during the monitoring and evaluation (M&E) process precisely represents the real conditions, outcomes, or performance metrics of infrastructure projects. It includes the correctness of data entries, measurements, and reports used in M&E analysis.
Compliance	The extent to which infrastructure projects at the Kenya Ports Authority (KPA) adhere to both local and international environmental and social standards as defined by regulatory bodies and funding agencies during the M&E process.
Cost-Effectiveness	The ability of the M&E processes to achieve their objectives, such as data collection, reporting, and stakeholder engagement, within the allocated budget without wastage of resources. It assesses the relationship between the financial inputs and the quality of outputs in the M&E processes.
Environmental and Social Standards	Guidelines and regulations set by both local and international bodies that dictate how infrastructure projects must manage their impact on the environment and society. These standards ensure projects mitigate negative environmental and social consequences and promote sustainability.
Harmonization	The process of aligning, standardizing, and integrating diverse environmental and social requirements, guidelines, and regulations from various regulatory bodies, stakeholders, and international frameworks to create a unified set of standards

Infrastructure Projects	Large-scale construction or development initiatives at the Kenya Ports Authority (KPA) funded by international agencies and aimed at improving the port's facilities, such as port expansions, road networks, and other transport infrastructure.
M&E Data Collection	The systematic gathering of qualitative and quantitative data during the M&E process to track the progress, performance, and outcomes of infrastructure projects.
M&E Outcomes	The results and insights derived from the M&E processes, which include assessments of project performance, adherence to standards, cost-effectiveness, and stakeholder satisfaction. These outcomes help determine the success and challenges of the projects.
M&E Processes	The structured activities involved in monitoring and evaluating infrastructure projects, including data collection, data analysis, reporting, and stakeholder consultations. These processes ensure that projects meet their intended objectives and comply with relevant standards.
M&E	Standards Established guidelines and criteria that dictate how monitoring and evaluation should be conducted for infrastructure projects. These standards ensure consistency, reliability, and accuracy in assessing project performance and compliance.
Monitoring and Evaluation (M&E)	A systematic process of tracking the performance and impact of infrastructure projects over time, assessing their adherence to planned objectives, environmental and social standards, and overall effectiveness. M&E serves as a tool for project improvement and accountability.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter looks at the scholarly work on environmental and social standards and infrastructure projects. This section presents a review of the existing literature on the study variables, specifically the relationship between environmental social standards and monitoring and evaluation systems and practices. The section also presents the theoretical literature that underpins the study on a solid foundation. The chapter also presents a conceptual framework that explains the relationship between the variables of the study.

2.2 Literature Review

2.2.1 Overview of Environmental and Social Standards and Infrastructure Projects

According to Mohamad et al., (2022) due to human activity-induced environmental degradation, climate change has the potential to worsen to the point where it endangers human life and creates societal unrest. The World Bank anticipates that infrastructure development and social and environmental protections may coexist through the Environmental and Social Framework (ESF). Environmental restrictions significantly influence the functioning of both new and existing infrastructure projects. The economic performance of infrastructure projects is intricately linked to the very dynamic landscape of environmental rules (Chowdhury et al., 2022). Environmental impact assessment (EIA) has been promoted as a means to prevent building projects from harming the environment. However, its effectiveness in protecting the environment by affecting project decisions is called into question. The results show that the level of process integration and public involvement of EIA determines how much it affects project decisions. However, EIA's accountability is controlled by its professional governance (Chi, Ruuska & Xu, 2015).

Numerous donor agencies and thousands of implementing agencies exist within the development assistance sector, each possessing distinct management cultures and methodologies. The scope of the assessment association's operations encompasses the entire development aid community, facilitating the acquisition of knowledge regarding optimal practices based on project types within this community. Every evaluation conducted by an association member will be cataloged and stored in an online repository, available to the entire development community.

Given that each evaluation assesses the project's cost-effectiveness, it would be a straightforward task for an individual intending to analyze the methodologies of the five to ten most cost-effective water projects in analogous settings (Clements, 2005).

Moreover, the findings of this study are expected to contribute to the development of a standardized and integrated ESF in Indonesia. An unsuccessful attempt was made to construct the Inambari dam, which is part of a set of hydroelectric projects outlined in an energy deal between Peru and Brazil signed in June 2010. The Inambari project was terminated due to local demonstrations over a design that would have resulted in the flooding of 40,000 hectares, which includes 100 km of the South Interoceanic Highway (CVIS). Varying suggested land uses enable the establishment of distinct alliances that either support or oppose infrastructure projects. The politics of these alliances impact the implementation of safeguarding measures, therefore influencing their efficacy (Dammert, 2019). According to Karugaba (2021), Project Affected Persons (PAPs) participate in the mapping planning conference where they are offered a comprehensive explanation of the potential displacement process and the procedures for compensation. Nevertheless, there is a scarcity of comprehensive meetings that include all relevant parties, and these sessions primarily lack emphasis on fair remuneration and environmental preservation. The prevalence of project failures seen across counties raises concerns regarding the potential attribution of these occurrences to inadequate monitoring and assessment procedures (Opulu & Muchai, 2021).

2.2.2 Environmental And Social Standards and Accuracy of M&E Data Collection and Analysis Processes in the Infrastructure Projects.

Monitoring is an ongoing task that involves collecting data on specific markers in a systematic manner. This provides management and the primary person in charge of an ongoing intervention with an idea of how far along things are in terms of meeting goals and utilizing funds effectively. On the other hand "Evaluation is a methodical and objective look at a project, program, or policy, including its planning, execution, and outcomes, whether it is still going on or has already ended." Its goal is to determine if the goals remain relevant and if they are being met, as well as to assess their efficiency, effectiveness, impact, and longevity. When an evaluation is conducted, it should provide reliable and helpful information that enables implementing agencies to apply what they've learned when making decisions. The process of determining the value or importance of an action, policy, or program is also known as evaluation.

An evaluation of an action that is planned, in progress, or over, that is as organized and objective as possible (OECD, 2002). The things that are monitored for the "system" are primarily technical, while the things that are observed for the managers and customers are more non-technical or have to do with money and people. Monitoring should occur regularly, as outlined in a monitoring plan developed by the district office.

A supplementary collection of instruments falls under the category of community participation tools. This encompasses activities such as mapping, ranking, creating timelines and calendars, and drawing diagrams. These can serve as instruments for data collection at the community level and are frequently incorporated as fundamental elements in monitoring and evaluation exercises. Nevertheless, they are more appropriately utilized as participatory methodologies for data collecting and analysis, enabling communities to assess their own circumstances and make autonomous decisions.

SEZ M&E units might utilize several tools to obtain a comprehensive understanding of the zone's activities. Administrative data, especially tax and customs information, can be utilized to assess investment, exports, and the ratio of imported inputs compared to those sourced from the domestic economy. In numerous cases, management committees of zones require companies to produce data on employment and production. Nonetheless, obtaining reliable data should not entail the imposition of additional bureaucratic obstacles. Line ministries must collaborate to eliminate redundant reporting obligations (Alexianu et al., 2019). To understand how societal and environmental effects are felt, we need various types of useful data. Predicting these kinds of impacts is challenging, though, because we don't fully understand how they occur and lack sufficient knowledge. Therefore, if the level of uncertainty is considered high, individuals undertaking the project take natural and social factors into account and incorporate as many safety measures as possible (JICA Guidelines on ESS, 2022).

In Iraq, there is a significant deficiency in the environmental and social evaluation of the development project. The economic evaluation must also consider the project life cycle. The lack of verified and comprehensive assessment procedures is the primary impediment. The social assessment revealed a 38.5% reduction in traffic casualties, however this increase occurred over the service life. The economic evaluation confirmed the project's viability. The ESE assessment is deemed appropriate and useful in determining the adverse and beneficial effects throughout the service life.

Enhancing the data gathering system can augment the comprehensiveness of the employed approaches and incorporate additional indicators (Kadhim, Banyhussan & Jameel, 2020).

The Logical Framework clarifies the goals of any project, program, or policy, as well as the connections between inputs, processes, outputs, outcomes, and effects. It also helps identify potential risks that may hinder reaching the goals and determine which indicators can be used to measure performance and success at each stage.A Logical Framework is a useful tool for building better projects and programs, and making thorough plans for how they will work. It's also helpful to examine success and make changes, as this provides a solid foundation for reviewing, tracking, and evaluating activities (JICA, 2009).

When considering environmental and social factors, the effects that need to be evaluated include those that occur in the natural environment and impact people's health and safety. These effects can be spread through waste, accidents, water use, climate change, biodiversity loss, and degradation of ecosystem services, as well as those that occur across borders or on a global scale. These also include environmental and social effects like forced relocation, population movement, the local economy (including jobs and ways to make a living), the use of land and local resources, social institutions (such as social capital and local decision-making institutions), existing social infrastructures and services, vulnerable social groups (such as poor people and indigenous peoples), gender, children's rights, cultural heritages, local conflicts of interest, infectious diseases (such as HIV/AIDS), and working conditions (including safety at work). Through the planning process, the list of things that need to be done for a project is narrowed down to the most important ones.

Surveys can enhance this initiative by facilitating the collection of more detailed data and qualitative insights, including information on working conditions and investors' concerns. Administrations generally possess restricted capability to establish these systems; nonetheless, technology can substantially lower expenses. An online reporting platform enables companies to meet their reporting obligations more efficiently and enhances data management for the Monitoring and Evaluation (M&E) Unit. Secondly, certain surveys can be conducted via text messaging or email, enabling respondents to complete the questionnaire at their convenience (Alexianu et al., 2019). On its own, raw monitoring and evaluation (M&E) data is typically not helpful. It must be analyzed before it can be of any use. The goal of data analysis is to assist in transforming unprocessed data—facts and opinions gathered through official or informal planning, monitoring, assessment, or research processes—into knowledge.

Afterwards, decision-making or ensuring accountability to various stakeholders can be done using that knowledge (Britton, 2005).

Data analysis can happen at any point during a project or initiative. It may occur during the design phase of a project or program, prior to its start, during the project or program, or some time after it has concluded. There are many distinct levels at which data analysis can be done, including within and between projects, programs, industries, and organizations. As a component of a participatory development process, data analysis is frequently promoted in communities for social development purposes (Intrac, 2017). Data analysis frequently constitutes the most challenging aspect of monitoring and evaluation to execute effectively. When it depends on adhering to explicitly stated rules and procedures, it may be comparatively uncomplicated. However, in certain situations, it can be quite difficult. Data analysis often relies on factors such as experience, intuition, and the ability to manage complexity. This is particularly applicable when analyzing results to guide future strategies. Qualitative data analysis can typically be utilized for any of the three types: descriptive, data-driven, and theory-driven narratives. Nevertheless, quantitative data analysis is rarely employed in conjunction with data- or narrative-driven analysis. This is because most quantitative data analysis methods involve gathering data to achieve specific objectives.

2.2.3 Environmental and Social Standards on Stakeholder Satisfaction with M&E Outcomes in the Infrastructure Projects.

The world is currently undergoing a significant investment cycle in infrastructure, which is crucial for the advancement and prosperity of nations and communities. Management deficiencies in infrastructure projects are well-documented, with some stemming from inadequate stakeholder participation. Megaprojects are complex and require careful consideration of multiple stakeholders to meet project goals and take their interests into account. While some megaprojects may be motivated by iconic or socio-political factors, the majority concentrate on addressing existing infrastructure capacity issues or creating new business opportunities. Megaprojects are substantial in terms of financial magnitude and intricate in nature, necessitating the involvement of stakeholders from multiple institutions and communities. Due to heightened stakeholder concerns on sustainability issues, encompassing both environmental and socio-economic aspects, the management of megaprojects has become increasingly complicated. Stakeholder involvement is universally acknowledged as a critical

determinant of the success of infrastructure projects (Kumaraswamy, Wong & Chung, 2017; Ngampravatdee et al., 2023, Prebanić & Vukomanović, 2023; Senaratne & Rai, 2024).

The evaluation of project performance, including time, budget, accountability, and overall satisfaction, is essential for assessing stakeholder contentment. A monitoring and evaluation methodology assesses project performance while identifying underlying concerns (Ngechu & Kaluyu, 2020). The recognition of diverse values and knowledge has heightened the importance of stakeholder involvement in the monitoring and evaluation (M&E) of development initiatives. Participatory monitoring and evaluation (PM&E) provides innovative methods for enhancing learning and transformation at the community, project, and institutional levels. PM&E has been employed for multiple reasons, including project planning and management, organizational enhancement and learning, comprehension and negotiation of stakeholder interests, as well as the evaluation of project outcomes and impacts. At the community level, PM&E systems can function as a mechanism to enhance local capacity for monitoring changes, evaluating efficacy, environmental sustainability, and the consequences on livelihoods of their programs (Njuki et al., 2006; Adeniyi, & Dinbabo, 2016; Ngechu & Kaluyu, 2020).

Various distinct and perhaps conflicting interests may be influenced, both favorably and unfavorably, during the duration of a major infrastructure and construction (MIC) project. Neglecting to recognize and fulfill the concerns and expectations of stakeholders has led to numerous project failures. A participatory approach to project decision-making is one method to resolve this challenge. The efficacy of the participation mechanism is predominantly contingent upon the customer or owner, posing a specific challenge for Asian nations, such as China (Li & Skitmore, 2013). The rising hazards and complexities in government infrastructure projects have heightened the significance of external stakeholder management in modern project management. In developing nations, effective policymaking and infrastructure program planning are crucial due to the diverse character of stakeholders and their expectations from the government. Limited research has examined the involvement of external stakeholders in public infrastructure projects and their collaboration in achieving shared project objectives by overcoming communication and decision-making obstacles (Waris et al., 2022).

Notwithstanding the heightened focus of road agencies on the requirements of infrastructure stakeholders, there is a lack of understanding of how stakeholders' satisfaction or discontent with the agency's service delivery is established. Data from a road maintenance project in the Netherlands indicates that expectations had a little impact on the development of satisfaction. Furthermore, the significance of highway performance impacts on satisfaction formation, influenced by expectations and experiences, varied according to the contextual setting of the maintenance project. Hartmann & Hietbrink (2013) suggest that the value-in-use experience and the temporal dependence of expectations account for the shift in significance and the restricted influence of expectations. Windapo & Qamata (2015) revealed that stakeholders assigned high ratings to the specified satisfaction measures, with the fulfillment of client and technical criteria receiving the highest rating. There is a notable disparity in stakeholders' attitudes regarding the utilization of completing project requirements as a criterion for project satisfaction, although perceptions concerning the other identified satisfaction metrics remained consistent.

Hartmann & Hietbrink (2013) conclude that road agencies should shift their focus from ascertaining and fulfilling stakeholder expectations to enabling stakeholders to experience the benefits of a maintenance project. Windapo & Qamata (2015) indicate that the challenges encountered in large engineering projects and the significant rate of failure can be attributed to the divergent perspectives of stakeholders on the use of project requirements fulfillment as a metric for project satisfaction. It may be stated that project stakeholders often exhibit greater satisfaction with initiatives that are finished within the designated time frame and budget.

According to the study, more than half of the stakeholders' happiness is influenced by the major components of stakeholder involvement aims. All stakeholders should be included in the selection of community projects, their execution, and their sustainability, according to the project managers and CDF committee members entrusted with managing CDF initiatives (Ngechu & Kaluyu, 2020). Njuki et al., (2006) illustrate that the amalgamation of local indicators with project-level indicators offers a more comprehensive perspective on benefits and impacts, hence enhancing the information feedback loop between communities and R&D systems. This process also provides metrics for evaluating the frequently challenging-to-assess process-level results, such as empowerment from the community's viewpoint. Creating indicators and negotiating them with various stakeholders enables the assessment of impact from the viewpoints of diverse project participants, including women, marginalized groups, and economically disadvantaged individuals. Internal stakeholders and project managers must

effectively communicate with external stakeholders while maintaining project objectives. Consequently, it is essential to devise a strategy for stakeholder management to enhance public sector infrastructure projects, particularly from the viewpoint of a developing nation (Waris et al., 2022).

2.2.4 Environmental and Social Standards and Cost-Effectiveness of M&E Processes in the Infrastructure Projects.

According to Murei, Kidombo, and Gakuu (2017), the performance of a project relies on multiple factors, including a detailed budget aimed at achieving defined outcomes. The distribution of resources for the execution and oversight of projects is inherently political and regarded as a matter of accountability. While the importance of budget allocation in performance tracking is acknowledged, there remains a lack of understanding regarding the impact that monitoring and evaluation budgets have on project performance. The budget for monitoring and evaluation must be distinctly outlined within the overall project budget to ensure that the importance of the monitoring and evaluation function is acknowledged and that it enhances project performance.

In numerous occasions, participatory tactics are more cost-effective than initiatives use blueprint approaches; therefore, monitoring and evaluation for cost-effectiveness would encourage participation in such instances. Monitoring and evaluation for cost-effectiveness does not presume that participatory methodologies are suitable for all projects. The empowerment of project beneficiaries is analytically intriguing since it serves both to enhance project designs and as a goal in its own right (Clements, 2005). Consequently, M&E for cost-effectiveness perceives empowerment from two perspectives. Monitoring and Evaluation (M&E) for cost-effectiveness regards empowerment as a potential method to be evaluated in program design. Ultimately, M&E for cost-effectiveness regards successful empowerment as a benefit that must be assessed and included among other advantages in evaluating a project's cost-effectiveness. Both highly participatory and minimally participatory initiatives are evaluated within the same framework for cost-effectiveness under monitoring and evaluation (M&E).

Numerous public projects face performance challenges, primarily related to punctuality, inefficiency, and ineffective cost management, which can be addressed through monitoring and evaluation procedures to enhance project performance in Rwanda (Muhayimana & Kamuhanda, 2020). Ngechu & Kaluyu (2020) revealed that financial management objectives significantly influence the satisfaction of over fifty percent of stakeholders. The project manager and CDF committee members must allocate sufficient budgets for initiatives. There should be guarantee that the funds are accurately accounted for and that the financial accounts are delivered to the appropriate stakeholders. The monies should be disbursed promptly to prevent budgetary excesses.

Muchiri, Kyalo, and Mulwa (2022) found a high positive correlation between the success of public-funded health facility construction projects in Kirinyaga County, Kenya, and the allocation of the M&E budget. This suggests that Monitoring and Evaluation will significantly impact and enhance project performance if best practices for M&E budget allocation are followed. Simiyu & Okwoyo (2023) indicate a notable correlation between the budget allocated for monitoring and evaluation and the overall effectiveness of water and sanitation projects in Nakuru County. Proper allocation of financial resources for monitoring and evaluation activities enhances the efficiency of the project process. Projects that allocate sufficient resources for monitoring and evaluation are likely to yield improved results in terms of quality, efficiency, and stakeholder satisfaction. To enhance the effectiveness of water and sanitation initiatives, the county government should incorporate monitoring and evaluation budgets into its policy frameworks and institutional guidelines. It is essential to allocate adequate resources and support to guarantee the ongoing sustainability of monitoring and evaluation initiatives after the project's duration has concluded. Continuous or process evaluation would be more beneficial in guiding budget decision makers at both provincial and national levels regarding the necessary capacity interventions that could help address financial weaknesses in municipalities (Mofolo, 2016; Teddy & Faith, 2022).

2.2.5 Environmental and Social Standards and Compliance to M&E Standards in The Infrastructure Projects.

Conventional discourses on performance, performance management, and performance measurement highlight the significance of their interaction with monitoring and evaluation (M&E) in public administration. Monitoring and Evaluation (M&E) is broadly recognized as a crucial instrument for enhancing efficiency and ensuring accountability in management. The transition from performance management to performance governance enhances the previously recognized and acknowledged monitoring and evaluation requirements. M&E enhances the management of a complex public service environment, striving for the institutionalization of M&E as a systematic and well-conceived phenomenon (Kimaro, Fourie, & Tshiyoyo, 2018).

Boehmer & Zaytsev (2021) indicated that each stakeholder possesses distinct interests regarding sustainability performance reporting. Numerous international bodies mandate that the private sector adhere to a specific set of reporting regulations. Nonetheless, enterprises frequently prioritize their own interests in accordance with their corporate objectives. Consequently, it seeks greater flexibility. Furthermore, comprehensive rules can impose excessive obligations on numerous governments, which adhere to their own national norms.

According to Callistus and Clinton (2016), monitoring and evaluation play a huge role in putting a project into action, and as such, all parties must pay close attention to them. They play key roles in ensuring that health and safety rules are followed, that project quality goals are met, and that the project is completed on time and on budget. Unfortunately, Ghana struggled to deliver projects due to weak institutional capacity, limited monitoring and evaluation resources, a lack of strong connections between planning, budgeting, and monitoring and evaluation, and inadequate use or value placed on monitoring and evaluation results. Additionally, data quality was poor, with gaps and inconsistencies. Therefore, individuals with a stake in monitoring and evaluation should learn new strategies and techniques to enhance their effectiveness in monitoring and evaluation. This will help make sure that projects are successful and that money is set aside for monitoring and evaluation.

2.3 Theoretical Framework

The study uses institutional theory. Institutional Theory emphasizes the organizational response to pressures, norms, and rules set by institutions from the environment as a means of gaining legitimacy and social approval. The theory postulates that organizations operate within institutionalized environments, which force them to adapt their behaviors, processes, and structures to societal expectations. It is in this context that Institutional Theory provides a lens for M&E regarding the impacts of non-harmonized environmental and social standards on the practices, compliance, and outcomes of the Kenya Ports Authority. Philip Selznick (1957) viewed that it is the institutional environment that molds the organizational structure. John W. Meyer and Brian Rowan (1977) created the theory of "institutional isomorphism," in which organizations adopt institutionalized norms and practices to achieve legitimacy. Paul J. DiMaggio and Walter W. Powell (1983) further refined the idea of isomorphism with regard to three mechanisms of institutional pressures—coercive, mimetic, and normative—responsible for the organization's implementation of standards.

The theory posits that an organization adopts practices that enhance its legitimacy in society, regulatory authorities, and among stakeholders. Under most conditions, it normally means conformity to dominant standards even when they may not subsequently combine constructively. Organizations adopt similar practices through three identified mechanisms. Driven by political or regulatory pressures, organizations adhere to legal standards and rules to avoid sanctions. Under isomorphic conditions, organisations adopt practices from other successful organisations even though their direct benefits are not clear. Professional norms and standards prompt organisations to implement best practice, often inspired by industrial or sectoral bodies. Sometimes an organisation may be interested in adopting institutionalised practices for mere appearance or legitimacy without internalising them within its operations.

A variety of regulatory bodies impose different environmental and social standards, which the Kenya Ports Authority is expected to follow. The absence of harmonization will mean that a number of these standards may conflict or be duplicated, hence making it complicated to implement appropriate and effective M&E practices. Such divergence in standards would further lead to inconsistencies in the results of M&E practices, impacting stakeholder satisfaction and the perceived credibility of the M&E processes. Institutional Theory can explain the reasons for their adoption, even though compliance with them is essential to achieve legitimacy.

Non-harmonized standards impose additional financial and operational costs on stakeholders, with potential outcomes including an increase in inefficiencies. Institutional Theory can account for such costs, as it considers compliance and legitimacy, rather than operational efficiency, as key. This is where, in the case of incongruent standards, the Kenya Ports Authority may have M&E practices that meet the requirements on paper for compliance purposes yet are implemented partially, hence manifesting the decoupling phenomenon as explained by Institutional Theory.

The institutional theory has tended to neglect the active organizational agency in resisting or creatively adapting the institutional pressures. For example, an organization such as the Kenya Ports Authority could negotiate or even lobby for harmonized standards instead of passively conformed existing ones. Furthermore, the underpinning of the theory on legitimacy rather than its efficiency may not adequately capture the operational priorities of the Kenya Ports Authority. For instance, besides legitimacy considerations, there may be fundamental efficiency and cost-effectiveness objectives that the organization wants to meet, which are equally alluring, especially in a resource-constrained setting. Generally, institutional theory focuses on stability rather than change; therefore, it does not explain how organizations adapt or innovate under non-harmonized standards. Organizations may seek to harmonize their internal practices to streamline monitoring and evaluation (M&E) processes, despite the fact that external standards are not consistent. Institutional Theory provides a robust framework for understanding non-harmonic environmental and social standards that shape the M&E processes of the Kenya Ports Authority. It highlights how the organization navigates coercive pressure from regulatory authorities while balancing this with its need for stakeholder approval, compliance, and cost efficiency. Although the limitations of the theory support the stance that it might not fully address the complexities of efficiencies and innovation, to some extent, it remains a very good lens through which one can analyze the impacts of non-harmonized standards on the monitoring and evaluation of infrastructure projects.

2.4 Conceptual Framework

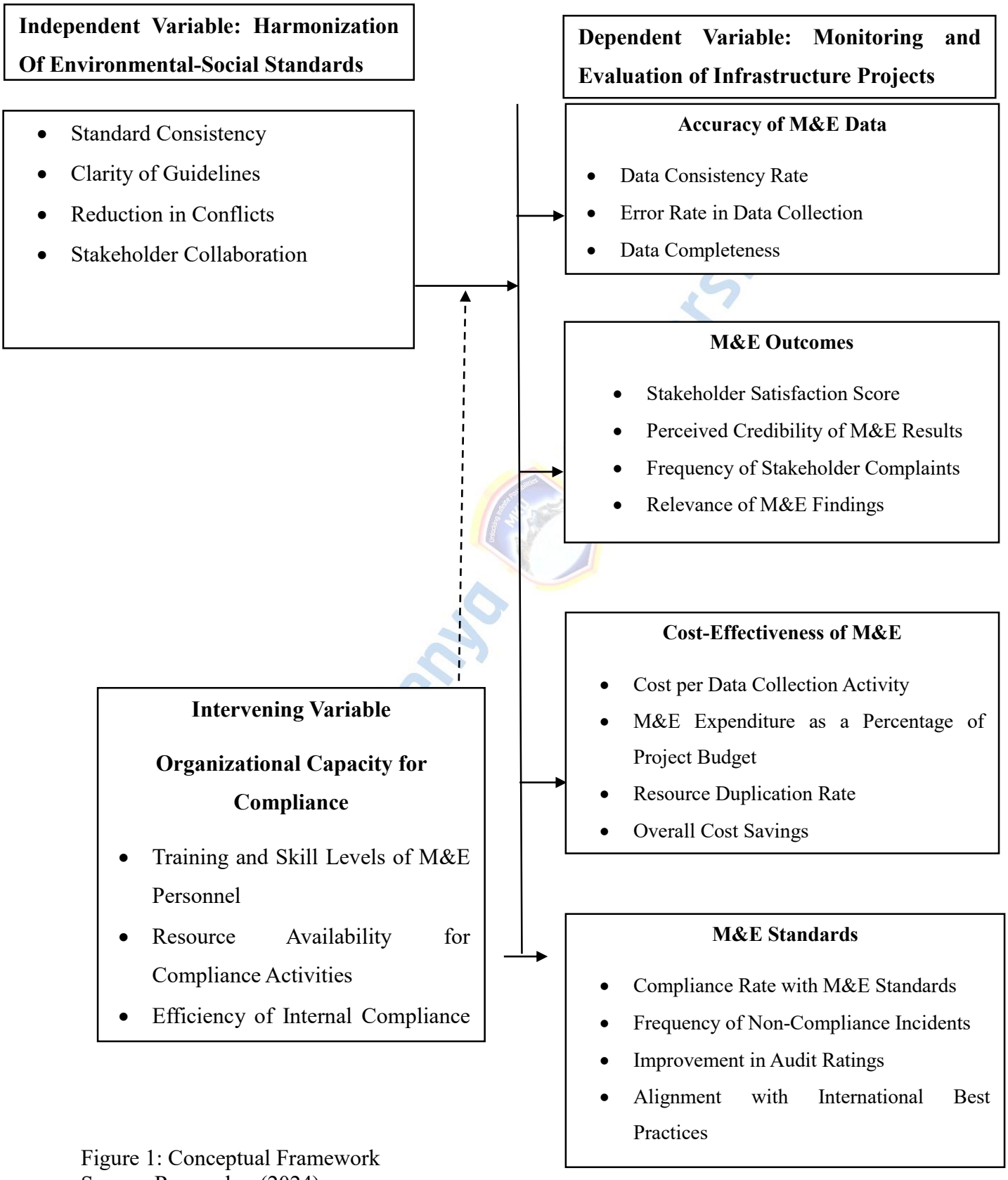

Figure 1: Conceptual Framework
Source, Researcher (2024)

In this study, the independent variable is harmonization of environmental and social standards. This refers to the consistency and conflict among various environmental and social guidelines, rules, or regulations that employees at the Kenya Ports Authority are required to adhere to in undertaking infrastructure projects. Indeed, these conflicting standards introduce several complexities into M&E practices that can impact the quality and efficiency of the M&E processes. The indicators are the variability of standards, conflicting requirements, alignment efforts for the standard, and awareness of standards in stakeholders. The intervening variable captures the internal capacity of the Kenya Ports Authority on how to effectively manage, interpret, and implement varying standards within itself. Organizational capacity for compliance is a crucial aspect, as it determines the manner in which the Authority can adapt its M&E processes to accommodate these conflicting standards. It therefore acts as an intervening variable that moderates the extent to which non-harmonization of standards fills into the M&E results. The indicators include training and skill levels of M&E Personnel, resource availability for compliance activities, and efficiency of internal compliance processes. The dependent variable effectiveness of M&E processes at the Mombasa Special Economic Zone itself is a function of both the harmonization of standards and organizational compliance capacity. This variable is measured using specific dimensions of M&E, including data collection accuracy, M&E outcomes, the cost-effectiveness of M&E, and M&E standards.

The independent variable, Harmonization of Environmental and Social Standards, in this case, may introduce problems in the dependent variable, Monitoring and Evaluation (M&E) of Infrastructure Projects, associated with data accuracy, stakeholder satisfaction, cost-effectiveness, and compliance. Organizational Capacity for Compliance may serve as an intervening variable in influencing the strength of the independent variable's effect on the dependent variables. High organizational capacity may mitigate the negative influence brought on by harmonized standards, while a low-capacity level may exacerbate these influences. Non-harmonization of standards directly impinges on the M&E processes through the generation of conflicting requirements, which in turn exacerbate the collection and analysis of data, affect perceptions of various stakeholders, and raise the costs of M&E. Organizational capacity for compliance is a moderator in that the higher the capacity-for example, having skilled personnel, adequate resources, and proper processes-the lesser the negative influence due to non-harmonized standards. Good organizational capacity can lead to improvements in data accuracy, higher stakeholder satisfaction, and increased compliance, even when standards are inconsistent.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section presents the research methodology, from the type of research design selected to the location of the study, target population, sampling procedure, and techniques. The section provides an elaboration on how instruments will be formulated, tested for validity and reliability, followed by a procedure for data collection. It ends with proposed data analysis techniques and ethical considerations.

3.2 Research Methodology

This study used a mixed-methods approach. The mixed-methods approach integrates quantitative data with qualitative insight. Quantitative data provides one measure of evidence, while qualitative data adds depth and context to the findings. According to Kothari (2004), integration has a greater potential for enhancing the robustness of the research by allowing triangulation of results from both methods, thereby increasing the validity and reliability of conclusions. Data for the key variables on non-harmonization of standards on the M&E processes was measured through quantitative data. The quantitative data gathered focused on discrepancies in data reporting and measurement errors in the M&E processes, as collected through project reports, M&E reviews, and compliance checklists. Data on budget allocations of projects, resource utilisation, and cost overruns created by M&E activities were collated through financial records and budget reports of the projects. Compliance rates regarding local and international standards concerning environmental and social issues were quantified by reviewing audit reports, M&E evaluations, and compliance assessments. Quantitative data was complemented by qualitative insights into perceptions and experiences of key stakeholders involved in the projects. This was achieved through In-depth interviews and focus group discussions held with project managers, representatives from financing agencies, and members of the local community to assess satisfaction with M&E outcomes regarding the non-harmonization of standards. Open-ended interviews with M&E personnel were used to capture extensive narratives on how non-harmonization impacts data collection, compliance, and the general performance of M&E.

Thematic analysis was employed to analyze the qualitative data. This required coding transcripts of interviews and focus group discussions, synthesizing information on recurrent themes, patterns, and insights into stakeholder satisfaction and challenges imposed by non-harmonization. Both datasets were analyzed together during interpretation to gain a comprehensive understanding of how non-harmonization affects M&E processes. In this case, the mixed-methods approach is particularly suitable, as it enables the achievement of both breadth and depth in understanding the research problem. It also follows that the quantitative data provides objective and measurable evidence of the effect of non-harmonization on M&E accuracy, cost-effectiveness, and compliance. Qualitative data is necessary to establish how these problems manifest in practice and how they impact stakeholder satisfaction. This ensured that the study not only quantified problems but also identified the motives and perceptions underlying these issues.

3.3 Research Design

The descriptive research design was adopted for this study. The descriptive design observes, describes, and documents facets of its situation as it naturally occurs, without manipulation or interference from the researcher (Creswell, 1999). Descriptive research, therefore, sought to provide a detailed, accurate, and systematic description of the impact of non-harmonization of environmental and social standards on M&E processes of infrastructure projects at KPA. The design enabled the documentation of the extent to which non-harmonization of standards affects the accuracy of data collected in KPA infrastructure projects. To this end, the study paid close attention to discrepancies in the methods of collecting data and the processes through which data are analyzed. Descriptive tools also helped the study quantify and describe the satisfaction and dissatisfaction levels among project stakeholders, project managers, funding agencies, and local communities regarding the M&E outputs for projects affected by non-harmonization.

The study examined the impact of non-harmonization on financial efficiency in the management and evaluation (M&E) process. Further, the implications for resource allocation, budgeting, and cost overruns arising from conflicting standards were described. Moreover, a descriptive design captured and documented the levels of compliance with environmental and social standards, both local and international, in the existing M&E processes through surveys, interviews, and document analysis, using both quantitative and qualitative methods for these variables. This allowed for an elaboration of the view regarding how non-harmonization

impacts each characteristic of M&E. The research, being descriptive in nature, would involve the study and documentation of existing conditions of non-harmonization and its effects on M&E processes. This approach would allow studying such phenomena as they naturally occur, without altering or controlling the environment in any way. Descriptive design allowed the researcher to employ various methods of data collection, including open and closed surveys, interviews, and document reviews, required to capture both quantitative and qualitative data.

3.4 Location of the Study

The research was conducted in Mombasa County, Kenya, with a particular focus on the Kenya Ports Authority (KPA). Mombasa is a seaside city and a pivotal center for commercial operations in the region, serving as the gateway to international trade for Kenya and its neighboring nations. The KPA, based in Mombasa, oversees the management and operation of essential ports, the Port of Mombasa, a pivotal and heavily trafficked port in East Africa. The selection of Mombasa as the research site is based on the prevalence of KPA infrastructure projects in the region, which are directly influenced by environmental and social criteria. Mombasa hosts a variety of stakeholders, including governmental bodies, international organizations, environmental professionals, and local communities, who are integral to the monitoring and evaluation (M&E) of these initiatives. The city's dynamic socio-economic and environmental framework provides an optimal setting for analyzing the impact of standardized harmonization on monitoring and evaluation systems.

3.5 Target Population

The target population included those directly involved in the monitoring and evaluation (M&E) processes of the Conditional Grant Infrastructure project by JICA at KPA, Mombasa. The project had to align its environmental and social standards with the requirements of JICA, while also meeting local policies in Kenya. Target groups included KPA project managers and M&E personnel, JICA representatives, local government officials, community representatives, and beneficiaries.

Table 1:

Target Population

Category	Size
KPA project managers	25
KPA M&E personnel	10
JICA representatives	10
Local government officials	10
Environment and social practitioners	20
Community representatives	20
Affected beach management units	10
Project affected households	1650
Total	**1755**

Researcher (2024)

3.6 Sampling Procedure and Technique

This study employed a combination of convenience sampling and a full census of the target population. Given that the target population is relatively small (95 individuals), excluding project-affected persons and beach management units, was feasible to attempt a complete survey of all eligible respondents in this group. Following Cochran (1977), who suggests that a full census is more practical and accurate for smaller populations, this approach helped reduce sampling error and enhance data precision. The goal was to achieve a response rate of at least 80%, ensuring sufficient representativeness for analysis. The respondents included KPA Project Managers, M&E staff, JICA representatives, local government officials, and environmental and social practitioners. Although convenience sampling was necessary due to logistical limitations in accessing the entire population, all accessible individuals within these groups were invited to participate, striving to meet the minimum response threshold of 60% (Mugenda & Mugenda, 2013). Bryman (2016) also supports this approach, noting that for smaller, accessible populations, a census minimizes bias and provides comprehensive insights into each subgroup.

The research study employed purposive sampling in the selection of community representatives, JICA representatives, and local government officials. This is an essential but smaller and more specialized group in population size.

Purposive sampling for these groups allowed the researcher to intentionally select participants with specialized knowledge, experience, or involvement in the project funded by JICA. This ensured rich and detailed data from the person's most relevant information for the study itself.

3.7 Sample Size Determination

The study conducted a full census on the target population, as it is less than 100, excluding the project-affected persons.

Table 2:

Sample Size

Category	Size
KPA project managers	25
KPA M&E personnel	10
JICA representatives	10
Local government officials	10
Environment and social practitioners	20
Community representatives	20
Total	**95**

Source, Researcher (2024)

3.8 Construction of Research Instruments

The study utilized questionnaires, key informant interviews, and focus group discussions (FGDs), each designed to collect specific types of data in alignment with the objectives of the study.

3.8.1 Questionnaire

The questionnaire is a structured data collection tool used to measure the perceptions, attitudes, and experiences of respondents. The questionnaire consisted of closed-ended questions, using a 5-point Likert scale. The respondents rated statements on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree). The questions were divided into sections. Section A focused on demographic data. Section B focused on objective data, including the accuracy of M&E data collection and analysis, stakeholder satisfaction with M&E outcomes, the cost-effectiveness of M&E processes, and compliance with M&E standards. Each section had multiple statements assessing these variables to allow for detailed quantitative analysis. The questionnaire collected

quantitative data. This allowed the researcher to statistically analyze trends, relationships, and patterns in perceptions regarding the influence of non-harmonization of standards on management and evaluation (M&E) processes. The questionnaire was administered to KPA project managers and M&E personnel, JICA Representatives, and local government officials. The questionnaires were self-administered and distributed electronically via email or in person, depending on the respondents' accessibility. Follow-up reminders were sent to ensure timely completion.

3.8.2 Key Informant Interview

Key Informant Interviews (KIIs) are semi-structured interviews conducted with individuals who possess knowledge or experience relevant to the research problem. The KIIs provided specific qualitative data from a depth perspective regarding these perceived challenges and perceptions of M&E processes relative to the infrastructure project funded by JICA. Open-ended questions were used in key informant interviews to provide community representatives with the freedom of expression. These questions assessed their perceptions of the project's impact on the community, their satisfaction with the project's outputs and monitoring and evaluation (M&E) processes, and the challenges they observed regarding the non-harmonization of environmental and social standards. All interviews obtained qualitative data. This provided detailed information that answered questions about stakeholder satisfaction with the context, different compliance issues, and outcomes from the projects. KII targeted JICA Resettlement Consultant, Area Chief, and KPA Director. KII was conducted face-to-face as was convenient for the respondents. Each interview approximately took about 30-45 minutes. The response was recorded upon consent for transcription and analysis.

3.8.3 Focus Group Discussion

Focus Group Discussions, FGDs, are group methods of data collection. FGDs involve a conversation between multiple participants about specific topics guided by a moderator. FGDs provide qualitative data through discussions on community experiences. FGDs were guided through some open-ended questions that fostered discussion on the following aspects: perceived project outcomes and benefits, challenges faced in implementing the projects, level of satisfaction with the M&E processes, and observations pertaining to the environmental and social standards applied to the project. A facilitator guided the discussion. All participants were allowed to express their views, ensuring they remained relevant to the topic. FGDs collected qualitative data. This was able to capture a range of experiences and satisfaction levels, as well

as challenges, both collectively and individually, related to the infrastructure project. The FGDs were administered to community beneficiaries with questions being translated to Kiswahili by one of the respondents. FGDs were suitable for this group, as they represented shared experiences and opinions among community beneficiaries in a dynamic group setting. This approach helped garner diverse perspectives and generated a discussion on issues that may not have arisen in individual interviews. The FGDs were conducted face-to-face. They involved 8 participants to have a manageable discussion. A moderator conducted the discussion in approximately 60 – 90 minutes. A note-taker jotted down the key points. There were 3 FGDs conducted on community beneficiaries.

3.9 Testing for Validity and Reliability

3.9.1 Validity

Validity refers to the degree to which the instrument measures what it is intended to measure, which also ensures the credibility and reliability of the findings and their applicability to the research objectives. In this research, care was taken to ensure that these tools of data collection accurately reflected the real effects of harmonizing environmental and social standards on M&E processes in infrastructure projects. The instruments were scrutinized by the academic supervisor and field practitioners for content and construct validity. The field ensured that the questions and measurement tools reflect the actual conditions, challenges, and processes associated with harmonization in the field. Through this feedback, the study refined the questions in the instruments on clarity, relevance, and appropriateness for the target population. A pilot study was conducted with small samples of respondents from each target group- KPA M&E personnel, community beneficiaries, and local government officials. The pilot testing helped establish whether questions were ambiguous or unclear, thereby ensuring the questions were well-phrased to capture the intended data. It also tested the practicality and feasibility of administering the tools. The results of this pilot test were used to adjust and improve the wording, structure, and format of this instrument. This ensured not only that the respondents understood them with ease but also that they aligned with the study's objectives. Multiple data collections also helped to cross-validate the findings, ensuring consistency and accuracy of the data.

3.9.2 Reliability

Reliability is the extent to which the same result can be obtained from the same research instrument when operating under the same conditions. A reliable tool yields a constant and consistent measurement when tests are repeated, since the data collected is dependable and might also be replicated in similar studies. The internal consistency for the questionnaire items was therefore measured using Cronbach's alpha. This statistical test estimates the degree to which the items comprising a questionnaire or survey provide a single, unidimensional latent construct. This study used Cronbach's alpha to test the reliability of the Likert-scale questions measuring the key variables. A Cronbach's alpha value of 0.767 was considered acceptable. This implied that the items underlying each subscale of the questionnaire were similar in their measurement of the same underlying construct across time. Where applicable, the retest method was employed by administering the questionnaire to a group of respondents on two separate occasions. This helped assess the response instrument on its stability and consistency. A high degree of resemblance between the two sets of responses indicated that the instrument is reliable over time. To enhance reliability, standardized procedures were used in administering the research instruments. In this way, all respondents were exposed to the same questions and conditions during the data collection process. The same instructions and explanations were given to all respondents, and this minimized variability whether the interview was conducted electronically or in person.

Table 3:

Reliability Statistics

Cronbach's Alpha	N of Items
.767	4

Source, Researcher (2025)

A Cronbach's alpha of 0.767 indicates that the questionnaire used in the study had acceptable internal consistency. This means the items measured the same underlying concept reliably, making the tool suitable for analysis and enhancing confidence in the study's findings.

3.10 Data Collection Procedure

The researcher sought clearance from the university Ethics and Review Committee (ERC). Approval resulted in an ERC Certificate and a Letter of Introduction. After university clearance, a license was sought from the National Commission for Science, Technology, and Innovation, popularly known by its acronym (NACOSTI). The ERC clearance, a research proposal, and relevant documentation accompanying the application legalized the study within the stipulated period. Letters of authorization were sought from KPA after acquiring the license from NACOSTI. In this regard, formal permission was sought to collect data from within KPA offices in Mombasa, as well as from staff of KPA engaged in the JICA-funded project. The authorization letters made sure that access to the respondents and documentation of the project was not hindered.

A small sample of respondents from each target group was under a pilot study. The purpose of the pilot study was to test the research instrument for unclear or ambiguous questions, to assess the accuracy and reliability of the tools, and to gather feedback on the practicality of the tools. Based on observations of the piloting process and the results of the pilot study, the research instruments were adjusted. It also involved paraphrasing and refining questions for greater clarity and relevance, as well as ensuring that all instruments accurately measure the targeted variables. Results from the pilot study were used to strengthen the validity and reliability of these data collection tools. Actual data collection began after the instruments had been finalized. This actual data collection involved the administration of questionnaires, key informant interviews, and FGDs. Data collection took place within the KPA offices and environs in Mombasa. In places where physical conditions did not allow this, virtual means such as Zoom were employed to reach respondents who were not easily accessible physically. Throughout data collection, digital and physical data were kept through secure storage to maintain confidentiality and prevent unauthorized access. The data was only used for research purposes. Access was allowed only to the research team for the purpose of the research study.

3.11 Proposed Data Analysis Techniques

The analysis was conducted by integrating both quantitative and qualitative data to gain a comprehensive understanding of the research problem. Quantitative data, collected through questionnaires, were analyzed using statistical techniques, revealing the associations and trends among the studied variables. Descriptive analysis was conducted, including summaries of demographic characteristics for respondents and overviews of responses related to the study

variables: precision of data collection and analysis, stakeholder satisfaction, cost-effectiveness, and compliance with standards of measurement and evaluation (M&E). Such measures as frequencies, percentages, means, and standard deviations were employed to present data succinctly. The study employed inferential statistical tests to establish the relationships between non-harmonization of standards and M&E variables. The study performed a correlation analysis to determine the strength and direction of the relationship between non-harmonization and the dependent variables: accuracy, stakeholder satisfaction, cost-effectiveness, and compliance. Data analysis was performed using the SPSS computer program, version 27.

The qualitative data from the KIIs and FGDs were analyzed using a thematic analysis approach. All recordings of the interviews and discussions were transcribed in order to capture the complete response of participants. The transcribed data was coded systematically based on key themes, patterns, and concepts related to the variables being studied, including stakeholder satisfaction, obstacles to compliance, and the perceived impacts of non-harmonization on M&E processes. Coding was divided into development themes, showing the primary findings of qualitative data. Themes may include perceptions of oneness in respect of the effectiveness of the M&E processes, challenges related to non-harmonization, and experiences related to compliance with standards. This qualitative analysis provided a clear in-depth understanding of the context, perceptions, and experiences of the stakeholders, which complemented the quantitative findings (Dodgson, 2017). The final step in data analysis was the integration of quantitative and qualitative findings. Comparing quantitative results with qualitative insights and vice versa, in order to cross-check the findings and present a broader view. Qualitative data explain and expand the trends identified from the quantitative part. Using qualitative data from interviews and FGDs helped gain an understanding of the origin of, for example, low levels of stakeholder satisfaction revealed during quantitative analysis.

3.12 Ethical Consideration

Research was conducted in accordance with ethical standards at all levels, ensuring that activities were done responsibly and with a demonstrated ethical awareness at each step. Informed consent was obtained from participants prior to the commencement of this study. A form was provided for consent that explained the purpose of the research study, the nature of participation, the potential risks, and the expected benefits. Additionally, participants were informed of their right to withdraw from the study at any time without facing any adverse consequences. Informed consent by written means using consent forms, and verbal consent in

instances when literacy could be an issue, shall be addressed. This research study also provided a platform where confidentiality and privacy were ensured throughout the study period. Personal identifiers, including names, positions held, and contact addresses, were anonymized to mask the identities of respondents. The data was stored on lockdown; physical documents were locked, while digital data was encrypted. Access to data was strictly utilized by the research team. Additionally, the information obtained was used solely for the purpose of this study. After completion, the data obtained from this research was stored or disposed of appropriately, following the ethical guidelines.

The researcher was professional and showed respect to all participants in building relationships during the entire data collection process. This encompassed the fact that all interactions were conducted in a courteous, unbiased, and respectful manner with regard for the time and schedules of the respondents. The researcher was sensitive to cultural norms and values, especially when conducting interviews or focus group discussions in diverse communities. The research adhered to the principles of honesty and integrity in reporting all findings accurately, without misrepresentation or fabrication of data. It gave proper credit and acknowledgment to any source of information from which the source had emanated, and it would not plagiarize. Academic integrity upheld the transparency of research objectives, methodology, and results. All the legal and ethical procedures required to conduct research in Kenya were observed. The University's ERC approval ensures the assurance of ethical standards in conducting the research. A license from NACOSTI ensured that the researcher was legally authorized to conduct the study in the country. Permission from KPA was sought to grant access to data and interview personnel whenever necessary. The research did not expose the participants to any physical, psychological, or social harm. The research was conducted so that a minimal risk would be imposed on the participant, and the probable discomfort would be clearly told prior to the participation. If at any stage a participant felt uncomfortable, the person was free to withdraw without facing any consequences.

CHAPTER FOUR

RESEARCH FINDINGS, ANALYSIS, AND PRESENTATION

4.1 Introduction

This chapter presents the results of data analysis, which is structured according to the four specific objectives of the study: the accuracy of M&E data collection, M&E outcomes, the cost-effectiveness of M&E processes, and the alignment of M&E standards. Both descriptive and inferential statistical analyses are used to interpret quantitative data, while qualitative responses are thematically summarized to complement the findings. The chapter also provides a comparison between the effects of harmonized and non-harmonized M&E practices based on participants' perceptions, setting the foundation for the discussion in the subsequent chapter.

4.2 Demographic Data

4.2.1 Job Title

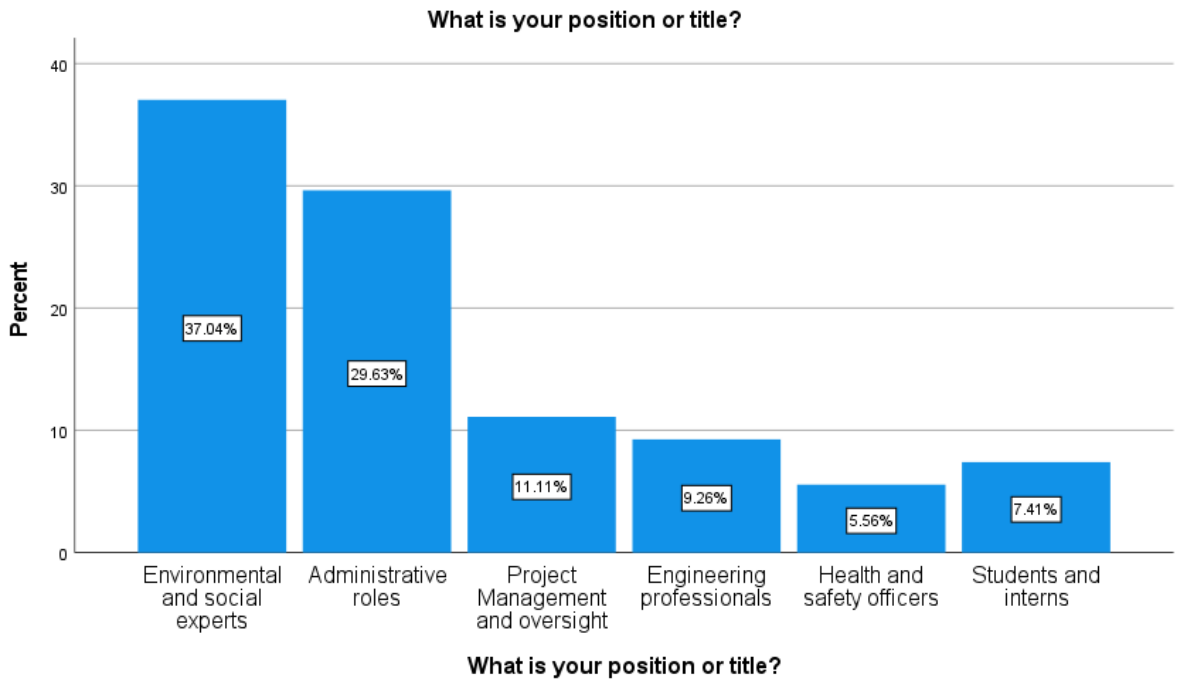

Figure 2: Job Title
Source, Researcher (2025)

The analysis of respondents' positions revealed that approximately 37% were environmental and social experts, reflecting the role they play in ensuring compliance with environmental and social standards at the Mombasa Special Economic Zone. About 30% held administrative roles, indicating strong institutional involvement in project coordination and evaluation. Around 11%

of respondents were involved in project management and oversight, while 9% were engineering professionals, underscoring the importance of technical expertise in infrastructure monitoring. Health and safety officers accounted for roughly 6%, contributing to compliance and occupational safety, and interns made up 7%, showing the integration of early-career professionals in the M&E ecosystem.

4.2.2 Years of Experience with Infrastructure Projects

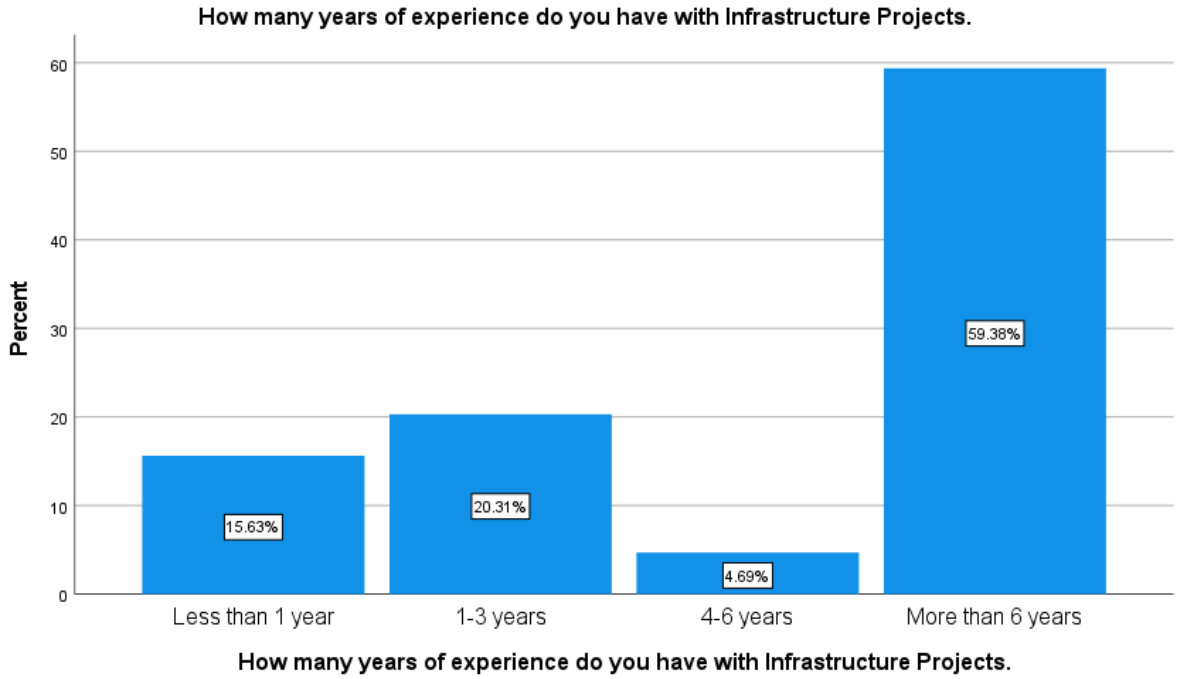

Figure 3: Years of Experience with Infrastructure Projects

Source, Researcher (2025)

The analysis of respondents' experience with infrastructure projects shows that a significant majority, approximately 59%, have more than six years of experience. This indicated a highly experienced respondent pool with deep familiarity in project implementation and monitoring. About 20% reported having 1–3 years of experience, and 5% indicated 4–6 years, representing mid-level professionals who are still building their expertise. Meanwhile, around 16% had less than one year of experience, likely to consist of newer entrants such as interns or recently appointed staff. This distribution suggests that the insights captured in the study are grounded in substantial practical knowledge (64%) while also reflecting contributions from early- and mid-career professionals (34%).

4.2.3 Role in Monitoring and Evaluation at Dongo Kundu Project

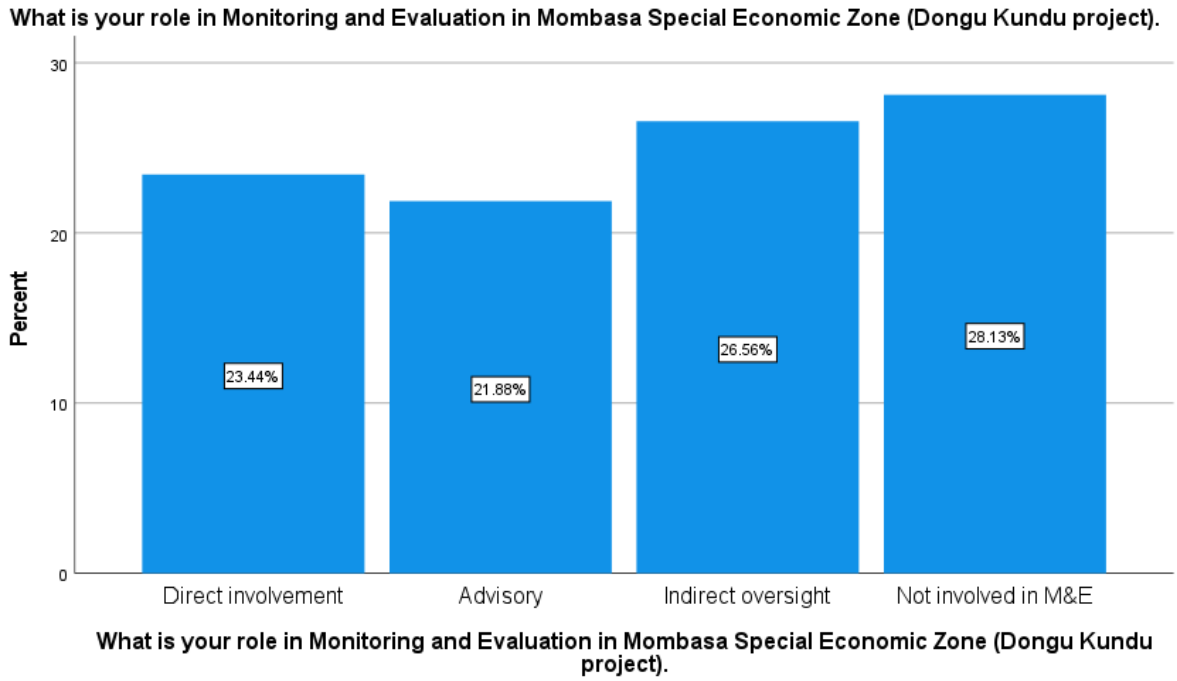

Figure 4: Role in Monitoring and Evaluation at Dongo Kundu Project

Source, Researcher (2025)

The analysis of respondents' roles in Monitoring and Evaluation (M&E) at the Mombasa Special Economic Zone (Dongo Kundu project) reveals a relatively balanced distribution of engagement levels. About 23% reported direct involvement, suggesting hands-on participation in M&E activities. Approximately 22% held advisory roles, indicating their influence on decision-making and strategic direction. Around 27% indicated indirect oversight, reflecting supervisory or supportive functions rather than operational involvement. About 28% stated they were not involved in M&E, highlighting a portion of stakeholders whose insights may reflect external perspectives or broader project roles. This diversity of involvement ensures a comprehensive understanding of M&E practices within the project.

4.3 Descriptive statistics

4.3.1 Environmental And Social Standards and Accuracy of M&E Data Collection and Analysis Processes in the Infrastructure Projects.

The first objective sought to answer the question, what is the influence of harmonization of environmental and social standards on the accuracy of M&E data collection in the infrastructure projects at the Kenya Ports Authority?

4.3.1.1 Harmonized Analysis of Environmental and Social Standards on Accuracy of M&E Data Collection in Infrastructure Projects

Table 4: Harmonized Analysis of Environmental and Social Standards on Accuracy of M&E Data Collection in Infrastructure Projects

	N	Mean	Std. Deviation
Harmonization of environmental and social standards has led to consistent and standardized data collection.	38	4.53	.557
Harmonization has enhanced efficiency in data collection and reporting.	38	4.34	.781
Harmonization has created additional bureaucratic processes, slowing down data collection.	38	2.63	1.125
Harmonization has caused confusion due to differences in the interpretation of standards.	38	2.05	.804
Valid N (listwise)	38		

Source, Researcher (2025)

On whether harmonization of environmental and social standards has led to consistent and standardized data collection, the mean score was 4.53, while the standard deviation was 0.557. The mean score indicates that most respondents strongly agreed with the statement, suggesting that harmonization has had a clear positive effect on standardizing data collection practices. The low standard deviation implies that there was a high level of agreement among respondents, with minimal variation in their views. This result suggests that harmonization efforts are widely recognized as effective in promoting uniformity and consistency in data collection across agencies involved in the project.

Regarding whether harmonization has enhanced efficiency in data collection and reporting, the mean score was 4.34, with a standard deviation of 0.781. The mean score indicates that respondents generally agreed with the statement, suggesting that harmonization has had a positive impact on improving efficiency in M&E data collection and reporting processes. The standard deviation implies a moderate level of variability in responses, meaning that while most participants shared this view, some had differing perceptions. This result suggests that harmonization is perceived as beneficial to efficiency, though the extent of its impact may vary slightly across different agencies or roles.

Regarding whether harmonization has created additional bureaucratic processes that slow down data collection, the mean score was 2.63, with a standard deviation of 1.125. The mean score indicates that respondents leaned toward disagreeing with the statement, suggesting that harmonization is not widely perceived as a source of bureaucratic delays in data collection. The standard deviation implies considerable variation in responses, with some respondents potentially experiencing such challenges while others did not. This result suggests that while the general perception downplays the bureaucratic burden of harmonization, individual experiences differ, likely influenced by specific roles or agency contexts.

On whether harmonization has caused confusion due to differences in interpretation of standards, the mean was 2.05 while the standard deviation was 0.804. The mean score indicates that respondents generally disagreed with the statement, suggesting that harmonization is not commonly associated with confusion or misinterpretation of standards. The low standard deviation implies a fair level of consistency in responses, with most participants sharing similar views. This result suggests that harmonization has been well understood and clearly communicated, minimizing the risk of misinterpretation among agencies involved in the M&E processes.

4.3.1.2 Non-Harmonized Analysis of Environmental and Social Standards on Accuracy of M&E Data Collection in Infrastructure Projects

Table 5: Non-Harmonized Analysis of Environmental and Social Standards on Accuracy of M&E Data Collection in Infrastructure Projects

	N	Mean	Std. Deviation
Lack of harmonization causes inconsistency in data due to different reporting formats.	8	3.88	1.246
Lack of harmonization increases the risk of errors and missing information.	8	3.63	1.061
Lack of harmonization encourages flexibility in data collection, allowing for contextual adaptation.	8	2.63	.916
Lack of harmonization reduces the administrative burden of compliance with multiple standards.	8	3.63	1.506
Valid N (listwise)	8		

Source, Researcher (2025)

On whether lack of harmonization causes inconsistency in data due to different reporting formats, the mean score was 3.88, while the standard deviation was 1.246. The mean score indicates that respondents moderately agreed with the statement, suggesting that in the absence of harmonized standards, data collection processes often become inconsistent and fragmented due to varied reporting formats across stakeholders. The high standard deviation implies significant variability in responses, indicating that while many respondents acknowledged this challenge, others may have experienced fewer issues or operated in more coordinated settings. This result suggests that although inconsistency is a common consequence of non-harmonization, its intensity likely differs based on institutional or operational contexts.

On whether lack of harmonization increases the risk of errors and missing information, the mean score was 3.63, while the standard deviation was 1.061. The mean score indicates that respondents leaned toward agreeing with the statement, suggesting that the absence of standardized reporting protocols can contribute to inaccuracies and data omissions within M&E systems. The standard deviation implies that there was noticeable variation in how respondents experienced or perceived these risks. This result suggests that while many stakeholders

recognize the potential for errors without harmonization, the extent of that risk may vary depending on institutional capacity, oversight mechanisms, or data management practices.

On whether lack of harmonization encourages flexibility in data collection, allowing for contextual adaptation, the mean score was 2.63, while the standard deviation was 0.916. The mean score indicates that respondents leaned toward disagreeing with the statement, suggesting that most do not view the absence of harmonization as a beneficial factor for enabling flexible or locally adapted data collection methods. The standard deviation implies some level of variation in opinions, indicating that while the overall perception is negative, a few respondents might see contextual adaptability as a potential benefit of non-harmonized systems. This result suggests that flexibility is not widely regarded as a strength of non-harmonization in M&E practices.

On whether lack of harmonization reduces the administrative burden of compliance with multiple standards, the mean score was 3.63, while the standard deviation was 1.506. The mean score indicates that respondents leaned toward agreeing with the statement, suggesting that some believe non-harmonized environments may simplify processes by avoiding the complexity of multiple overlapping standards. The standard deviation implies substantial variation in responses, with a wide range of perspectives on whether administrative burdens are truly lessened without harmonization. This result suggests that perceptions on administrative relief in non-harmonized settings are highly divided, likely influenced by the nature of organizational mandates, reporting structures, or individual roles.

4.3.2 Environmental and Social Standards on Stakeholder Satisfaction with M&E Outcomes in the Infrastructure Projects.

The second objective sought to answer the question, how does harmonization of environmental and social standards influence M&E outcomes in the infrastructure projects at the Kenya Ports Authority?

4.3.2.1 Harmonized Analysis of Environmental and Social Standards on Stakeholder Satisfaction with M&E Outcomes in Infrastructure Projects

Table 6: Harmonized Analysis of Environmental and Social Standards on Stakeholder Satisfaction with M&E Outcomes in Infrastructure Projects

	N	Mean	Std. Deviation
Harmonization of environmental and social standards has led to the clarity and reliability of M&E reports.	32	4.47	.567
Harmonization has strengthened the ability to use M&E findings for project decision-making.	32	4.41	.499
Harmonization has ensured that M&E findings align well with project goals and objectives.	32	4.34	.545
Harmonization has enhanced the timeliness of M&E reporting.	32	4.00	.950
Harmonization has led to more comprehensive and detailed M&E reports.	32	4.31	.693
Valid N (listwise)	32		

Source, Researcher (2025)

On whether harmonization of environmental and social standards has led to the clarity and reliability of M&E reports, the mean score was 4.47, while the standard deviation was 0.567. The mean score indicates that respondents strongly agreed with the statement, suggesting that harmonization has significantly contributed to improving the clarity and reliability of monitoring and evaluation reports. The standard deviation implies a high level of agreement among respondents, with minimal variation in their views. This result suggests that the effect of harmonization on enhancing report quality is consistently recognized across the respondent group.

On whether harmonization has strengthened the ability to use M&E findings for project decision-making, the mean score was 4.41, while the standard deviation was 0.499. The mean score indicates that respondents strongly agreed with the statement, suggesting that harmonization has played a key role in enhancing the practical utility of M&E findings in guiding project decisions. The standard deviation implies a high level of consistency in responses, indicating that most participants shared similar views. This result suggests that the perceived benefit of harmonization in improving decision-making capacity is widely acknowledged and uniformly experienced across respondents.

On whether harmonization has ensured that M&E findings align well with project goals and objectives, the mean score was 4.34, while the standard deviation was 0.545. The mean score indicates that respondents agreed with the statement, suggesting that harmonization has positively contributed to the alignment of M&E findings with project intentions. The standard deviation implies a high level of consistency in responses, showing that participants generally shared this perspective. This result suggests that harmonization is broadly and consistently viewed as effective in linking M&E outputs with the overall goals and objectives of the project.

On whether harmonization has enhanced the timeliness of M&E reporting, the mean score was 4.00, while the standard deviation was 0.950. The mean score indicates that respondents agreed with the statement, suggesting that harmonization is generally seen as a factor that improves the speed and punctuality of M&E reporting. The standard deviation implies considerable variation in responses, indicating that some participants may have experienced delays or were less certain about the benefits. This result suggests that while harmonization is largely viewed as beneficial to reporting timeliness, individual experiences vary, possibly due to differences in implementation or agency-specific processes.

On whether harmonization has led to more comprehensive and detailed M&E reports, the mean score was 4.31, while the standard deviation was 0.693. The mean score indicates that respondents agreed with the statement, suggesting that harmonization has contributed to enhancing the depth and completeness of M&E reporting. The moderate standard deviation implies some variation in responses, with most participants agreeing but a few holding differing views. This result suggests that while the overall perception is positive regarding report comprehensiveness, the extent of that benefit may differ slightly depending on specific roles, agencies, or experiences with the harmonization process.

4.3.2.2 Non-Harmonized Analysis of Environmental and Social Standards on Stakeholder Satisfaction with M&E Outcomes in Infrastructure Projects

Table 7: Non-Harmonized Analysis of Environmental and Social Standards on Stakeholder Satisfaction with M&E Outcomes in Infrastructure Projects

	N	Mean	Std. Deviation
Lack of harmonization reduces the clarity and reliability of M&E reports.	7	4.00	1.155
Lack of harmonization weakens the use of M&E findings in project decision-making.	7	3.43	1.397
Lack of harmonization leads to inconsistencies in M&E findings compared to project goals.	7	4.29	.488
Lack of harmonization delays the timely completion of M&E reports.	7	3.71	.951
Lack of harmonization results in incomplete or fragmented M&E reporting.	7	4.29	.756
Valid N (listwise)	7		

Source, Researcher (2025)

On whether lack of harmonization reduces the clarity and reliability of M&E reports, the mean score was 4.00, while the standard deviation was 1.155. The mean score indicates that respondents agreed with the statement, suggesting that without harmonized standards, monitoring and evaluation reports tend to be less clear and less dependable. The standard deviation implies considerable variation in responses, indicating that while many respondents experienced diminished clarity and reliability, others may not have encountered the issue as strongly. This result suggests that although the negative impact of non-harmonization on report quality is generally acknowledged, its effects are perceived differently across various project or institutional contexts.

On whether lack of harmonization weakens the use of M&E findings in project decision-making, the mean score was 3.43, while the standard deviation was 1.397. The mean score indicates that respondents were moderately in agreement with the statement, suggesting that non-harmonized M&E systems may impair the effective use of findings when making project-

related decisions. The standard deviation implies substantial variation in responses, meaning that while some respondents clearly felt this impact, others did not perceive a strong connection between harmonization and decision-making utility. This result suggests that although there is a general concern that lack of harmonization undermines evidence-based decisions, this concern is not uniformly experienced across stakeholders or operational settings.

On whether lack of harmonization leads to inconsistencies in M&E findings compared to project goals, the mean score was 4.29, while the standard deviation was 0.488. The mean score indicates that respondents agreed with the statement, suggesting that the absence of unified environmental and social standards often results in M&E outputs that do not align well with intended project objectives. The standard deviation implies strong agreement and consistency in responses, showing that this concern is widely and uniformly recognized among stakeholders. This result suggests that stakeholders commonly associate non-harmonized frameworks with misalignment between M&E findings and the strategic goals of infrastructure projects.

On whether lack of harmonization delays the timely completion of M&E reports, the mean score was 3.71, while the standard deviation was 0.951. The mean score indicates that respondents tended to agree with the statement, suggesting that the absence of standardized processes can contribute to delays in finalizing monitoring and evaluation reports. The standard deviation implies a fair level of agreement among respondents, though with some variability in individual experiences. This result suggests that while delays are commonly linked to non-harmonized systems, the degree of impact may vary depending on the complexity of reporting requirements or the coordination among project teams.

On whether lack of harmonization results in incomplete or fragmented M&E reporting, the mean score was 4.29, while the standard deviation was 0.756. The mean score indicates that respondents agreed with the statement, suggesting that the absence of harmonized standards contributes significantly to gaps and fragmentation in monitoring and evaluation reports. The standard deviation implies moderate consistency in responses, showing that most participants shared similar views on this issue. This result suggests that incomplete or disjointed M&E reporting is widely seen as a direct consequence of non-harmonized frameworks, potentially undermining the overall coherence and usability of project insights.

4.3.3 Environmental and Social Standards and Cost-Effectiveness of M&E Processes in the Infrastructure Projects.

The third objective sought to answer the question, does harmonization of environmental and social standards influence the cost-effectiveness of M&E in the infrastructure projects at the Kenya Ports Authority?

4.3.3.1 Harmonized Analysis of Environmental and Social Standards on Cost-Effectiveness of M&E Systems in Infrastructure Projects

Table 8: Harmonized Analysis of Environmental and Social Standards on Cost-Effectiveness of M&E Systems in Infrastructure Projects

	N	Mean	Std. Deviation
Harmonization has reduced redundant processes in M&E, leading to cost savings.	31	3.87	.763
Harmonization has streamlined resource allocation for M&E activities.	31	4.13	.718
Harmonization has lowered the administrative burden associated with M&E reporting.	31	3.74	.999
Harmonization has improved efficiency in data collection, reducing operational costs.	31	3.97	1.110
Harmonization has reduced duplication of M&E efforts and reporting requirements.	31	3.97	1.016
Valid N (listwise)	31		

Source, Researcher (2025)

On whether harmonization has reduced redundant processes in M&E, leading to cost savings, the mean score was 3.87, while the standard deviation was 0.763. The mean score indicates that respondents agreed with the statement, suggesting that harmonization is generally perceived to have streamlined M&E activities and minimized unnecessary duplication, resulting in cost savings. The moderate standard deviation implies some variation in responses, indicating that while many recognized the cost-saving benefits, others may have experienced them to a lesser extent. This result suggests that harmonization is largely seen as cost-efficient, though the degree of efficiency gains may vary across agencies or implementation contexts.

On whether harmonization has streamlined resource allocation for M&E activities, the mean score was 4.13, while the standard deviation was 0.718. The mean score indicates that respondents agreed with the statement, suggesting that harmonization is perceived to have improved the planning and distribution of resources for monitoring and evaluation activities. The standard deviation implies some variation in responses, with a majority supporting the view but a few expressing differing experiences. This result suggests that harmonization is generally viewed as effective in optimizing resource allocation, though the level of impact may differ slightly across operational settings or agencies.

On whether harmonization has lowered the administrative burden associated with M&E reporting, the mean score was 3.74, while the standard deviation was 0.999. The mean score indicates that respondents agreed with the statement, suggesting that harmonization is generally seen as a factor that helps reduce the workload and complexity involved in M&E reporting. The standard deviation implies considerable variation in responses, indicating that while many found harmonization helpful in reducing administrative tasks, others may not have experienced the same benefit. This result suggests that perceptions of reduced burden are mixed and likely influenced by agency-specific processes or individual roles in the M&E reporting chain.

On whether harmonization has improved efficiency in data collection, reducing operational costs, the mean score was 3.97, while the standard deviation was 1.110. The mean score indicates that respondents agreed with the statement, suggesting that harmonization is perceived to have enhanced data collection processes in a way that contributes to cost reduction. The standard deviation implies considerable variation in responses, meaning that while many acknowledged efficiency gains, others may have had neutral or differing experiences. This result suggests that harmonization is generally viewed as beneficial to operational efficiency, though the magnitude of this benefit appears to vary significantly across different respondents or institutional contexts.

On whether harmonization has reduced duplication of M&E efforts and reporting requirements, the mean score was 3.97, while the standard deviation was 1.016. The mean score indicates that respondents agreed with the statement, suggesting that harmonization is generally perceived to have minimized repetitive M&E activities and streamlined reporting processes. The standard deviation implies considerable variation in responses, indicating that while many respondents recognized these efficiencies, others may not have experienced the same level of improvement. This result suggests that harmonization is largely seen as effective in reducing

duplication, though its impact may vary depending on agency procedures or coordination mechanisms in place.

4.3.3.2 Non-Harmonized Analysis of Environmental and Social Standards on Cost-Effectiveness of M&E Systems in Infrastructure Projects

Table 9: Non-Harmonized Analysis of Environmental and Social Standards on Cost-Effectiveness of M&E Systems in Infrastructure Projects

	N	Mean	Std. Deviation
Lack of harmonization increases the cost of compliance with different M&E standards.	8	4.00	.926
Lack of harmonization leads to inefficiencies and duplication of M&E activities.	8	4.38	.744
Lack of harmonization requires additional resources for aligning different reporting requirements.	8	4.50	.756
Lack of harmonization slows down M&E processes, increasing operational costs.	8	4.38	.518
Lack of harmonization results in financial constraints due to fragmented M&E efforts.	8	4.38	.518
Valid N (listwise)	8		

Source, Researcher (2025)

On whether lack of harmonization increases the cost of compliance with different M&E standards, the mean score was 4.00, while the standard deviation was 0.926. The mean score indicates that respondents agreed with the statement, suggesting that operating under multiple, unaligned standards leads to higher administrative and operational expenses in the monitoring and evaluation process. The standard deviation implies some variability in responses, indicating that while many respondents experienced increased compliance costs, a few may have encountered different financial impacts depending on their institutional setups. This result suggests that non-harmonization is generally perceived to escalate compliance costs, though the extent may vary based on project scale or reporting structures.

On whether lack of harmonization leads to inefficiencies and duplication of M&E activities, the mean score was 4.38, while the standard deviation was 0.744. The mean score indicates

that respondents strongly agreed with the statement, suggesting that the absence of standardized systems often results in overlapping efforts, repeated data collection, and inefficient resource use within monitoring and evaluation processes. The standard deviation implies a high level of agreement among respondents, showing that this issue is widely and consistently recognized. This result suggests that duplication and inefficiency are common and significant drawbacks of non-harmonized M&E practices across infrastructure projects.

On whether lack of harmonization requires additional resources for aligning different reporting requirements, the mean score was 4.50, while the standard deviation was 0.756. The mean score indicates that respondents strongly agreed with the statement, suggesting that non-harmonized systems place a heavy demand on financial, human, and time resources to reconcile diverse reporting formats and expectations. The standard deviation implies a consistent level of agreement among respondents, showing that this challenge is broadly experienced across various institutions. This result suggests that the lack of harmonized standards significantly burdens M&E teams with extra work and costs, reducing overall efficiency in infrastructure project evaluations.

On whether lack of harmonization slows down M&E processes, increasing operational costs, the mean score was 4.38, while the standard deviation was 0.518. The mean score indicates that respondents strongly agreed with the statement, suggesting that the absence of uniform standards contributes to delays and inefficiencies that drive up the cost of conducting monitoring and evaluation activities. The standard deviation implies high consistency in responses, indicating widespread agreement among respondents about this issue. This result suggests that non-harmonized environments are broadly seen as a key factor in slowing down M&E operations and inflating related costs, making harmonization an important consideration for improving cost-effectiveness.

On whether lack of harmonization results in financial constraints due to fragmented M&E efforts, the mean score was 4.38, while the standard deviation was 0.518. The mean score indicates that respondents strongly agreed with the statement, suggesting that fragmented monitoring and evaluation efforts—caused by the absence of unified standards—lead to significant financial strain in project implementation. The standard deviation implies a high level of consistency in responses, reflecting a shared recognition of this challenge among stakeholders. This result suggests that non-harmonization is widely viewed as a driver of

avoidable financial burdens, emphasizing the need for more integrated and streamlined M&E systems to ensure cost efficiency.

4.3.4 Environmental and Social Standards and Compliance to M&E Standards in The Infrastructure Projects.

The fourth objective sought to answer the question, what is the influence of harmonization of environmental and social standards on M&E standards in the infrastructure projects at the Kenya Ports Authority?

4.3.4.1 Harmonized Analysis of Environmental and Social Standards on M&E Standards and Methodological Consistency in Infrastructure Projects

Table 10: Harmonized Analysis of Environmental and Social Standards on M&E Standards and Methodological Consistency in Infrastructure Projects

	N	Mean	Std. Deviation
Harmonization has enhanced consistency in M&E methodologies and frameworks.	29	4.07	.961
Harmonization has ensured that M&E standards align with national and international best practices.	29	4.24	.786
Harmonization has facilitated the use of standardized M&E indicators and tools.	29	4.17	.848
Harmonization has improved the comparability and credibility of M&E data.	29	4.17	.805
Harmonization has strengthened accountability and transparency in M&E processes.	29	4.28	.841
Valid N (listwise)	29		

Source, Researcher (2025)

On whether harmonization has enhanced consistency in M&E methodologies and frameworks, the mean score was 4.07, while the standard deviation was 0.961. The mean score indicates that respondents agreed with the statement, suggesting that harmonization is generally perceived to have improved the uniformity and coherence of M&E approaches across agencies.

The high standard deviation implies considerable variation in responses, indicating that while many respondents observed greater consistency, others may have experienced it to a lesser extent. This result suggests that harmonization is broadly viewed as a driver of methodological alignment, though its effectiveness may differ based on institutional contexts or implementation levels.

On whether harmonization has ensured that M&E standards align with national and international best practices, the mean score was 4.24, while the standard deviation was 0.786. The mean score indicates that respondents agreed with the statement, suggesting that harmonization is perceived to have positively contributed to aligning M&E standards with recognized benchmarks and global norms. The moderate standard deviation implies some variation in responses, indicating that while the majority supported this view, a few had differing or less certain experiences. This result suggests that harmonization is widely seen as effective in promoting conformity to best practices, though the strength of this perception varies slightly among respondents.

On whether harmonization has facilitated the use of standardized M&E indicators and tools, the mean score was 4.17, while the standard deviation was 0.848. The mean score indicates that respondents agreed with the statement, suggesting that harmonization is perceived to have supported the adoption of uniform indicators and tools across M&E processes. The moderate standard deviation implies some variation in responses, meaning that while most respondents recognized this benefit, a few had different experiences or perspectives. This result suggests that harmonization is generally viewed as effective in promoting standardization of M&E instruments, although the level of adoption may vary depending on agency practices or familiarity with the tools.

On whether harmonization has improved the comparability and credibility of M&E data, the mean score was 4.17, while the standard deviation was 0.805. The mean score indicates that respondents agreed with the statement, suggesting that harmonization is perceived to have enhanced the ability to compare data across agencies and strengthened confidence in M&E findings. The moderate standard deviation implies some variation in responses, indicating that while many respondents acknowledged these improvements, a few may have had differing or less positive experiences. This result suggests that harmonization is widely seen as contributing to more reliable and comparable M&E data, though the extent of this impact may differ depending on organizational context or data practices.

On whether harmonization has strengthened accountability and transparency in M&E processes, the mean score was 4.28, while the standard deviation was 0.841. The mean score indicates that respondents agreed with the statement, suggesting that harmonization is perceived to have enhanced openness and responsibility in the execution of M&E functions. The standard deviation implies some variation in responses, showing that while most respondents shared this view, a few had different perceptions or experiences. This result suggests that harmonization is broadly recognized as a factor that improves accountability and transparency, though the level of perceived improvement may vary across agencies or operational settings.

4.3.4.2 Non-Harmonized Analysis of Environmental and Social Standards on M&E Standards and Methodological Consistency in Infrastructure Projects

Table 11: Non-Harmonized Analysis of Environmental and Social Standards on M&E Standards and Methodological Consistency in Infrastructure Projects

	N	Mean	Std. Deviation
Lack of harmonization leads to inconsistencies in M&E methodologies and frameworks.	9	4.00	.866
Lack of harmonization results in misalignment with national and international best practices.	9	4.33	.707
Lack of harmonization causes variations in M&E indicators and measurement tools.	9	4.22	.441
Lack of harmonization affects the credibility and comparability of M&E data.	9	4.33	.866
Lack of harmonization weakens accountability and transparency in M&E processes.	9	4.11	.601
Valid N (listwise)	9		

Source, Researcher (2025)

On whether lack of harmonization leads to inconsistencies in M&E methodologies and frameworks, the mean score was 4.00, while the standard deviation was 0.866. The mean score indicates that respondents agreed with the statement, suggesting that the absence of standardized environmental and social frameworks contributes to variation and fragmentation

in how monitoring and evaluation activities are conducted. The standard deviation implies a fair degree of agreement, though with some differences in experience or perception across respondents. This result suggests that inconsistencies in M&E design and application are a commonly recognized consequence of non-harmonized systems, potentially undermining the comparability and coherence of evaluation results across projects.

On whether lack of harmonization results in misalignment with national and international best practices, the mean score was 4.33, while the standard deviation was 0.707. The mean score indicates that respondents strongly agreed with the statement, suggesting that the absence of uniform standards in M&E processes often leads to practices that do not conform with established national or global benchmarks. The standard deviation implies consistent agreement among respondents, reflecting a shared concern about the risks of operating outside recognized best practices. This result suggests that non-harmonized systems are widely seen as undermining alignment with strategic frameworks and global norms, which may compromise both credibility and effectiveness in monitoring and evaluation.

On whether lack of harmonization causes variations in M&E indicators and measurement tools, the mean score was 4.22, while the standard deviation was 0.441. The mean score indicates that respondents agreed with the statement, suggesting that without standardized frameworks, monitoring and evaluation systems tend to use differing indicators and tools, reducing comparability and consistency across projects. The standard deviation implies a high level of agreement, showing that most respondents shared a similar view on this issue. This result suggests that the absence of harmonization is broadly recognized as a key contributor to inconsistent measurement approaches, weakening the integrity and reliability of M&E outcomes.

On whether lack of harmonization affects the credibility and comparability of M&E data, the mean score was 4.33, while the standard deviation was 0.866. The mean score indicates that respondents strongly agreed with the statement, suggesting that the absence of unified standards significantly undermines the trustworthiness and cross-project comparability of monitoring and evaluation results. The standard deviation implies some variation in responses, though overall agreement was strong. This result suggests that non-harmonized M&E systems are widely seen as reducing the reliability and usefulness of data, especially when comparing performance across different initiatives or reporting levels.

On whether lack of harmonization weakens accountability and transparency in M&E processes, the mean score was 4.11, while the standard deviation was 0.601. The mean score indicates that respondents agreed with the statement, suggesting that the absence of consistent environmental and social standards undermines open and responsible practices in monitoring and evaluation. The standard deviation implies a strong level of agreement among respondents, indicating that this concern is widely shared. This result suggests that non-harmonization is broadly perceived as a barrier to ensuring transparent and accountable M&E systems, which may hinder oversight, stakeholder trust, and informed decision-making.

4.4 Discussion of Findings

4.4.1 Environmental And Social Standards and Accuracy of M&E Data Collection and Analysis Processes in the Infrastructure Projects.

The findings under harmonized conditions indicate that stakeholders widely agree that harmonization fosters consistency and standardization in data collection, as reflected by a high mean score of 4.53. This aligns with literature that stresses the importance of coherence in indicators and reporting systems to support timely and comparable evaluations (Alexianu et al., 2019; JICA, 2022). Additionally, harmonization was perceived to enhance efficiency in data collection and reporting (mean = 4.34), a finding supported by studies highlighting how digital platforms and unified formats can reduce redundancy and streamline M&E operations (Britton, 2005). However, there was less concern about bureaucratic delays, with respondents disagreeing moderately with the notion that harmonization introduces excessive red tape (mean = 2.63). This observation resonates with the argument by JICA (2022) that effective inter-agency coordination should reduce rather than multiply procedural burdens. Furthermore, the finding that harmonization rarely causes confusion from misinterpretation of standards (mean = 2.05) suggests that the harmonization process has likely been accompanied by clear communication and training, a factor emphasized by OECD (2002) as essential to effective system implementation.

In contrast, the findings under non-harmonized conditions reveal nuanced challenges. A mean score of 3.88 suggests that inconsistencies in data collection due to different reporting formats are a moderately widespread problem. This supports Britton's (2005) assertion that unprocessed and fragmented data reduces the value and applicability of M\&E insights. Furthermore, respondents acknowledged that a lack of harmonization increases the risk of errors and missing information (mean = 3.63), reinforcing the notion that weak reporting

frameworks often result in unreliable data. Notably, while flexibility in non-harmonized systems could theoretically allow for contextual adaptation, this was not widely seen as a strength (mean = 2.63). Instead, the lack of uniformity appears to create more ambiguity than adaptability, challenging the belief that decentralization inherently improves contextual fit. Lastly, the perception that non-harmonization may reduce administrative burden was met with high variation in opinion (mean = 3.63, SD = 1.506), which likely reflects the reality that in the absence of formal standards, experiences can differ greatly between agencies or departments.

In summary, the findings support the position that harmonization contributes to accuracy, consistency, and reliability in M&E data collection, while non-harmonized settings introduce risks of inconsistency, errors, and unclear processes. These conclusions echo earlier work by Alexianu et al. (2019) and Kadhim et al. (2020), which emphasize the importance of aligning data practices with formalized structures to enable credible evaluations. They also validate the significance of building coherent monitoring systems that reduce administrative burden without compromising data integrity or contextual relevance.

4.4.2 Environmental and Social Standards on Stakeholder Satisfaction with M&E Outcomes in the Infrastructure Projects.

The study found that under harmonized conditions, stakeholders consistently perceived the M&E reports to be of high quality (mean = 4.47), suggesting that harmonization introduces clarity and structure that directly improve reporting outcomes. This aligns with findings by Ngechu & Kaluyu (2020) that emphasize how structured evaluation methods promote stakeholder confidence and enable accurate tracking of progress and concerns. Furthermore, harmonization was found to enhance decision-making capacity (mean = 4.41), reinforcing Waris et al.'s (2022) argument that unified frameworks facilitate communication and bridge gaps between internal and external stakeholders. The ability of harmonization to align M&E outputs with project objectives was also strongly supported (mean = 4.34), confirming Hartmann & Hietbrink's (2013) conclusion that stakeholder satisfaction increases when performance metrics align with project targets.

While harmonization was seen as generally beneficial to reporting timeliness (mean = 4.00), the variability in experience, as indicated by the relatively higher standard deviation, suggests that implementation challenges, organizational differences, or resource constraints may still influence delivery timelines. This is consistent with findings from Windapo & Qamata (2015), who emphasized that even when standards are unified, satisfaction varies depending on how

those standards are applied in practice. Lastly, the perception that harmonization improves report comprehensiveness (mean = 4.31) demonstrates that stakeholders view harmonized standards as mechanisms that capture a broader and more accurate picture of project performance.

In contrast, under non-harmonized conditions, the findings highlight several negative effects on stakeholder satisfaction. The perception that non-harmonization reduces report quality (mean = 4.00) indicates general concern about fragmented reporting systems. However, the wide variation in responses suggests that the severity of this issue depends on project-specific or institutional contexts. Similarly, the belief that non-harmonization weakens decision-making (mean = 3.43) supports the assertion by Njuki et al. (2006) that inconsistent information can dilute evidence-based action. Still, the lower mean and high variability reflect differing capacities across agencies to compensate for disjointed M&E systems.

Importantly, the high mean score for misalignment between M&E findings and project goals (mean = 4.29) underlines the risk that non-harmonized approaches pose to project relevance and accountability. This reinforces Li & Skitmore's (2013) observation that uncoordinated stakeholder engagement results in divergent interpretations of project performance. Non-harmonization was also linked to delayed reporting (mean = 3.71), echoing Waris et al. (2022) who noted the operational inefficiencies that stem from duplicated or conflicting reporting formats. Moreover, stakeholders strongly agreed that non-harmonization leads to fragmented and incomplete reports (mean = 4.29), suggesting an erosion of the feedback loop between stakeholders and project implementers, ultimately reducing satisfaction and undermining mutual accountability (Njuki et al., 2006; JICA, 2009).

Overall, these findings affirm that harmonization plays a central role in improving stakeholder satisfaction with M&E outcomes through enhanced report quality, better alignment with project goals, and clearer communication pathways. Conversely, the absence of harmonization introduces structural weaknesses in reporting systems that reduce credibility, usability, and stakeholder trust. This underscores the importance of adopting integrated M&E frameworks in infrastructure development to foster inclusivity, transparency, and effective decision-making.

4.4.3 Environmental and Social Standards and Cost-Effectiveness of M&E Processes in Infrastructure Projects.

Findings from this study under harmonized frameworks support this view. Respondents largely agreed that harmonization contributes to cost-efficiency (mean = 3.87), indicating a positive link between streamlined standards and better use of resources. However, the relatively moderate mean and varying standard deviation suggests that these cost efficiencies may not be uniformly realized across all implementing agencies, possibly due to disparities in institutional capacity or existing reporting systems. These findings are consistent with Muchiri, Kyalo, and Mulwa (2022), who observed that aligning M&E frameworks with budgetary provisions in public health projects improved results without wasteful expenditures.

Further, harmonization was viewed as effective in optimizing resource allocation (mean = 4.13), suggesting that unified standards reduce duplication of tasks and encourage better planning in M&E investments. Simiyu and Okwoyo (2023) also affirm that strategic budgeting for M&E fosters efficiency and accountability, especially in water and sanitation projects. Additionally, harmonization was seen to reduce duplication of activities (mean = 3.97) and enhance operational efficiency (mean = 3.97), though these results came with high standard deviations, indicating differences in how individual agencies experienced these efficiencies. These mixed experiences may reflect varied levels of adoption, coordination, or institutional buy-in.

Interestingly, the study also revealed that perceptions around administrative burden reduction from harmonization were somewhat mixed (mean = 3.74), highlighting that while harmonization minimizes duplication, it may still demand significant effort in aligning diverse agency procedures. Clements (2005) noted that while participatory and harmonized approaches are often more cost-effective than top-down, blueprint models, they still require deliberate investment in coordination and learning.

In contrast, results under non-harmonized settings indicated more significant cost-related challenges. The finding that compliance costs increase without harmonization (mean = 4.00) confirms assertions by Mofolo (2016) and Teddy & Faith (2022) that fragmented M&E processes burden project teams with additional financial demands. Moreover, the perception that inefficiency and duplication are common under non-harmonized systems (mean = 4.38) strengthens arguments made by Muhayimana & Kamuhanda (2020) that disjointed reporting frameworks exacerbate delays and reduce the cost-effectiveness of infrastructure projects.

Perhaps most critical is the high mean score (4.50) indicating that non-harmonization requires additional resources for aligning different reporting requirements, which translates into elevated human and financial costs. This aligns with Simiyu & Okwoyo's (2023) findings that adequate and unified budgeting is a key determinant of cost-effective M&E. The strong perception that non-harmonization slows down M&E processes (mean = 4.38) and results in financial strain (mean = 4.38) further emphasizes the operational inefficiencies that come with fragmented reporting.

Collectively, these findings underscore that harmonization enhances cost-effectiveness by reducing redundancy, streamlining reporting, and enabling better use of financial and human resources. In contrast, non-harmonized M&E systems escalate project costs, delay reporting, and complicated budget planning, making it harder to sustain effective M&E practices over time. As such, policymakers and implementing agencies should prioritize the integration of harmonized environmental and social standards into infrastructure projects to achieve long-term value and accountability.

4.4.4 Environmental and Social Standards and Compliance to M&E Standards in Infrastructure Projects.

The findings from the field strongly support this view. The perception that harmonization improves methodological alignment in M&E was relatively strong (mean = 4.07), though the standard deviation (0.961) indicates moderate variability in experiences, likely influenced by institutional disparities in implementing harmonized tools. This aligns with Callistus and Clinton (2016), who argued that weak institutional linkages between planning, budgeting, and M&E result in disjointed project delivery and ineffective evaluations. Harmonization, in this context, facilitates coherence in standards and ensures that evaluation methodologies reflect agreed-upon norms and expectations.

Respondents also rated harmonization as effective in promoting conformity to best practices (mean = 4.24), reinforcing Boehmer and Zaytsev's (2021) assertion that while organizations may seek flexibility, alignment with best practices, especially in public or multi-stakeholder projects, strengthens credibility and consistency. Moreover, the relatively low standard deviation (0.786) suggests a fairly uniform appreciation of harmonization's benefits in this regard. Harmonization was also seen to significantly support the standardization of M&E instruments (mean = 4.17) and to enhance the comparability and reliability of M&E data (mean = 4.17). These findings reflect broader academic and policy discourse that standardized tools

enable meaningful benchmarking and tracking across projects, sectors, and timeframes (Kimaro et al., 2018). When tools and frameworks vary widely across implementing partners or reporting levels, results become fragmented, and it is difficult to aggregate challenge harmonization directly mitigates.

Crucially, harmonization was viewed as improving accountability and transparency in M&E systems (mean = 4.28). This perception aligns with the argument that strong M&E systems underpin institutional trust and oversight vital in infrastructure projects where resources, compliance, and public interest are at stake. Harmonization not only ensures consistency in how data is captured and analyzed but also makes it easier for oversight agencies and stakeholders to validate findings, enhancing governance.

Conversely, findings on non-harmonized systems show a significant negative impact on M&E standards. The perception that non-harmonization introduces inconsistencies in M&E design and application (mean = 4.00) supports the claim by Callistus and Clinton (2016) that fragmented systems in Ghana hindered project quality and implementation. Respondents also strongly agreed that non-harmonization undermines alignment with strategic frameworks and global norms (mean = 4.33), a concern echoed by Boehmer and Zaytsev (2021) regarding the credibility of sustainability performance reporting.

Moreover, non-harmonized systems were perceived to lead to inconsistent measurement approaches (mean = 4.22) and to reduce the reliability and usefulness of data (mean = 4.33). These outcomes limit the ability to make evidence-based decisions or to compare performance meaningfully across different initiatives, a key concern in multi-project infrastructure environments. Lastly, respondents noted that non-harmonization weakens accountability and transparency (mean = 4.11), reinforcing the literature's call for strengthening institutional M&E systems through coherent and integrated frameworks.

Overall, the findings validate the central argument of the literature: that harmonized environmental and social standards are critical in elevating the quality, credibility, and accountability of M&E systems in infrastructure projects. Without harmonization, M&E becomes fragmented, limiting its strategic utility in informing decisions, enforcing compliance, and communicating results across diverse stakeholders.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussion, summary, conclusions, and recommendations. The section further summarizes the major findings per objective, draws evidence-based conclusions, and proposes actionable recommendations for practice, policy, and future research.

5.2 Summary of Findings

5.2.1 Environmental And Social Standards and Accuracy of M&E Data Collection and Analysis Processes in the Infrastructure Projects.

Findings on harmonization revealed that harmonization efforts were widely perceived as effective in promoting uniformity and consistency in data collection across agencies, as indicated by a high mean score of 4.53. Additionally, harmonization was seen to enhance efficiency in data processes (mean = 4.34), although the extent of this benefit varied slightly across institutions. Respondents generally downplayed the bureaucratic burden associated with harmonization (mean = 2.63), though individual experiences differed. Moreover, harmonization practices were reported to be clearly communicated and well-understood across agencies (mean = 2.05), minimizing risks of misinterpretation during data collection.

In contrast, findings on non-harmonization showed that inconsistency in M&E indicators and tools was a commonly recognized challenge (mean = 3.88), although its intensity varied by institution. A moderate concern emerged over error risk and reduced data reliability in the absence of harmonized frameworks (mean = 3.63). Flexibility was not strongly considered a benefit of non-harmonization (mean = 2.63), and perceptions on whether non-harmonization reduced administrative load were divided (mean = 3.63), suggesting mixed experiences depending on organizational roles and mandates.

5.2.2 Environmental and Social Standards on Stakeholder Satisfaction with M&E Outcomes in the Infrastructure Projects.

Findings on harmonization revealed that it is widely perceived to enhance the quality of M&E reports, as reflected by a high mean score of 4.47. The contribution of harmonized standards to evidence-based decision-making was also strongly supported (mean = 4.41), indicating that respondents uniformly viewed harmonization as instrumental in strengthening the utility of M&E data for informed actions. Furthermore, harmonization was found to be effective in aligning M&E outputs with project goals (mean = 4.34), reinforcing its strategic value. Although harmonization was generally perceived to improve timeliness of reporting (mean = 4.00), some variability in responses suggests differences in implementation practices. Similarly, harmonization was seen to support comprehensiveness of reports (mean = 4.31), though with slight variation across roles and institutions.

In contrast, findings on non-harmonization showed that its negative effect on report quality was broadly acknowledged (mean = 4.00), but perceptions differed by context. Non-harmonization was also found to undermine evidence-based decision-making (mean = 3.43), though not uniformly across stakeholders. A strong association was observed between non-harmonized systems and misalignment of M&E findings with project goals (mean = 4.29), as well as the fragmentation of reporting outputs (mean = 4.29), both of which can weaken project coherence. Additionally, non-harmonization was seen to contribute to reporting delays (mean = 3.71), with the extent of this effect varying depending on coordination mechanisms and reporting complexity.

5.2.3 Environmental and Social Standards and Cost-Effectiveness of M&E Processes in the Infrastructure Projects.

Findings on harmonization indicate that it is generally perceived to support cost-efficiency in M&E practices, as reflected by a mean score of 3.87, although the extent of this impact appears to vary across institutions. Harmonization was also viewed as effective in optimizing resource allocation (mean = 4.13), confirming its role in facilitating better use of available inputs across implementation contexts. The perception that harmonization reduces administrative burden was somewhat mixed (mean = 3.74), likely due to differences in internal processes or responsibilities. Respondents also agreed that harmonization enhances operational efficiency (mean = 3.97) and minimizes duplication of M&E efforts (mean = 3.97), though the consistency of this experience varied depending on agency-specific coordination mechanisms.

Conversely, the findings on non-harmonization show that it is widely seen to escalate compliance costs (mean = 4.00), with the degree of this burden depending on project size and reporting frameworks. Non-harmonized systems were strongly associated with duplication and inefficiency (mean = 4.38) and were seen to place a significant workload and cost burden on M&E teams (mean = 4.50). In addition, such environments were viewed as a major cause of slowed M&E processes and increased operational costs (mean = 4.38), and were further linked to avoidable financial constraints that hinder project evaluation effectiveness (mean = 4.38). These findings underscore the need for more streamlined and harmonized M&E systems to enhance cost-efficiency and reduce financial wastage.

5.2.4 Environmental and Social Standards and Compliance to M&E Standards in The Infrastructure Projects.

Findings from the harmonization dimension indicate that harmonization is broadly perceived as a key driver of methodological alignment (mean = 4.07), helping to bring coherence in how M&E practices are designed and executed across institutions. Respondents also viewed harmonization as effective in promoting conformity to national and international best practices (mean = 4.24), though with slight variation in perception across operational levels. Additionally, harmonization was seen to enhance standardization of M&E instruments (mean = 4.17), improve the reliability and comparability of M&E data (mean = 4.17), and strengthen accountability and transparency in M&E systems (mean = 4.28). These results suggest that harmonized standards foster consistency and credibility, though their implementation impact may differ depending on agency familiarity and context.

Findings from the non-harmonization perspective highlight that lack of harmonization often leads to inconsistencies in M&E methodologies and frameworks (mean = 4.00), weakening the ability to draw meaningful comparisons across projects. Stakeholders also agreed that non-harmonized systems undermine alignment with strategic frameworks and global norms (mean = 4.33), thereby affecting credibility. Similarly, variations in indicators and measurement tools were linked to non-harmonization (mean = 4.22), posing a threat to the integrity and reliability of M&E outcomes. Furthermore, the absence of harmonized standards was associated with reduced usefulness and comparability of data (mean = 4.33) and seen as a barrier to transparency and accountability (mean = 4.11), ultimately impacting stakeholder trust and oversight capacity.

5.3 Conclusion of the Study

Based on the study findings, it is concluded that the harmonization of environmental and social standards significantly enhances the effectiveness of monitoring and evaluation (M&E) systems in infrastructure projects. Specifically, harmonization promotes consistency and uniformity in data collection (Objective 1), improves the quality, timeliness, and strategic alignment of reports (Objective 2), optimizes resource allocation and reduces duplication, leading to cost-effective M&E practices (Objective 3), and strengthens methodological alignment, accountability, and data comparability (Objective 4). Conversely, the absence of harmonization was consistently associated with inconsistencies, inefficiencies, increased costs, reduced credibility, and weakened decision-making capacity in M&E systems, underscoring the need for integrated and standardized frameworks across implementing agencies.

5.4 Recommendations

5.4.1 Recommendations for Practice

i. Project implementers should adopt and institutionalize standardized data collection tools and protocols across all agencies involved in infrastructure monitoring and evaluation to ensure consistency, minimize errors, and enhance cross-agency comparability.

ii. Agencies should embed harmonized M&E frameworks within their reporting systems to improve the quality, timeliness, and strategic relevance of reports, enabling evidence-based decision-making and stronger alignment with project goals.

iii. Implementing agencies should allocate dedicated M&E budgets that prioritize harmonization activities, such as shared systems and joint evaluations, to eliminate duplication, streamline resource use, and improve operational efficiency.

iv. Policy makers should develop clear guidelines that promote methodological standardization and alignment with the best national and international practices, thereby enhancing transparency, accountability, and the credibility of M&E results across infrastructure projects.

5.4.2 Recommendations for Policy Making

i. Policy makers should establish a national policy framework mandating uniform data collection standards and interoperability across M&E systems for infrastructure projects to promote consistency and data reliability.

ii. Government agencies should enact policies that institutionalize harmonized reporting structures across sectors, ensuring that monitoring and evaluation outputs directly inform public investment decisions and strategic planning.

iii. Policy makers should require the inclusion of ring-fenced M&E budgets in all publicly funded infrastructure projects, with specific provisions for coordination mechanisms that enhance efficiency and reduce redundant expenditures.

iv. Regulatory bodies should introduce national M&E standards that align with international best practices and require all implementing institutions to adopt these standards to ensure data comparability, credibility, and improved accountability.

5.5 Recommendations for Further Studies

i. Future studies should explore the role of digital integration tools in enhancing harmonization of data collection across multi-agency infrastructure projects.

ii. Further research should investigate how harmonized M&E reporting influences real-time policy adjustments and long-term project sustainability in different sectors.

iii. Additional studies should assess the specific financial impact of harmonized versus non-harmonized M&E frameworks on project lifecycle costs and resource utilization.

iv. Future research should examine how institutional culture and capacity influence the adoption and effectiveness of harmonized M&E methodologies in public sector infrastructure programs.

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APPENDICES

Appendix I: Questionnaire for KPA and JICA Officers

Section 1: Background Information

1. Position/Title: _____
2. Years of Experience with Infrastructure Projects:
    - [ ] Less than 1 year
    - [ ] 1-3 years
    - [ ] 4-6 years
    - [ ] More than 6 years
3. Role in Monitoring and Evaluation
    - [ ] Direct involvement
    - [ ] Advisory
    - [ ] Indirect oversight
    - [ ] Not involved in M&E

Section 2: Objective Questions

Objective I: Accuracy of M&E Data Collection

1. The variability in environmental and social standards affects the consistency of data collected in our projects.
    - SD | D | N | A | SA
2. Conflicting environmental and social standards increase the error rate in our data collection process.
    - SD | D | N | A | SA
3. The need to comply with multiple standards results in incomplete M&E data.
    - SD | D | N | A | SA
4. Efforts to align different standards have improved the reliability of M&E data collection and analysis.
    - SD | D | N | A | SA

Objective II: M&E Outcomes

5. Stakeholders are generally satisfied with M&E outcomes despite the lack of harmonized standards.
    - SD | D | N | A | SA
6. Conflicting environmental and social standards lead to frequent stakeholder complaints regarding M&E results.
    - SD | D | N | A | SA
7. Non-harmonized standards impact the perceived credibility of M&E findings among stakeholders.
    - SD | D | N | A | SA
8. Involvement of stakeholders in M&E processes helps mitigate dissatisfaction due to non-harmonized standards.
    - SD | D | N | A | SA

Objective 3: Cost-Effectiveness of M&E

9. Non-harmonized environmental and social standards lead to additional costs in our M&E processes.
    - SD | D | N | A | SA
10. The extra time and resources required to meet multiple standards affect the cost-effectiveness of M&E.
    - SD | D | N | A | SA
11. Implementing multiple standards increases the cost per data collection activity in our projects.
    - SD | D | N | A | SA
12. Resource allocation for M&E is efficient, despite the additional requirements imposed by varying standards.
    - SD | D | N | A | SA

Objective 4: M&E Standards

13. The organization's M&E processes comply effectively with all relevant environmental and social standards.
    - SD | D | N | A | SA
14. The frequency of adjustments required to meet conflicting standards impacts overall compliance.
    - SD | D | N | A | SA
15. Audits consistently rate our M&E practices as compliant with both environmental and social standards.
    - SD | D | N | A | SA
16. Efforts to meet conflicting standards are aligned with maintaining high compliance rates in M&E.
    - SD | D | N | A | SA

Section 6: General Feedback

17. In your opinion, what are the biggest challenges of non-harmonized standards in M&E processes at KPA?
    - [Open-ended response]
18. What recommendations would you make to better harmonize these standards and improve M&E effectiveness?
    - [Open-ended response]
19. Are there any additional insights you would like to share about the influence of non-harmonized standards on M&E practices?
    - [Open-ended response]

Thank you

Appendix II: Key Informant Interview Guide for JICA Officers

Introduction

Thank you for participating in this interview. We conduct a study aimed at understanding how non-aligned environmental and social standards impact M&E of infrastructure projects at Kenya Ports Authority. Your insights will be quite significant in assessing how such standards have a bearing on the way M&E processes are performed and projects as a whole. The interview shall take approximately 30-45 minutes. Responses are kept confidential.

Understanding the Impact of Harmonized Standards on M&E Accuracy

1. How do you perceive the effect of varying environmental and social standards on the accuracy of M&E data collection and analysis at the Kenya Ports Authority?
2. In your opinion, what are the main challenges caused by conflicting standards when it comes to collecting and analyzing reliable M&E data?
3. Have there been any measures taken to align different environmental and social standards? If so, how effective have these measures been?
4. From your perspective, how might these standards affect the long-term reliability and accuracy of M&E practices?

M&E Outcomes

1. How do you think the harmonization of environmental and social standards affects stakeholder satisfaction with M&E outcomes?
2. Have you observed any specific instances where stakeholders have expressed concerns or dissatisfaction due to conflicting standards?
3. In your experience, what strategies could be implemented to improve stakeholder confidence in M&E outcomes despite the challenges of non-harmonized standards?
4. How does JICA typically engage with stakeholders to address concerns related to M&E processes influenced by different environmental and social standards?

Cost-Effectiveness of M&E Processes

1. How do non-harmonized standards impact the cost-effectiveness of M&E processes in KPA projects supported by JICA?
2. In your view, what are the main cost drivers linked to managing multiple standards within M&E processes?

3. How has the allocation of financial resources for M&E been influenced by the need to meet diverse environmental and social standards?
4. Do you think that harmonizing these standards would lead to more cost-efficient M&E practices? Why or why not?

Compliance with M&E Standards

1. How effectively do you think KPA's M&E processes comply with environmental and social standards, given the non-harmonization?
2. Are there any frequent challenges faced by KPA in maintaining compliance with multiple standards, and if so, what are they?
3. In your opinion, what adjustments or adaptations could be made to improve compliance rates across M&E processes?
4. What role do you see JICA playing in supporting KPA to enhance compliance with environmental and social standards?

General Reflection and Recommendations

1. Generally, do you think non-standardized environmental and social standards affect the output of infrastructure projects of the Kenya Ports Authority?
2. What steps would you recommend to better harmonize these standards to support more effective M&E practices?
3. Are there other lessons or best practices from their experience in other regions that can help the KPA manage better with nonharmonized standards?
4. Do you have anything further to contribute regarding the impact of non-harmonized standards on M&E processes?

Thank you very much for your time and insights.

Appendix III: Key Informant Interview Guide for KPA Officers

Thank you for participating in this interview. We conduct a study aimed at understanding how non-aligned environmental and social standards impact M&E of infrastructure projects at Kenya Ports Authority. Your insights will be quite significant in assessing how such standards have a bearing on the way M&E processes are performed and projects as a whole. The interview shall take approximately 30-45 minutes. Responses are kept confidential.

Influence on Accuracy of M&E Data Collection

1. How would you describe the impact of different environmental and social standards on the accuracy of M&E data collection at the Kenya Ports Authority?
2. Can you provide examples of challenges that arise due to conflicting standards in ensuring reliable and accurate data in M&E?
3. Have there been any efforts within KPA to align environmental and social standards? If so, how effective do you think these efforts have been?
4. How do you think data accuracy could be improved under the current framework of non-harmonized standards?

Impact on M&E Outcomes

1. In your experience, how do non-harmonized environmental and social standards affect stakeholder satisfaction with M&E outcomes?
2. What kind of feedback or concerns do stakeholders typically raise regarding the M&E process, especially in light of conflicting standards?
3. How does KPA engage with stakeholders to address any dissatisfaction or concerns related to M&E outcomes impacted by these standards?
4. What strategies do you think could be implemented to enhance stakeholder satisfaction despite the challenges of varying standards?

Cost-Effectiveness of M&E Processes

1. What are the cost implications of having to meet multiple environmental and social standards within the M&E processes at KPA?
2. In your view, what are the primary financial challenges linked to managing these conflicting standards?
3. How has the need to comply with various standards affected KPA's resource allocation for M&E processes?

4. Do you think that harmonizing these standards could lead to more cost-effective M&E practices? Why or why not?

M&E Standards

1. How effectively do you feel KPA's M&E processes comply with environmental and social standards, given the non-harmonized nature of these standards?
2. Are there specific challenges or frequent adjustments KPA needs to make to stay compliant with all relevant standards?
3. What internal processes or practices are in place to ensure compliance despite the lack of harmonization in standards?
4. What improvements would you recommend to enhance KPA's compliance with environmental and social standards in the context of M&E?

General Reflections and Recommendations

1. Overall, how do you believe non-harmonized environmental and social standards impact the success and efficiency of KPA's infrastructure projects?
2. In your opinion, what steps could be taken to better harmonize these standards to support more effective M&E practices?
3. Are there any best practices or lessons learned from other projects that you think could help KPA manage the challenges of non-harmonized standards?
4. Is there any additional information or insight you would like to share about the influence of non-harmonized standards on M&E processes at KPA?

Thank you for your time and valuable insights

Appendix IV: Focus Group Discussion Guide for Project Affected Persons

Introduction

Thank you all for coming to this discussion. We are here to elicit your views on how environmental and social standards impact the M&E of infrastructure projects by KPA. Of importance will be how the standards influence outcomes at the project level that touch on you as beneficiaries in the community. This session will last about 1 to 1.5 hours, and we encourage free sharing of thoughts. All responses will be kept confidential.

Understanding the Impact of Environmental and Social Standards on Project Monitoring and Evaluation

General Awareness

- How familiar are you with the environmental and social standards applied to KPA projects that impact your community?
- In what ways, if any, do you feel these standards influence the monitoring and evaluation of the projects?

Clarity of Standards

- Have you found that the standards set by KPA are clearly explained to you or other community members?
- In your opinion, do different environmental and social requirements affect the information shared with you about the project?

Accuracy and Relevance of M&E Data - Data Collection and Community Relevance

- Do you feel that the data collected by KPA accurately represents the needs and conditions of your community?
- Are there any specific instances where you felt the data did or did not reflect your experiences or concerns?

Challenges with Multiple Standards

- In your view, how do varying standards influence the relevance of information shared with you about the project?
- Do conflicting standards impact how well the project addresses environmental or social concerns?

Stakeholder Satisfaction and Community Perception - Satisfaction with Project Outcomes

- How satisfied are you with the outcomes of KPA projects that affect your community?
- Are there specific areas where you feel KPA's monitoring and evaluation process could improve to better serve community interests?

Community Involvement in M&E

- How involved do you feel the community is in the M&E process for these projects?
- What could be done to ensure that the M&E process addresses your community's feedback and concerns more effectively?

Cost and Resource Allocation for Community Benefits - Resource Use and Community Impact

- Do you think KPA allocates enough resources to ensure projects meet both environmental and social standards that benefit the community?
- Have you noticed any project adjustments or limitations due to resource constraints?

Perceived Costs of Compliance

- In your opinion, do you believe that compliance with these various standards affects the resources dedicated to community benefits? If yes, how so?
- What would you suggest could improve the balance between meeting standards and addressing community needs?

Compliance and Project Effectiveness

Compliance with Standards and Community Impact

- How effectively do you feel KPA complies with environmental and social standards that benefit the community?
- Are there any gaps you have noticed where KPA's project practices could better align with the standards that matter to you?

Improvements in Project Monitoring and Evaluation

- What improvements would you recommend in KPA's monitoring and evaluation process to ensure community needs are met alongside environmental and social compliance?
- How could KPA better involve the community to enhance compliance with beneficial standards?

General Feedback and Recommendations

Overall Experience with KPA Projects

- What has your overall experience been with infrastructure projects by KPA that affect your community?
- Are there any specific successes or challenges you'd like to highlight?

Suggestions for Improved M&E Processes

- What are some suggestions you have for improving the monitoring and evaluation process to better address community needs?
- How can KPA projects better align with community expectations while also meeting regulatory standards?

Additional Thoughts

- Is there anything else you'd like to share about your experiences with KPA's projects or the impact of environmental and social standards?

Thank you for participating in this discussion.

Appendix V: ERC

Mount Kenya University

REF: **MKU/ISERC/4748**
TO: **DANIEL GITHINJI**

Date: 07 February 2025

REG: **MAME/2023/51634**

Dear Sir/Madam,

RE: HARMONIZATION OF ENVIRONMENTAL-SOCIAL STANDARDS AND MONITORING AND EVALUATION SYSTEMS OF INFRASTRUCTURE PROJECTS: A CASE OF MOMBASA SPECIAL ECONOMIC ZONE, MOMBASA COUNTY, KENYA

This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application aporoval number is **3470.** The approval period is **07/02/2025 - 06/02/2026.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including informed consents, study instruments, MTA will be used
ii. All changes including amendments, deviations and violations are submitted for review and approval by **Mount Kenya University**
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **Mount Kenya University** within 72 hours of notification .
iv. Any changes, anticipated or otherwise that may increase the risks or affect the safety or welfare of study participants and others or affect the integrity of the research must be reported to **Mount Kenya University** within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal
vii. Submission of an executive summary report within 90 days upon completion of the study to **Mount Kenya University**

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://research-portal.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

Dr. Alfred Owino, PhD
Chairman, Mount Kenya University ISERC

MOUNT KENYA UNIVERSITY
ETHICS REVIEW COMMITTEE
P. O. Box 342 - 01000,
THIKA

Main Campus, General Kago Road, P.O. Box 342-01000 Thika.
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Email: info@mku.ac.ke, Web: www.mku.ac.ke

Appendix VI: Letter of Introduction

Mount Kenya University

DIRECTORATE OF GRADUATE STUDIES

MAME/2023/51634

7th February, 2025

National Commission for Science Technology & Innovation (NACOSTI)
Off Waiyaki Way, Upper Kabete,
P.O Box 30623- 00100
NAIROBI, KENYA

Dear Sir/Madam,

RE: DANIEL GITHINJI – REGISTRATION NO. MAME/2023/51634

The purpose of this letter is to introduce the above named student who is pursuing **Master of Arts in Monitoring and Evaluation** in the Department of **Social and Development Studies** in the School **of Social Sciences.**

The title of the research is **"Harmonization of Environmental Social Standards and Monitoring and Evaluation Systems of Infrastructure Projects: A Case of Mombasa Special Economic Zone, Mombasa County Kenya."** It has been cleared by the University's Ethics Review Committee (Certificate attached) and now has to proceed to the field to collect data between **February, 2025 and April, 2025.**

Any assistance accorded to the student will be highly appreciated.

Thank you.

Mount Kenya University
P.O. Box 342 - 01000, THIKA
Office of the Director,
Graduate Studies

Dr. Samuel M. Kareng'a, Ph.D
Director, Graduate Studies
Enc.

Appendix VII: NACOSTI

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 300041

Date of Issue: 19/February/2025

RESEARCH LICENSE

This is to Certify that Mr.. Daniel Maina Githinji of Mount Kenya University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Mombasa on the topic: HARMONIZATION OF ENVIRONMENTAL-SOCIAL STANDARDS AND MONITORING AND EVALUATION SYSTEMS OF INFRASTRUCTURE PROJECTS: A CASE OF MOMBASA SPECIAL ECONOMIC ZONE, MOMBASA COUNTY, KENYA for the period ending : 19/February/2026.

License No: NACOSTI/P/25/416129

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See overleaf for conditions

Appendix VII: Research Authorization

Daniel M. Githinji
Manager, Health, Safety & Environment
MKU Reg: MAME/2023/51634

17/02/2025

RE: AUTHORIZATION TO CONDUCT RESEARCH AT KENYA PORTS AUTHORITY

Dear Githinji,

Reference is made to your request to conduct research at the Kenya Ports Authority (KPA) titled "*Harmonization of Environmental-Social Standards and Monitoring & Evaluation Systems of Infrastructure Projects: A Case of Mombasa Special Economic Zone, Mombasa County, Kenya*". We acknowledge the importance of your study in contributing to knowledge and policy improvement in Environmental Social Standards.

After reviewing your request, I am pleased to grant you permission to conduct your research within KPA premises. You are authorized to engage relevant departments and personnel for data collection, in line with your objectives.

You are required to uphold the highest standards of ethical research, including confidentiality of any sensitive information accessed during the study.

Upon completion, we would appreciate receiving a copy of your final report for our reference.

We wish you success in your research.

Sincerely,

Evelyn M. Chibule
General Manager Corporate Research, Planning & Compliance

Appendix VIII: Plagiarism Report

Daniel Githinji

HARMONIZATION OF ENVIRONMENTAL-SOCIAL STANDARDS AND MONITORING AND EVALUATION SYSTEMS OF INFRAST...

Postgraduate 2025
POSTGRADUATE 2024/25
Mount Kenya University

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Appendix IX: Map of Study Area