Published by :
http://www.ijert.org

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14 Issue 08, August - 2025

Assessment of Stakeholder Engagement on Performance of Road Construction Projects in Homabay County

Qs. Nyakundi Reuben Bikeri
Department of Construction and Property Studies, TU-K
Nairobi, Kenya

Dr. Absalom Habil V. Lamka
Senior Lecturer, Department of Construction and Property Studies, TU-K
Nairobi, Kenya

Professor Dr. Qs. Sylvester M. Masu.
Department of Construction and Property Studies, TUK
Nairobi, Kenya

***Abstract*— Improving the road network remains a strategic priority for the Homabay County government, which has allocated substantial resources to new construction and upgrading works. However, a sizable proportion of these projects has suffered schedule slippages, cost overruns, and quality deficiencies, raising questions about the adequacy of current project-management practices. This study investigated how stakeholder engagement influences the performance of road projects within the county. The specific objectives of this study focused on assessing the influence of stakeholder engagement in project identification, planning, implementation, and monitoring, on the performance of road projects in Homabay County.**

The study was underpinned by three complementary theories, including resource-based view, stakeholder theory and principal agency theory. A descriptive research design was adopted to generate an empirical snapshot of current practice. The target population comprised 211 individuals directly engaged in county road projects, from which 65 respondents were selected through convenience sampling. Data were gathered using a structured questionnaire. Descriptive statistics summarized respondent profiles, while multiple linear regression in SPSS v27 tested the explanatory power of the four engagement dimensions.

Findings show that stakeholder engagement exerts a positive and statistically significant effect on project performance across all phases of the project life-cycle. Engagement in monitoring emerged as the most powerful driver, followed by engagement during implementation, planning and identification. From these findings, the study recommends that Homabay County institutionalize participatory needs-assessment fora, strengthen stakeholder capacity in budgeting and scheduling workshops, embed collaborative mechanisms, such as community labor schemes and open feedback channels, during implementation, and formalize multi-stakeholder monitoring committees equipped with digital reporting tools. Moreover, stakeholder engagement should be codified in county policy as a routine requirement rather than an ad-hoc exercise, with clear guidelines on roles, timing, and accountability. Such measures are likely to make infrastructure delivery more transparent, cost-effective, and responsive to local priorities. Although limited by its cross-sectional design, self-report data, and modest sample size, the study contributes empirical evidence from a devolved Kenyan context, offering actionable insights for policymakers and practitioners seeking to improve road project outcomes through systematic stakeholder involvement.

***Keywords*— Stakeholder Engagement, project identification, project planning, project implementation, project monitoring, performance**

I. INTRODUCTION

A. Background

Road construction projects are globally recognized as drivers of economic development due to their role in job creation and wealth generation (Nani et al., 2017). By reducing unemployment and enhancing consumer spending, these projects contribute significantly to national Gross Domestic Product (GDP) (Villalba-Romero & Liyanage, 2016). Investment in road networks also facilitates business expansion through improved logistics and supply chains (Kapatsa, 2024). For instance, France and the UK have invested $167 billion and $263 billion respectively, which represents 0.4% and 1.04% of GDP, in road infrastructure to support economic growth (EU, 2023).

In Africa, countries such as Ghana, Namibia, Nigeria, South Africa, and Kenya have linked their economic progress to road infrastructure development (Orina et al., 2019). However, project failures remain widespread, with studies reporting that nearly half of road projects underperform due to various challenges, including poor planning, inadequate risk mitigation, budget constraints, and, crucially, lack of stakeholder engagement (Annoatey & Ankrah, 2017; Fatayer et al., 2022).

In Kenya, the road construction sector continues to play a vital role in economic growth. Between 2019 and 2024, employment in the construction sector rose by 2.1%, fueled in part by government investment of Ksh 179.5 billion, representing 1.1% of the national GDP (KNBS, 2025). This aligns with broader policy goals such as Vision 2030, the Millennium Development Goals (MDGs), and the Kenya Economic Recovery Strategy (Johnston & Onjala, 2022), all of which emphasize the expansion of a connected and efficient road network.

Homabay County has been proactive in pursuing these national objectives. The county has prioritized road infrastructure as a means to improve employment and local development, increasing jobs by over 5% through road-related initiatives (Homabay County Government, 2024). However, many projects face delays, substandard work, and cost overruns, prompting dissatisfaction among stakeholders (KNBS, 2025; Solomon, 2023). Stakeholders now demand active involvement in road project planning and execution to ensure their needs are met and performance is improved. According to Irfan et al. (2020) high-performing projects are those that fulfill stakeholder

IJERTV14IS080068

(This work is licensed under a Creative Commons Attribution 4.0 International License.)

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14 Issue 08, August - 2025

expectations. This study, therefore, sought to assess how stakeholder engagement influences the performance of road construction projects in Homabay County.

B. Research Problem

While stakeholders generally expect road construction projects to be completed within budget, on time, and to the required quality standards, this is not the reality for many projects, particularly in Homabay County (Ametepey et al., 2023). Numerous projects in the county have stalled or deteriorated, with frequent delays, budget overruns, and quality concerns. For example, despite allocating Ksh 168 million to road development in FY 2021/2022, only 60% of the planned work was completed (Homabay County Government, 2024). Projects such as the C19 Junction–Tom Mboya University and the C19 Junction–Rose Muhando Park–St. Paul Hospital Road upgrades have faced implementation issues, raising questions about the inclusivity of stakeholder engagement during the project lifecycle (Solomon, 2023).

These challenges are compounded by inadequate road signage, poor pedestrian infrastructure, and the use of substandard construction materials, all of which affect safety, mobility, and access to key services (Benjamin, 2014). Annoatey and Ankrah (2017) have further identified poor maintenance, low quality control, and delays as major obstacles contributing to traffic congestion and underperformance in road projects. Despite these persistent issues, many government reports fail to provide comprehensive accounts of the root causes, particularly the lack of stakeholder involvement.

Although several studies have addressed stakeholder engagement in various sectors (Panya & Were, 2018; Macharia, 2016; Matu et al., 2020; Memon, 2023), their findings are not directly apply to road construction. Some have focused narrowly on specific variables, producing incomplete insights (Solomon, 2023). This study therefore aims to fill that gap by examining stakeholder engagement across all phases, identification, planning, implementation, and monitoring, to provide valid and context-specific recommendations for improving road project outcomes in Homabay County

C. Research Objectives

The primary objective of this study was to assess how stakeholder engagement influences the performance of road construction projects in Homabay County. Specifically, the study aimed to evaluate the effect of stakeholder involvement in project identification, analyze their capabilities and competencies in project planning, and determine the impact of their participation during implementation. Additionally, the study sought to explore the role of stakeholders in monitoring road projects and to provide actionable recommendations for enhancing project performance. Through these objectives, the research aimed to generate a comprehensive understanding of stakeholder engagement across all phases of the project lifecycle.

D. Study Significance

The Kenyan government is committed to improving road construction in Kenya in collaboration with the county governments. This is because with improved infrastructure, the county's economy will keep on growing from year to year (Homabay County Government, 2024). Thus, there is need to ensure that the projects become a success. Stakeholder engagement is one of the factors that determine their success, hence, this study was done to assess whether the factor has been taken into consideration when constructing roads in Homabay County to be specific. The study outlined the importance of stakeholder engagement in the road construction sector and made recommendations on how it can be improved to facilitate increased success of road projects in the county and Kenya at large.

II. LITERATURE REVIEW

A. Review of Theories

The Stakeholder Theory, introduced by Freeman in 1984, posits that all participants in a project act to protect their interests, which makes managing stakeholder relationships critical to achieving project success (Souravet et al., 2024). As the theory evolved, Preston and Donaldson argued that while it is descriptive and instrumental, it is ultimately normative, emphasizing that stakeholders should be engaged based on their intrinsic value and collective interests (Bu et al., 2023). Jones (2004) reinforced this idea by suggesting that organizations are essentially stakeholder groupings, and success depends on managing their preferences and concerns (Fallah et al., 2023). Within this study, the theory highlights the necessity of engaging stakeholders meaningfully during project identification, planning, implementation, and oversight to ensure road projects meet diverse expectations and achieve desired outcomes.

The Resource-Based View (RBV) Theory, developed by Wernerfelt in 1984, emphasizes that firms can create greater value when they effectively utilize unique internal resources such as personnel, partnerships, and capabilities (Hunt & Morgan, 2015). These include human competencies, including knowledge, skills, and experience, that drive organizational performance and competitive advantage (Freiling et al., 2008). This theory helps explain how technical skills and stakeholder expertise can enhance road project performance. Critics like Park and Campbell argue that the theory assumes all firms are inherently capable of managing resources, which may not always hold true (Beal, 2022). Nonetheless, in this study, RBV supports the idea that well-engaged stakeholders can serve as strategic assets to improve road construction planning and delivery in Homabay County.

The Principal-Agent Theory addresses the relationship between principals (such as stakeholders) and agents (project managers or contractors) who act on their behalf (Bu et al., 2023). This theory is particularly relevant to road projects where contractors may pursue cost-cutting strategies that conflict with quality expectations. For instance, issues like supplier negligence or reluctance to invest in quality can emerge when interests are misaligned (Fayezi et al., 2012; Beal, 2022). A poor principal-agent relationship can negatively affect project delivery. In this context, the theory supports the study's exploration of how clear stakeholder involvement and improved accountability can reduce conflict and improve the performance of road projects in Homabay County. Together, these theories provide a robust conceptual foundation for examining the effects of stakeholder engagement on infrastructure outcomes.

(This work is licensed under a Creative Commons Attribution 4.0 International License.)

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14 Issue 08, August - 2025

B. Role of Stakeholders in Project Management

Stakeholders are individuals or groups with vested interests in a project, including clients, designers, government authorities, contractors, business owners, and local residents (Vuorinen et al., 2024). They are broadly categorized into internal stakeholders who are directly involved in project planning and execution, and external stakeholders, who influence projects indirectly but still play important advisory and approval roles (Fallah et al., 2023). Effective collaboration among these groups is crucial for successful project outcomes, and project managers must identify and engage them appropriately (Bu et al., 2023).

Key stakeholders in road construction projects include national and county governments, who fund the projects (Di Maddaloni & Derakhshan, 2024), as well as engineers, quantity surveyors and contractors who are responsible for oversight and execution (Souravet et al., 2024). Local communities also play an important role by offering feedback on road conditions and design preferences, ensuring the project meets user needs (Fallah et al., 2023).

When stakeholders are excluded, projects risk underperformance due to unaddressed issues during planning and implementation. This study identified a gap in understanding how these stakeholders are engaged in road construction and how their involvement, or lack thereof, affects project outcomes. Addressing this gap formed a core part of the research.

1) Project Identification:

Stakeholder engagement during the project identification phase is a foundational process involving key actors, such as community members, government authorities, technical experts, and sponsors, in selecting projects that align with local needs and strategic priorities (Heravi et al., 2015). This stage is critical in construction projects, as it involves participatory needs assessments, feasibility analysis, and risk identification, setting the tone for the project's success (Bahadorestani et al., 2020). According to Silvius and Schipper (2019), involving stakeholders early enhances legitimacy, ownership, and trust, reducing resistance during implementation. Grounded in participatory governance and stakeholder theory, this inclusive approach improves transparency and decision-making, ultimately strengthening project outcomes.

Empirical evidence affirms the benefits of early stakeholder involvement. Memon (2023) found that in the UK, early engagement led to better-defined project scopes and fewer disputes. Similarly, Matu et al. (2020) reported that Kenyan urban road projects with community input performed better, with fewer conflicts and higher utilization. In South Africa, Mukhawa and Magau (2024) observed that rushed or absent engagement led to misaligned projects, community dissatisfaction, and in some cases, abandonment. These studies emphasize the importance of structured stakeholder input to ensure projects meet genuine community needs.

In Nigeria, Onusi (2024) found that involving stakeholders in project identification significantly improved cost, quality, and timelines due to better-informed planning. Hasan et al. (2018) warned that top-down, politically driven projects lacking stakeholder input often underperformed and lacked public support. Wu et al. (2023), examining road projects in China, reinforced the value of stakeholder mapping and early technical input for building resilient and responsive infrastructure. Overall, stakeholder engagement at the identification phase enhances project relevance, reduces implementation risks, and supports long-term sustainability and community ownership.

2) Political and Legal Risk Management:

Stakeholder engagement in the planning phase of road construction projects involves actively involving key actors in shaping the project's operational framework, resource allocation, scheduling, and risk management strategies (Silvius & Schipper, 2019). Participants may include engineers, contractors, county officials, community representatives, and financiers. Their combined input ensures that the project scope, budget, timeline, and safety standards are realistically and strategically defined (Lehtinen & Aaltonen, 2020). Effective planning leads to shared ownership, anticipates potential challenges, and fosters alignment among parties, ultimately improving feasibility and project success (Heravi et al., 2015).

Empirical studies affirm that stakeholder competencies significantly contribute to improved project outcomes during the planning phase. In Middle Eastern infrastructure projects, Khatib et al. (2021) found that engaging engineers, contractors, and financiers in early planning enhanced cost accuracy and schedule reliability. Similarly, Babatunde et al. (2016) observed that stakeholder forums in Nigeria helped identify risks early and avoid unrealistic expectations. In Kenya, Beldinne and Gachengo (2022) noted that inclusive planning, especially involving local engineers and community leaders, resulted in contextually relevant plans and fewer disputes. Njeru and Kirui (2022) highlighted how participatory planning in donor-funded projects improved cost control, accountability, and compliance with technical standards. In Tanzania, Mwelu et al. (2021) reported that engaging technically skilled stakeholders in rural road projects significantly reduced failure rates and disruptions. Despite these benefits, challenges persist. Kirima et al. (2024) found that stakeholder planning sessions in Kenya are often superficial, rushed, or politically influenced, limiting meaningful participation. Exclusion of local experts and community voices leads to gaps in planning, unrealistic assumptions, and project inefficiencies. Overall, the literature emphasizes that effective stakeholder engagement during planning enhances cost estimation, risk mitigation, and schedule accuracy. Strengthening inclusive and technically informed planning processes is therefore critical to improving road construction performance and long-term project success.

3) Project Implementation

Stakeholder engagement during the implementation phase of road construction projects involves the participation of key actors, such as contractors, engineers, community members, and oversight bodies, in executing planned tasks, supervising activities, and adapting to real-time challenges (Purvis et al., 2015). This phase includes contract management, procurement, construction, quality control, and on-site problem-solving. Active stakeholder involvement ensures alignment with project objectives, supports transparency, and enables timely interventions when deviations occur (Nangoli et al., 2016). Effective engagement promotes resource efficiency, adherence

(This work is licensed under a Creative Commons Attribution 4.0 International License.)

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14 Issue 08, August - 2025

to timelines, and improved construction quality, while reducing risks of disputes or project failure (Purvis et al., 2015).

Empirical evidence highlights the importance of stakeholder participation in achieving successful implementation. Tengan and Aigbavboa (2017) found that engaging local stakeholders in Ghanaian road projects improved coordination, reduced delays, and minimized cost overruns. Similarly, Usadolo and Caldwell (2016) reported that in South African public infrastructure projects, inclusive engagement enhanced quality and reduced disputes. Community involvement in supervision and labor led to greater accountability and ownership. In Guinea, Magassouba et al. (2019) observed that when community representatives participated in project oversight, the projects achieved better results in terms of quality and satisfaction.

Meredith and MacDonald (2017) noted that community participation improved contractor accountability and transparency, while Oguzie et al. (2021) found that stakeholder engagement in Nigerian road projects enhanced coordination among multiple actors and minimized cost deviations. However, challenges remain since stakeholder participation is often undermined by dominance of technical and political actors, limited technical capacity, and reluctance from contractors to share control (Meredith & MacDonald, 2017; Oguzie et al., 2021). Despite these obstacles, stakeholder engagement during implementation is consistently linked to improved project performance. To realize its full benefits, deliberate efforts must be made to institutionalize inclusive practices, build capacity, and ensure transparent collaboration throughout the execution phase.

4) Project Monitoring

Stakeholder engagement in project monitoring involves the active participation of various actors in overseeing project progress, quality, and resource use (Sanghera, 2019; Matu et al., 2020). In road construction, monitoring activities include site inspections, reporting, performance evaluations, and issue escalation. This participatory approach ensures alignment with project goals, budgets, timelines, and standards. According to Bourne (2016), monitoring enables early identification of deviations, timely corrective action, and informed decision-making. It also fosters transparency, trust, and accountability, particularly in public infrastructure projects (Magassouba et al., 2019).

Empirical studies confirm that inclusive monitoring enhances project outcomes. Aziz and Abdel-Hakam (2016) found that in Nigeria, stakeholder involvement in monitoring led to fewer delays, reduced cost overruns, and better specification compliance. Thaler and Levin-Keitel (2016) showed that when stakeholders in England were regularly informed and consulted, it fostered support, improved feedback quality, and led to more informed decisions. In Kenya's Kiambu County, Cuppen et al. (2016) observed that community oversight reduced contractor malpractice and supported resource efficiency. Similarly, Vuorinen and Martinsuo (2019) linked participatory monitoring with early problem detection and higher quality outputs, recommending institutionalized multi-stakeholder monitoring teams. Nahyan et al. (2019) further highlighted tools like community scorecards and social audits in rural road projects as effective for contractor accountability and post-construction maintenance.

However, challenges persist. Matu et al. (2020) reported that many county-level projects in Kenya suffer from weak or symbolic monitoring frameworks, unclear stakeholder roles, and limited technical expertise. These limitations hinder the ability of stakeholders to influence decisions or effectively monitor technical aspects. Overall, while stakeholder monitoring improves performance, its success depends on well-defined structures, training, and genuine stakeholder empowerment throughout the project lifecycle.

C. Performance of Road Projects

Road construction plays a pivotal role in economic development by enhancing connectivity, job creation, and access to essential services like healthcare and education (Nani et al., 2017; Mousakhani et al., 2017). Successful road projects are often marked by effective planning, resource availability, advanced technology, and stakeholder collaboration (Kapatsa et al., 2024). In developed nations such as the United States, China, and India, road networks are expansive and well-maintained due to technological advancements and consistent oversight (Arora, 2024). These countries utilize high-quality, sustainable materials like asphalt, which is not only durable but also recyclable. Moreover, their projects benefit from high levels of professional expertise, innovation, and structured project phases that ensure timely and quality outcomes (Boubedra et al., 2023; Villalba-Romero & Liyanage, 2016).

In Africa, South Africa and Nigeria lead in road development, having extensive road networks of approximately 750,000km and 195,000km, respectively (Agbetiloye, 2024). These successes are linked to substantial government investment and the engagement of international contractors from countries like China and France, known for their expertise and reliable road designs (Irfan et al., 2020). However, local contractors have faced criticism due to poor planning, weak monitoring, and a focus on profit over quality (Dahalan, 2023). In Ghana, for example, procurement audits reveal frequent delays in financial closures, often attributed to coordination issues, fiscal constraints, and land disputes (World Bank, 2017; Ogbu & Adindu, 2020). Annoatey and Ankrah (2017) further categorize these issues into material shortages, manpower deficits, poor financing, government interference, and lack of proper scheduling.

Despite the challenges, the continent's road infrastructure is expanding, with an average annual increase of 7,500 kilometers. Countries like Tanzania and Lesotho are cited by the African Development Bank for exceptional progress, with annual road network growth rates of 15% and 24%, respectively (Agbetiloye, 2024).

In Kenya, the national government has made significant strides in road construction. The Kenya National Highways Authority (KeNHA) reported the construction of 107.6km of new roads and the upgrade of 76.5km in FY 2022/2023, surpassing Vision 2030 targets (KeNHA, 2024). Sustainability and maintenance have also been prioritized, with 17,241km of roads maintained in one fiscal year, a success attributed to strong stakeholder collaboration (Macharia, 2016).

(This work is licensed under a Creative Commons Attribution 4.0 International License.)

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14 Issue 08, August - 2025

At the county level, however, the situation differs. Most road projects are awarded to local contractors due to the smaller scale, but the same national standards apply (Malii, 2024). Unfortunately, counties face difficulties in meeting these standards, largely due to issues such as fund embezzlement, poor planning, and delayed execution (Macharia, 2016). As a result, many projects are delayed or fail prematurely due to quality concerns. Homabay County exemplifies these challenges. With a road network comprising 2,463km of classified roads and 367km of rural access roads, only 190km are tarmacked and 600km graveled, leaving 1,773km as unpaved earth roads (Homabay County Government, 2023). During rainy seasons, this severely disrupts mobility and access to economic opportunities.

A notable gap exists in understanding how stakeholders have been involved in addressing these project shortcomings. Their level of engagement in planning, decision-making, and implementation is unclear, and the absence of structured collaboration may be contributing to the stalled or underperforming projects in Homabay County. This study, therefore, seeks to explore the extent and impact of stakeholder engagement on the performance of road construction projects in the county.

D. Importance of Road Projects in Counties

County governments in Kenya have invested significantly in road construction to boost connectivity and economic development (Kariithi & Mbugua, 2018). Improved road infrastructure facilitates trade by easing the movement of goods and services, thereby enhancing revenue collection through business permits and licenses (Rohman et al., 2018). Robust road networks also attract investors and innovative entrepreneurs, who are drawn to areas with efficient infrastructure (Cheruiyot, 2018). In contrast, poor roads increase transport costs due to high fuel consumption, frequent vehicle maintenance, and accelerated wear and tear, negatively impacting business operations (Boubedra et al., 2023).

Well-implemented road projects reduce transportation costs and support the expansion of key sectors such as tourism. Counties with tourism potential often face limitations due to poor road access; however, improved roads can attract more visitors, boosting local economies (Macharia, 2016). Moreover, road construction projects create employment opportunities, both directly and through growth in ancillary sectors. These jobs increase consumer spending and revenue generation, thereby stimulating economic growth (Mwelu et al., 2020). Road development also drives urbanization by facilitating access to essential services like healthcare, education, and banking, which contributes to improved productivity and financial inclusion (Kathungu, 2016; Orina et al., 2019).

Additionally, enhanced road networks increase land and property values, promoting wealth creation and further investment. However, counties like Homabay lag behind, with less than 25% of their roads tarmacked, largely due to delayed project implementation (Solomon, 2023). The region's underperformance in road development raises questions about the effectiveness of stakeholder engagement in planning and execution. Thus, a research gap exists regarding how stakeholder involvement influences the performance of road projects. This study seeks to explore that gap and recommend strategies for improving project delivery through more effective stakeholder collaboration.

E. Types of Roads

Road transport is the primary mode of transportation in Kenya, accounting for over 90% of all local transport (KURA, 2024). Due to its significant socio-economic impact, the government continues to invest heavily in road infrastructure. Oversight and maintenance are coordinated by the Ministry of Transport and Infrastructure through sub-agencies such as the Kenya Rural Roads Authority (KURA), Kenya National Highways Authority (KeNHA), Kenya Urban Roads Authority, and the Kenya Wildlife Service (Malii, 2024).

Kenya's road network is classified into six categories: A to E and Special Class Roads (KeNHA, 2024). Class A roads, or International Trunk Roads, connect key international destinations and include roads like A109 (Mombasa Road), which links Jomo Kenyatta International Airport to the Northern Corridor. Class B roads, also called National Trunk Roads, link major towns, urban centers, and county headquarters. Class C roads, or Primary Roads, connect important centers within counties and link to higher-class roads, such as C63 in Kiambu and C26 in Homabay.

Class D roads, known as Secondary Roads, connect local centers and are most prevalent in rural counties like Homabay. Class E roads serve minor centers and rural markets, while Special Class roads provide access to national parks, agricultural zones, hospitals, and schools (KURA, 2024). In Homabay County, most roads fall under Class D, reflecting the region's rural nature. However, ongoing projects to upgrade roads to Class B and C levels are expected to improve economic opportunities, attract investors, expand market access for local producers, and increase county revenue for further infrastructure and service development.

F. Research Gaps

Despite increasing recognition of stakeholder engagement in infrastructure development, existing research has largely overlooked how involvement across all project phases, identification, planning, implementation, and monitoring, affects road project performance, especially in Kenya's devolved counties. Most studies examine isolated aspects like community participation or planning, without exploring the cumulative impact of engagement throughout the project lifecycle. Additionally, few address the unique governance, coordination, and accountability challenges in counties like Homabay. This study bridges that gap by providing an integrated analysis of stakeholder involvement across all project stages and evaluating its influence on key performance indicators such as timeliness, cost, and quality.

G. Conceptual Framework

This framework represents the relationship between the research variables in a diagram. It does outline factors, critical concepts and the link between them. It has highlighted ways in which the predictor factors (project identification, planning, implementation and monitoring) link with the experimental variables (success of the project) as outlined below. The link with the experimental variables (success of the project) as outlined in Fig. 1.

(This work is licensed under a Creative Commons Attribution 4.0 International License.)

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14 Issue 08, August - 2025

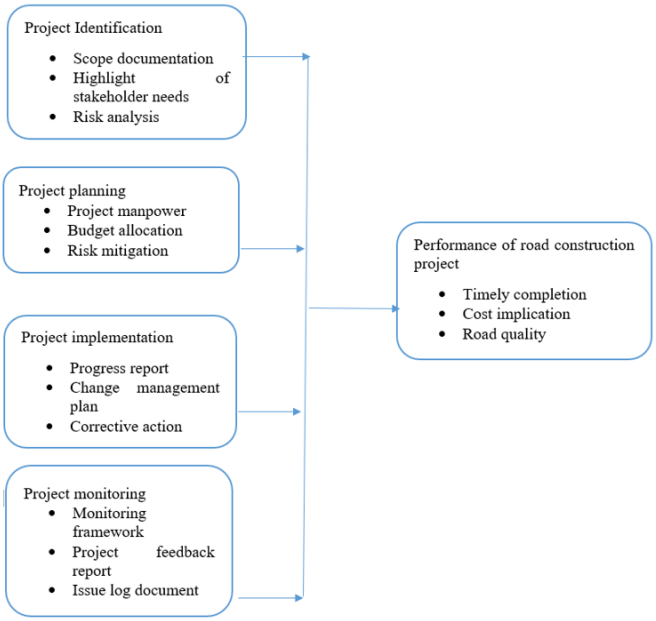

Fig.1: Conceptual Framework
Source: Author (2025)

The model that was evaluated in this research is:
$Y = \beta 0 + \beta 1\ X1 + \beta 2\ X2 + \beta 3\ X3 + \beta 4\ X4$ (Author, 2025) [Equation 1]
Where: -
Y = Performance of the road projects
X1 = Stakeholder engagement
X2= Planning of project
X3= Implementation of project
X4= Monitoring of project

III. METHODOLOGY

A. Research Design

The design that was preferred in this study was descriptive research design. This technique was preferred because it describes phenomenon with minimal chances of alteration (Hilton, 2017). This is also seconded by Akhtar et al. (2016) as the design is suitable for describing behaviors without bias or influence. Thus, through this descriptive design, the researcher was able to gather relevant data on stakeholder engagement and the performance of roads construction projects in Homabay County. The chances of collected data being altered was minimal; hence, data that was outlined in the findings section was consistent.

B. Target Population

In this study, the population comprised professionals who were engaged in the 45 road projects in the county of Homabay. This study specifically focused on Class D roads (secondary roads) and rural access roads, as these constitute the majority of road construction projects currently undertaken by the Homabay County Government. They included the road engineers, project managers, contractors, consultants, surveyors, community representatives as well as technical auditors. Each of the participants was important in offering unique insights into stakeholder engagement and the performance of road projects that will be under review from the past decade.

C. Sampling Design

The study employed a multi-stage stratified and simple random sampling approach to select participants from 211 stakeholders involved in 45 road projects in Homabay County between 2019 and 2024. A 30% sample (n = 65) was deemed sufficient for representativeness (Mugenda & Mugenda, 2019). The sampling frame was drawn from official county records and included engineers, project managers, contractors, surveyors, consultants, technical auditors, and community representatives. The 30% proportion was applied to the total population and then distributed proportionally across stakeholder categories. This approach ensured that diverse roles and perspectives were adequately represented.
Purposive sampling was also employed due to the specialized nature of the population, targeting those with direct experience in road construction planning, implementation, and monitoring. This method allowed the selection of knowledgeable participants who could provide context-specific and credible insights on stakeholder engagement and project performance.
Participants were selected based on their involvement in ongoing or recently completed projects to ensure up-to-date and relevant data. This targeted strategy prioritized depth of insight over generalizability, which was essential for exploring the nuanced roles of stakeholders in road construction outcomes. The combination of stratified, random, and purposive sampling techniques ensured that the sample captured the complexity of stakeholder dynamics while remaining methodologically sound and manageable for detailed analysis. This sampling approach enhanced the validity, richness, and practical relevance of the collected data.

Table 1: Sample Size of the population

Category	Frequency	Sample Proportion	Sample Size
Technical auditors	12	30%	4
Contractors	50	30%	15
Community representatives	70	30%	21
Consultants	24	30%	7
Surveyors	18	30%	5
Road engineers	17	30%	5
Project managers	25	30%	8
Total	211	0.3	65

Source: Author (2025), obtained from official records and documentation maintained by the Homabay County Department of Infrastructure, Roads, and Public Works.

D. Data Collection Strategy

The study used a semi-structured questionnaire to collect both qualitative and quantitative data on stakeholder engagement and road project performance in Homabay County. The questionnaire included 5-point Likert-scale items and open-ended questions, covering four dimensions of stakeholder engagement: project identification, planning, implementation, and monitoring. It also gathered data on project performance indicators such as timeliness, budget adherence, construction quality, and stakeholder satisfaction. Respondents' demographic details, including professional roles and

(This work is licensed under a Creative Commons Attribution 4.0 International License.)

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14 Issue 08, August - 2025

experience, were collected to provide contextual insight. The questionnaires were administered through a mixed approach in which they physically delivered to respondents at county offices and project sites, and electronically shared via Google Forms for remote participants. Follow-up calls and reminder emails were used to enhance response rates and clarify any issues. This strategy ensured convenience for participants and increased the response rate.

E. Data Validity and Reliability

The study conducted a pilot test with 20 participants from Nyamira County to evaluate the reliability and validity of the research questionnaire. This pre-test aimed to assess the clarity, consistency, and relevance of the instrument, particularly its ability to capture data on stakeholder engagement in road project performance. Feedback revealed minor wording issues, especially in questions related to project monitoring, which were revised for clarity. No major structural changes were needed. Validity was strengthened through internal validation methods, involving reviews by three academicians in the discipline and three practicing construction managers. These experts ensured the questionnaire aligned with the research objectives and existing literature. Construct validity was established by aligning variable operationalization with previous studies.

Table 1: Reliability Statistics

Variable	Number of Items	Cronbach's alpha	Interpretation
Project identification	7	0.945	Reliable
Project Planning	7	0.893	Reliable
Project Implementation	7	0.925	Reliable
Project Monitoring	12	0.939	Reliable
Performance of Road Projects	5	0.856	Reliable

Source: Author (2025)

Reliability was tested using Cronbach's alpha, a statistical measure of internal consistency, with a benchmark of 0.7 or higher indicating acceptable reliability as shown in Table 2. The tool demonstrated sufficient reliability, confirming its suitability for the main study. The involvement of accessible academic experts helped save time and cost. Overall, the pilot confirmed that the instrument was both valid and reliable for collecting accurate and trustworthy data on stakeholder engagement and road construction project performance in Homabay County. Table 2 shows the reliability statistics for the final sample.

F. Data Analysis

SPSS version 27 was used for data entry and analysis, incorporating both descriptive and inferential statistics. Descriptive analysis produced frequency tables, means, and percentages, while inferential analysis applied multiple linear regression to examine the relationship between stakeholder engagement and road project performance in Homabay County. The regression model shown in Equation 1 used four predictors: stakeholder engagement, project planning, implementation, and monitoring. The analysis assessed dependencies among variables and determined their influence on project outcomes. Additionally, thematic content analysis was employed to interpret qualitative data, identify emerging themes, and address all research objectives. Results were presented using tables, standard deviations, means, frequencies, and charts.

IV. FINDINGS

A. Response Rate

Table 2: Characteristics of Respondents

		Frequency	Percent
Gender	Female	24	37%
	Male	41	63%
	Total	65	100%
Level of education	Certificate	10	15%
	Diploma	20	31%
	Bachelor's Degree	26	40%
	Master's Degree	6	9%
	PhD	3	5%
	Total	65	100%
Length of time you have served on projects at Homabay County	Less than 1 year	4	6%
	1-2 years	13	20%
	3-5 years	29	45%
	6 and above years	19	29%
	Total	65	100%

Source: Author (2025)

Table 2 shows the characteristics of respondents. One hundred questionnaires were sent out, out of which 65 complete questionnaires were returned, which translates to a response rate of 65%. The sample included diverse stakeholders in Homabay road projects, with community representatives (32.31%) and contractors (23.08%) forming the largest groups. Project managers, consultants, surveyors, engineers, and technical auditors were also represented. This balanced distribution ensured broad perspectives, enhancing the validity and relevance of the study's findings. The sample showed 63% male and 37% female respondents, reflecting a male-dominated sector with growing female inclusion. Most had bachelor's degrees (40%) or diplomas (31%), and 74% had over three years' experience. Roles were diverse, led by project managers (25%), supporting a rich, credible, and multidisciplinary stakeholder analysis as shown in Table 2.

B. Extent of Stakeholder Engagement in Project Identification

Table 3: Descriptive statistics for Project Identification

	Mean	SD
We engage the community in analyzing the scope of roadwork projects within the county	3.42	1.014
We invite community members to recommend roads in Homa Bay County that need grading or graveling.	3.40	1.087
Community members share valuable insights that contribute to the success of road projects.	3.42	1.088
We collaborate with the community to identify where new roads are needed	3.60	.965
We engage all stakeholders in documenting the details of the project scope	3.49	1.017
We involve the community in recognizing potential risks linked to the road project scope	3.57	1.118
Project stakeholders help define the objectives for all road construction projects	3.43	1.089
Composite Score for Project Identification	3.474	.91547

(This work is licensed under a Creative Commons Attribution 4.0 International License.)

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14 Issue 08, August - 2025

Source: Author (2025)

Table 3 shows the descriptive statistics for stakeholder engagement in project identification. Descriptive statistics indicate moderately high stakeholder involvement in project identification in Homa Bay County. The highest-rated item was community collaboration in identifying road needs (M = 3.60), followed by involving communities in identifying project risks (M = 3.57). Moderate stakeholder engagement were document in documenting project scope (M = 3.49), defining objectives of road construction projects (M = 3.43), analyzing the scope of projects (M = 3.42), sharing insights (M = 3.42), and recommending roads that need graveling or grading (M = 3.40). The overall mean for project identification was 3.47 (SD = 0.915), reflecting general agreement on meaningful involvement, though with some variation across responses. Open-ended feedback revealed the need for more structured and inclusive engagement forums, alignment of projects with broader development goals, and adoption of data-driven approaches. Respondents recommended using traffic or economic data to prioritize projects objectively and reduce political bias. Inclusivity was also highlighted, with calls for greater involvement of women, youth, and marginalized groups. Technology-based tools like digital platforms and mobile surveys were suggested to improve outreach and ensure broader community participation.

C. Extent of Stakeholder Engagement in Project Planning

Table 4: Descriptive Statistics for Project Planning

	Mean	SD
We assess the capabilities of our stakeholders and how these abilities can support the success of county road projects	3.40	1.072
We involve community members with relevant planning expertise to assist in road construction efforts within the county	3.45	1.031
We engage technical experts to train our project teams to ensure the efficient delivery of road projects.	3.43	.984
Stakeholders participate in selecting senior management responsible for leading project implementation.	3.45	.848
Stakeholders contribute to the preparation and structuring of the project budget.	3.43	.935
Our county provides targeted training for staff in areas where skills gaps are identified.	3.49	1.033
Stakeholders take part in creating a formal risk mitigation plan for projects.	3.49	1.077
Composite Score for Project Planning	3.4484	.78119

Source: Author (2025)

Descriptive statistics presented in Table 4 indicate a moderate level of stakeholder involvement in project planning for road projects in Homa Bay County. The highest-rated items included staff training (M = 3.49) and stakeholder participation in risk mitigation planning (M = 3.49), suggesting emphasis on capacity-building and proactive risk management. Other items, such as community involvement in planning, skill assessment, consultant hiring, and budget structuring, also received moderately positive scores (M = 3.40–3.45). The overall composite mean was 3.45 (SD = 0.781), reflecting consistent but average engagement across planning dimensions. Open-ended responses highlighted key priorities for enhancing planning effectiveness: early and realistic budgeting, early engagement of technical experts, and stronger community participation. Risk assessment and contingency planning were seen as essential, alongside improved staff training and clear project timelines. These insights suggest that while stakeholders are involved, planning processes would benefit from more formal, inclusive, and technically sound mechanisms to improve project execution and outcomes in the county.

D. Extent of Stakeholder Engagement in Project Implementation

Table 5: Descriptive Statistics for Project Implementation

	Mean	Std. Deviation
We engage our community in the actual implementation of road construction projects within the county	3.54	1.105
Our community contributes some of the materials required for road construction within the county.	3.45	1.076
We assign certain road construction tasks to members of our local community.	3.45	1.046
We consult community members to provide their views on corrective actions for road projects within the county.	3.52	1.002
Community members offer timely feedback on areas that require improvement during the implementation of road projects.	3.51	1.174
We involve stakeholders in the procurement processes related to road construction projects within the county.	3.43	1.000
We include stakeholders in preparing progress reports on the implementation of road construction projects within the county.	3.37	1.024
Composite Score for Project Implementation	3.465	.88218

Source: Author (2025)

Descriptive statistics shown in Table 5indicate a moderate to relatively high level of stakeholder involvement in the implementation of road projects in Homa Bay County, with a composite mean score of 3.47 (SD = 0.88). Highest engagement was reported in community involvement during execution (M = 3.54), corrective action input (M = 3.52), and feedback on rectification needs (M = 3.51), highlighting strong community feedback mechanisms. Moderate involvement was noted in local material supply and construction tasks (M = 3.45), while lower engagement appeared in procurement (M = 3.43) and progress reporting (M = 3.37), suggesting room for improvement in technical areas. Open-ended responses reinforced the need for early and sustained stakeholder involvement, improved communication, and capacity-building in project management and quality control. Respondents also called for streamlined procurement processes and stronger monitoring systems to enhance project delivery. These findings point to the value of participatory and transparent practices in optimizing project execution and success.

E. Extent of Stakeholder Engagement in Project Monitoring

Table 6: Descriptive Statistics for Project Monitoring

	Mean	Std. Deviation
We assign some community members to supervise roadwork programs within the county.	3.45	.830
We have appointed certain community members to assess the quality of road construction projects in the county.	3.48	.886
We engage the community in defining performance benchmarks for our county road projects.	3.49	1.048

(This work is licensed under a Creative Commons Attribution 4.0 International License.)

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14 Issue 08, August - 2025

We have established quality standards for all road construction activities within the county	3.65	1.217
Our stakeholders closely track the usage of materials in road construction projects.	3.68	1.239
We involve the community in gathering regular updates on the progress of road construction projects in the county.	3.67	.909
We engage our stakeholders in analyzing the data collected from road construction activities within the county.	3.55	.969
We involve our stakeholders in preparing detailed work schedules for road projects.	3.57	1.000
We act on the regular updates provided by stakeholders regarding the progress of construction projects.	3.46	.969
We consult stakeholders in evaluating whether the constructed roads are delivering the intended benefits within the county.	3.45	1.000
We engage stakeholders to promote transparency and build public trust in our road construction projects.	3.62	1.071
We involve stakeholders in the continuous assessment of project timelines and the necessary inputs during the design phase.	3.63	.782
Composite Score for Project Monitoring	3.5558	.77652

Source: Author (2025)

Descriptive statistics presented in Table 6 indicate moderate to high stakeholder involvement in project monitoring for road construction in Homa Bay County, with a composite mean score of 3.56 (SD = 0.777). Community engagement in supervising roadworks (M = 3.45), evaluating construction quality (M = 3.48), and setting performance indicators (M = 3.49) reflects moderate participation. Stronger engagement was seen in monitoring material usage (M = 3.68), collecting progress data (M = 3.67), and establishing quality standards (M = 3.65). Participation in interpreting data (M = 3.55), work scheduling (M = 3.57), and assessing impact (M = 3.45) also showed consistent involvement. Stakeholder contributions improved transparency (M = 3.62) and timeline adherence (M = 3.63). Open-ended responses emphasized real-time site inspections, training community monitors, using digital tools, and fostering regular stakeholder meetings. Overall, findings highlight effective but variable engagement in monitoring, with opportunities to enhance consistency, responsiveness, and accountability through more structured and inclusive practices.

F. Performance of Road Projects

Table 7: Descriptive Statistics for Performance of Road projects

	Mean	Std. Deviation
Road projects in Homabay County have been completed within set timelines.	3.63	1.024
Homabay County's Road projects have been finalized within preset budgets.	3.51	1.033
Homabay County's Road projects have been finalized to the desired standards.	3.51	1.048
Homabay County's Road projects have been completed according to specifications.	3.63	1.180
Homabay County's Road projects have been finalized to customers' satisfaction.	3.38	.963
Composite Score for Performance of Road projects	3.5323	.83836

Source: Author (2025)

Descriptive statistics shown on Table 7 on project performance in Homa Bay County reveal a generally positive but moderate perception of road construction outcomes. Timeliness and adherence to specifications both received the highest mean ratings of 3.63, suggesting that most projects met deadlines and technical requirements. Budget adherence and quality of completed works both scored moderately at 3.51, indicating room for improvement in financial discipline and construction standards. Customer satisfaction had the lowest mean at 3.38, reflecting a slight disconnect between project execution and community expectations. The overall composite performance score was 3.53 (SD = 0.838), signaling a moderate-to-high evaluation of road project success. These results imply that while road projects are mostly delivered on time and to specifications, gaps remain in quality consistency and user satisfaction. The findings highlight the need for enhanced quality assurance, tighter budget controls, and increased engagement with end-users to align project outcomes with stakeholder expectations and improve infrastructure service delivery.

G. Inferential Analysis

The inferential analysis section of the study employed multiple linear regression to examine the relationship between stakeholder engagement in project identification, planning, implementation, and monitoring, and the performance of road construction projects in Homa Bay County. This method allowed for the evaluation of how each phase of engagement independently and collectively influenced project outcomes, including quality, timeliness, cost control, and stakeholder satisfaction.

Table 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.942[a]	.888	.880	.29041
b. Predictors: (Constant), Project Monitoring, Project Planning, Project Implementation, Project Identification				

Source: Author (2025)

The model summary in Table 8 indicated a very strong relationship between the independent variables and project performance, with a multiple correlation coefficient (R) of 0.942 and an R-squared value of 0.888. This means that approximately 88.8% of the variation in project performance could be explained by stakeholder involvement across the four phases.

Table 9: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	39.922	4	9.980	118.337	.000[b]
	Residual	5.060	60	.084		
	Total	44.982	64			
a. Dependent Variable: Performance of Road projects						
b. Predictors: (Constant), Project Monitoring, Project Planning, Project Implementation, Project Identification						

Source: Author (2025)

(This work is licensed under a Creative Commons Attribution 4.0 International License.)

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14 Issue 08, August - 2025

The ANOVA test in Table 9 validated the model's statistical significance, with an F-value of 118.337 and a p-value of .000, well below the 0.05 threshold. This confirmed that stakeholder engagement across the four dimensions significantly predicts road project performance.

Table 10: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	B0	-.046	.179		-.258	.797
	X1	.132	.099	.144	1.323	.002
	X2	.134	.085	.125	1.585	.001
	X3	.289	.077	.304	3.775	.000
	X4	.466	.155	.432	3.015	.004
a. Dependent Variable: Composite Score for Performance of Road projects						

Source: Author (2025)

Analysis of the regression coefficients in Table 10 revealed that all four stakeholder engagement dimensions had a positive and statistically significant impact on performance. Monitoring emerged as the strongest predictor (B = 0.466, p = 0.004), followed by implementation (B = 0.289, p = 0.000), planning (B = 0.134, p = 0.001), and identification (B = 0.132, p = 0.002). The standardized beta coefficients supported this ranking, with monitoring (β = 0.432) and implementation (β = 0.304) being the most influential predictors. These results suggest that while all engagement stages matter, monitoring and implementation have the greatest effect on improving project success.

The final regression equation derived was:
$Y = 0.132X_1 + 0.134X_2 + 0.289X_3 + 0.466X_4$ [Equation 2]
where Y is project performance and X_1 to X_4 represent stakeholder engagement in identification, planning, implementation, and monitoring, respectively.

In summary, the regression analysis affirmed that comprehensive stakeholder engagement significantly boosts the performance of road projects in Homa Bay County. Notably, involvement during the monitoring and implementation phases contributes most to project success by enhancing oversight, quality control, and responsiveness. These findings underscore the need for local governments and contractors to strengthen stakeholder mechanisms—particularly in later project stages—to ensure more efficient, timely, and satisfactory infrastructure delivery.

H. Recommendations to Improve The Performance of Road Construction Projects

The study gathered open-ended responses to identify strategies for improving road project performance in Homa Bay County. A key recommendation was strengthening community involvement across all project phases, including regular forums and feedback sessions to foster ownership and alignment with local needs. Capacity building emerged as another critical theme, with calls for training county officials, contractors, and community members to enhance their planning, budgeting, and oversight skills. Respondents also emphasized the importance of establishing clear monitoring and evaluation frameworks, suggesting independent oversight committees and digital reporting tools to enhance transparency and accountability. Concerns about procurement practices led to recommendations for open, competitive, and transparent bidding processes. Funding delays were highlighted as a major issue, with proposals to ensure timely disbursement, realistic budgeting, and stricter financial accountability. Finally, embracing modern construction technologies and materials was advised to improve road durability, especially in rural, weather-prone areas. These recommendations support the study's findings on the value of stakeholder engagement and effective project management.

V. CONCLUSION

The findings confirm that all four engagement phases significantly and positively influence project outcomes, but their impacts vary in magnitude. Stakeholder involvement at the project identification stage was found to have a statistically significant effect on performance, although it had the smallest coefficient among the four phases. This supports Stakeholder Theory (Freeman, 1984), which advocates for inclusive decision-making, and the Resource-Based View (RBV), which recognizes local knowledge as a valuable resource (Fallah et al., 2023). Involving stakeholders in defining project needs and risks contributes to better alignment with community priorities and more strategic resource use. However, the effect is more foundational in that it is important for laying a solid groundwork but requiring follow-through in later stages to realize full impact. Stakeholder engagement during planning also positively affected project performance. The planning phase involves stakeholder participation in budgeting, risk mitigation, and schedule development. Although its influence was statistically significant, it ranked third among the four dimensions. According to RBV and Stakeholder Theory, the integration of diverse technical, managerial, and community competencies adds value by producing realistic, robust plans. However, planning alone is insufficient without execution; thus, its impact tends to be indirect by creating the conditions necessary for successful implementation and monitoring. This reflects findings by Vuorinen et al. (2024) and Bu et al. (2023), who observed reduced delays and cost overruns when inclusive planning was prioritized.

The study found that stakeholder participation during implementation had a substantial impact on performance, ranking second overall. Involving stakeholders in execution, through community labor, material sourcing, and feedback on progress, boosts transparency, enhances accountability, and increases responsiveness. This is supported by Principal–Agent Theory, which warns of moral hazards when agents act without oversight. Local engagement during implementation helps to reduce such risks and align activities with planned objectives. These findings mirror global evidence (Bu et al., 2023; Vuorinen et al., 2024), suggesting that participatory execution improves quality, timeliness, and cost-effectiveness.

Stakeholder involvement in project monitoring emerged as the strongest and most statistically significant predictor of road project performance in Homa Bay County. Monitoring enables real-time issue detection, corrective actions, and enforcement of accountability mechanisms. Stakeholders, especially community members and technical experts, offer on-the-ground insights that enhance tracking and evaluation. This aligns with Stakeholder Theory and Principal–Agent Theory, reinforcing that continuous, inclusive oversight reduces implementation

(This work is licensed under a Creative Commons Attribution 4.0 International License.)

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14 Issue 08, August - 2025

gaps and enhances trust and transparency. The findings echo international literature showing that frequent and participatory monitoring improves infrastructure outcomes even in resource-constrained contexts.

Drawing from open-ended responses and supported by empirical and theoretical literature, several recommendations emerged. First, strengthening community involvement across all project phases is crucial. Structured forums, consultative meetings, and digital platforms can improve transparency and stakeholder satisfaction. Second, capacity building for county officials, contractors, and community representatives is essential. Training in budgeting, scheduling, and oversight would raise competency levels and reduce inefficiencies. Third, establishing transparent monitoring and evaluation frameworks, including independent oversight committees and digital tracking tools, can enhance performance. Fourth, procurement reforms were recommended to reduce favoritism and corruption by enforcing competitive and transparent bidding processes. Fifth, improving funding mechanisms, particularly timely disbursement and realistic budgeting, was highlighted as critical to preventing delays. Finally, adopting modern construction technologies was suggested to improve quality and durability, especially in rural areas with challenging environmental conditions.

This study recommends several areas for further research to deepen understanding of stakeholder engagement in infrastructure projects. First, expanding the study to include multiple counties or a national scope with larger, stratified samples would enhance the generalizability of findings. Second, future research should adopt longitudinal or mixed-method designs to track engagement trends over time and incorporate qualitative methods for richer insights. Third, incorporating objective performance data, such as timelines, budgets, and quality audits, can strengthen the validation of stakeholder perceptions. Additionally, exploring mediating or moderating variables like governance quality, transparency, contractor competence, and technological tools would offer a more comprehensive view of factors influencing project success. Finally, experimental or quasi-experimental designs could evaluate the effectiveness of specific engagement interventions (e.g., digital feedback tools or community oversight committees). Comparative case studies of successful and unsuccessful projects could further illuminate best practices and contextual factors affecting stakeholder participation. These directions would enhance policy and practice in infrastructure management.

REFERENCES

[1] Adjei-Bamfo, P., Domfeh ,Kwame Ameyaw, Bawole ,Justice Nyigmah, Ahenkan ,Albert, Maloreh-Nyamekye ,Theophilus, Adjei-Bamfo ,Stephanie, & and Darkwah, S. A. (2020). An e-government framework for assessing readiness for public sector e-procurement in a lower-middle income country. Information Technology for Development, 26(4), 742–761. https://doi.org/10.1080/02681102.2020.1769542

[2] Agbetiloye, A., (2024), Top 10 African countries with the longest road network, retrieved from https://africa.businessinsider.com/local/lifestyle/top-10-african-countries-with-the- longest-road-networks/lcdcsx8

[3] Akhtar, S., Shah, S. W. A., Rafiq, M., & Khan, A. (2016). Research design and statistical methods. Pakistan Journal of Medical Sciences, 32(1), 151 -203. http://dx.doi.org/10.2139/ssrn.2862445

[4] Ametepey, S.O., Aigbavboa, C.O. & Thwala, W.D. (2023), "Stakeholder Management in Sustainable Road Infrastructure Development", Sustainable Road Infrastructure Project Implementation in Developing Countries: An Integrated Model, Emerald Publishing Limited, Leeds, pp. 113-118.

[5] Arora, A., (2024), Longest road network in the world, list of top-10, retrieved from https://currentaffairs.adda247.com/longest-road-network-in-the- world/#:~:text=the%20World%202024-,United%20States%20of%20America%2C%20boasting%20over%206.5%20million%20kilometers%20of,%2C%20China%2C%20Brazil%20and%20Russia.

[6] Beal Partyka, R. (2022), "Supply chain management: an integrative review from the agency theory perspective", Journal of Management, Vol. 29 No. 2, pp. 175-198

[7] Boubedra, S., Tolba, C., Manzoni, P., Beddiar, D. & Zennir, Y. (2023), "Urban traffic flow management on large scale using an improved ACO for a road transportation system", International Journal of Intelligent Computing and Cybernetics, Vol. 16 No. 4, pp. 766-799

[8] Bu, Z., Liu, J. & Liu, J. (2023), "Impact of emotions on the behavioral strategies of PPP project stakeholders: an RDEU evolutionary game analysis", Engineering, Construction and Architectural Management,

[9] Cheruiyot, M. P. (2018). Effect of public financial management practices on performance of County Governments in Kenya [Unpublished Master's Project]. Jomo Kenyatta University of Agriculture and Technology.

[10] County Government of Homabay (2023), Department of roads, public works, transport and infrastructure, retrieved from file:///C:/Users/user/Desktop/Homa%20Bay%20County%20Roads%20Strategic%20Plan%202024.pdf

[11] Dahalan, N.H., Rahman, R.A., Ahmad, S.W. and Che Ibrahim, C.K.I. (2023), "Public monitoring of environmental management plan implementation in road construction projects: key performance indicators", Journal of Engineering, Design and Technology, 56-78

[12] Di Maddaloni, F. & Derakhshan, R. (2024), "Stakeholders' perception of organization: an attribution and fairness perspective", International Journal of Managing Projects in Business, Vol. 17 No. 1, pp. 27-49

[13] EU (2023), Road infrastructure, retrieved from https://ec.europa.eu/regional_policy/sources/work/road-2022/road-infrastructure- 2022.pdf

[14] Fallah, M.A., Agha Mohammad Ali Kermani, M., Moini, A. & Mashayekh, J. (2023), "Identification and evaluation of collaborative relationships of internal project stakeholders: a social network analysis approach", Kybernetes, 45-67

[15] Fatayer, F.A., Issa, A.Z., Abunemeh, M. & Dwikat, M.A.M. (2022), "Investigating the causes preventing the fulfillment of construction contract requirements", Engineering, Construction and Architectural Management, Vol. 29 No. 7, pp. 2577-2598

[16] Fayezi, S., O'Loughlin, A. & Zutshi, A. (2012), "Agency theory and supply chain management: a structured literature review", Supply Chain Management, Vol. 17 No. 5, pp. 556-570

[17] Freeman, R.E. (1984) Strategic Management: A Stakeholder Approach. Pitman, Boston.

[18] Freiling, J., Gersch, M., Goeke, C. & Sanchez, R. (2008), "Fundamental issues in a competence- based theory of the firm", Sanchez, R. (Ed.) A Focused Issue on Fundamental Issues in Competence Theory Development (Research in Competence-Based Management, Vol. 4), Emerald Group Publishing Limited, Leeds, pp. 79-106.

[19] Hilton, C. E. (2017) The importance of pretesting questionnaires: a field research example of cognitive pretesting the exercise referral quality of life scale (ERQLS), International Journal of Social Research Methodology, 20(1), 21-34. https://doi.org/10.1080/13645579.2015.1091640

[20] Homa Bay County. (2024). County Budget Review and Outlook Paper. https://www.homabay.go.ke/download/homa-bay-county-budget-review-and-outlook-paper-cbrop-2024

[21] Hunt, S.D. & Morgan, R.M. (2015), "The Resource-Advantage Theory of Competition", Malhotra, N.K. (Ed.) Review of Marketing Research (Review of Marketing Research, Vol. 1), Emerald Group Publishing Limited, Leeds, pp. 153-206

[22] Irfan, M., Malik, M.S.A. & Kaka Khel, S.S.U.H. (2020), "Effect of factors of organizational structure influencing nonphysical waste in road projects of developing countries", Engineering, Construction and Architectural Management, Vol. 27 No. 10, pp. 3135-3153

[23] Johnston, L. & Onjala, J. (2022), "Why an early Belt and Road Initiative East Africa hub? Economic, demographic and security factors", Journal of Chinese Economic and Foreign Trade Studies, Vol. 15 No. 2, pp. 125-149.

(This work is licensed under a Creative Commons Attribution 4.0 International License.)

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 14 Issue 08, August - 2025

[24] Kapatsa, C., Kavishe, N., Zulu, S.L. & Maro, G. (2024), "Sustainability assessment indicators of road infrastructure projects: a systematic literature review", Journal of Engineering, Design and Technology, 67-89

[25] Kariithi, W. K., & Mbugua, D. M. (2018). Factors influencing implementation of county development funded projects in Kenya: A case of Kiambu County. International Journal of Social Sciences and Information Technology, 4(5), 129-141. http://dx.doi.org/10.21275/SR20904123711

[26] Kathungu, R. (2016). The Effect of Budget Utilization on the Performance of County Governments: A Case Study of Eastern Kenya Region [Doctoral thesis, University of Nairobi]. Nairobi. http://41.204.161.209/handle/11295/99837

[27] KeNHA (2024), Annual Report, retrieved from https://kenha.co.ke/wp-content/uploads/2024/07/KeNHA-Annual-Report-2023-30052024.pdf

[28] KNBS (2024), Economic Survey 2024, retrieved from https://www.knbs.or.ke/wp-content/uploads/2024/05/2024-Economic-Survey-Popular-Version.pdf

[29] Kura (2024), How roads are categorized, retrieved from https://www.kerra.go.ke/index.php/kerra-regions/14-faqs/42-3-how-are-roads-categorized.

[30] Macharia, V. 2016) Factors influencing completion of road construction projects in Embakasi, Nairobi County Kenya.

[31] Malii, J., (2024), Road classification system in Kenya, retrieved from https://biznakenya.com/roads-classification-in-kenya/

[32] Mousakhani, E., Yavarkhani, M. & Sohrabi, S. (2017), "Selecting an appropriate alternative for a major infrastructure project with regard to value engineering approach", Journal of Engineering, Design and Technology, Vol. 15 No. 03, pp. 395-416

[33] Mugenda, O. M. & Mugenda, AG (2010). Research Methods: Quantitative and Qualitative Approaches. African Centre for Technology Studies.

[34] Mushi, G. O., & Nsimbila, P. M. (2022). Determinants of electronic procurement system adoption in Tanzania. African Journal of Applied Research, 8(1), Article 1.

[35] Mwelu, N., Davis, P.R., Ke, Y. & Watundu, S. (2020), "Compliance mediating role within road construction regulatory framework", Journal of Public Procurement, Vol. 20 No. 3, pp. 209-233.

[36] Nani, G., Mensah, I. & Adjei-Kumi, T. (2017), "Duration estimation model for bridge construction projects in Ghana", Journal of Engineering, Design and Technology, Vol. 15 No. 6, pp. 754-777

[37] Ogbu, C.P. & Adindu, C.C. (2020), "Direct risk factors and cost performance of road projects in developing countries: Contractors' perspective", Journal of Engineering, Design and Technology, Vol. 18 No. 2, pp. 326-342

[38] Orina, S. M., Obwogi, J., & Nasieku, T. M. (2019). Factors Affecting Budgetary Allocation in the County Governments in Kenya. Strategic Journal of Business & Change Management, 6(2), 11-30. http://dx.doi.org/10.4018/IJCFA.2018070103

[39] Panya, K.O., & Were, S. (2018). Determinants of public procurement regulatory compliance by county governments in Kenya: a case of Homabay county government. Strategic Journal of Business & Change Management, 34-45

[40] Rohman, M.A., Doloi, H. & Heywood, C.A. (2017), "Success criteria of toll road projects from a community societal perspective", Built Environment Project and Asset Management, Vol. 7 No. 1, pp. 32-44.

[41] Solomon, O., (2023), County Government of Homabay; Department of finance and economic planning, retrieved from file:///C:/Users/user/Downloads/CBROP%202023%20FINAL-Homa%20Bay%20County%20(1).pdf

[42] Sourav, M.M.I., Russedul Islam, M., Mohibur Rahman, S. & Istiak Jahan, M. (2024), "Heterogeneity in stakeholder's perceptions on delays in infrastructure projects: scenario of Bangladesh", Engineering, Construction and Architectural Management, 56-78

[43] Villalba-Romero, F. & Liyanage, C. (2016), "Implications of the use of different payment models: The context of PPP Road Projects in the UK", International Journal of Managing Projects in Business, Vol. 9 No. 1, pp. 11-32

[44] Vuorinen, L., Lehtinen, J. & Ståhle, M. (2024), "Let the people decide! Citizen engagement and enfranchisement in the front end of urban development projects", International Journal of Managing Projects in Business, Vol. 17 No. 8, pp. 92-118.

[45] Wernerfert, B., (1984), A resource-based view of the firm, Strategic Management Journal, 171- 180.

Qs. Nyakundi Reuben Bikeri
SPS. Quantity Surveyor
Student- Masters of Construction Project Management TU-K, Ongoing
Registered & Practicing Quantity Surveyor- BORAQS
Council Member (2024-2026) term – IQSK
Consulting Quantity Surveyor.

Prof. Qs. Dr. Sylvester Munguti Masu
Department. Construction and Property Studies
Faculty- Engineering and Built Environment
The Technical University of Kenya

Dr. Absalom Habil Vugigi Lamka
PhD. Construction Project Management - TUK
B phil. Construction Project Management- UON
HND. Building & Civil Engineering – Mombasa National Polytechnic Chairman. Department of Construction & Property Studies-TU-K
Position Senior Lecturer, Department of Construction & Property Studies (Dcps)-TU-K External Examiner-Tshwane University of Technology, University of Eldoret & JKUAT Consulting Construction Project Manager

(This work is licensed under a Creative Commons Attribution 4.0 International License.)