

Examining the Effectiveness of Stakeholder Engagement Processes in Project Management: A Case Study of the Water Supply, Sanitation, and Drainage Project in Lusaka

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Abstract

In contemporary project management, effective stakeholder engagement is a pivotal determinant of success for large-scale infrastructure initiatives. This study examines the effectiveness of stakeholder engagement processes targeting end-users within the Lusaka Water Supply, Sanitation, and Drainage (LWSSD) Project in Zambia's Mtendere and Kamanga Townships. Given that Zambia loses approximately 1.3% of its Gross Domestic Product annually due to poor sanitation and waterborne epidemics, robust urban interventions are critical. However, many fail when transitioning from tokenistic participation to substantive community ownership. Grounded in Freeman's Stakeholder Theory (1984), this research assesses the methods used to involve end-users, their level of participation, and the practical challenges encountered. Utilizing a mixed-methods design, the study integrated quantitative survey data (N = 200) with qualitative insights from key informant interviews. Quantitative findings reveal a statistically significant structural variance between institutional design and community integration. 68% of surveyed end-users perceived their role as passive recipients of information, while only 12% reported active consultation during the conceptual and planning phases. Furthermore, 64% classified project documents as structurally inaccessible due to linguistic and technical barriers, on the other hand, 78% reported that institutional feedback loops failed to resolve localized grievances. Within the established conceptual model, this deficit in engagement quality directly impairs user satisfaction and undermines long-term project sustainability and success. The study concludes that the stakeholder engagement process was not effective and that transitioning from symbolic participation to genuine transformative engagement is essential for urban infrastructure success and recommends prioritizing early-stage, two-way dialogue and eliminating technical barriers in future projects.

Keywords: Stakeholders, Stakeholder Engagement, End users, Project Management, Project Success, Community, Participation

1. Introduction

In recent years, stakeholder engagement has become increasingly central to the execution and success of infrastructure and development projects, especially those involving critical services like water supply, sanitation, and drainage systems. Within project management, effective stakeholder processes are essential for fostering transparency, managing expectations, and aligning project goals with the needs of communities (Nguyen et al., 2018; Project Management Institute, 2017). Inclusive engagement improves project outcomes and builds trust and ownership among end-users (Mayer et al., 2021). Historically, infrastructure development relied on technocratic, top-down execution models that prioritized engineering specifications and financial budgets (engineering metrics) while treating local communities (end users) as passive beneficiaries (Cleaver, 2001). Modern project management paradigms, however, increasingly recognize that public infrastructure projects are inherently socio-technical systems (Freeman, 1984). Consequently, effective stakeholder engagement has transitioned from a peripheral public relations exercise into a core project management competency (Project Management Institute, 2017; Arnstein, 1969).

Globally, water access remains a monumental challenge. According to the WHO and UNICEF Joint Monitoring Programme (2022), 2.2 billion people lack safely managed drinking water, with 418 million residing in Africa. Inadequate Water, Sanitation, and Hygiene (WASH) account for 1.4 million premature deaths annually, predominantly in low- and middle-income countries. In Zambia, only 19% of the population has access to safely managed drinking water, 39% to basic sanitation, and 20% still practice open defecation. According to the World Bank (2021), 70% of Lusaka's population resides in peri-urban areas where infrastructure is extremely limited, relying on poorly constructed shallow wells and pit latrines, while poor stormwater management leads to frequent seasonal flooding.

The Water Supply and Sanitation (WSS) sector plays a critical role in Zambia's economy. Conservative estimates indicate that Zambia loses US\$194 million every year due to poor sanitation equivalent to 1.3% of the country's GDP driven by diarrheal disease mortality, lost productivity, healthcare costs, and access time for open defecation (World Bank, 2012). Public health consequences include recurring cholera outbreaks, such as the October 2017 epidemic that caused 5,900 cases and 114 deaths. Furthermore, poor WASH conditions contribute significantly to childhood stunting (40%) and high school dropout rates, particularly among girls (World Bank, 2017).

To address these challenges, the Lusaka Water Supply, Sanitation, and Drainage (LWSSD) Project, supported by the Millennium Challenge Corporation (MCC) and the Government of Zambia, was established to improve access to clean water, adequate sanitation and drainage in underserved communities such as Mtendere and Kamanga townships (MCC, 2018). Given the size and complexity of the LWSSD project, meaningful participation of end users was vital for the success and sustainability of the initiative. With a focus on end users, this study was therefore undertaken to examine the effectiveness of the stakeholder engagement process applied in LWSSD project to inform future urban infrastructure development projects in Zambia and beyond.

2. Literature Review

Despite the recognized importance of stakeholder involvement, many large-scale urban development projects across Sub-Saharan Africa face severe hurdles, including inadequate communication channels, limited community capacity, and absent feedback mechanisms (Nabatchi & Amsler, 2014; Chigara et al., 2020). Consequently, community voices are marginalized, reducing engagement to symbolic tokenism. This study draws primarily on **Freeman's Stakeholder Theory (1984)**, which asserts that an organization or project's success depends on its ability to manage relationships with key stakeholders who can affect or are affected by its objectives. Modern project management expands this view, emphasizing that stakeholder engagement is not merely a bureaucratic requirement but a dynamic, continuous process spanning the entire project lifecycle (PMI, 2017).

Scholars categorize participation along a spectrum ranging from passive manipulation to citizen control (Arnstein, 1969; International Association for Public Participation (IAP2), 2018). In infrastructure development, effective engagement requires moving beyond information dissemination toward collaboration and empowerment. However, literature highlights persistent challenges in peri-urban settings, including literacy barriers, asymmetrical power dynamics between technocrats and local communities, and the absence of responsive grievance redress mechanisms (Mok et al., 2015). According to (UN-Habitat, 2016), a significant portion of empirical research derives from large-scale rural development projects or stable municipal settings, leaving a critical knowledge gap regarding the specific operational dynamics of high-density, informal, and rapidly expanding peri-urban settlements in Sub-Saharan Africa. While prior studies confirm that active stakeholder engagement enhances project sustainability, empirical evaluations of how engagement quality mediates project success in Zambia's water projects remain scarce.

Approaches used to engage end users

Examining the methods and approaches utilized to involve end users in urban water and sanitation initiatives reveals a widespread reliance on top-down communication rather than genuine collaborative dialogue. Freeman's Stakeholder Theory (1984), underscores the necessity of aligning organizational actions with the interests of all affected groups emphasising that effective stakeholder engagement requires structured processes that go beyond mere tokenistic information-sharing. However, large-scale infrastructure projects in urban environments frequently struggle with inadequate communication channels and a lack of substantive feedback mechanisms (Nabatchi & Amsler, 2014; Chigara et al., 2020). Consequently, engagement processes often default to asymmetrical monologues where end-users are treated as passive recipients of project updates rather than active participants in institutional design, ultimately undermining public trust and project sustainability (Mok et al., 2015; Mayer et al., 2021).

Levels of End-User Participation

A central theme in the literature is the stratification of participation levels among project end-users, particularly in low-income urban settlements (Chigara et al., 2020). Global and regional studies consistently reveal that community participation in municipal water and sanitation projects often stagnates on the lower rungs of the participation ladder (Whittington et al., 2009). According to Mok, Shen, & Yang (2015), the vast majority of end-users experience participation primarily as recipients of top-down informational broadcasts. Project implementers typically utilize public meetings or notice boards merely

to announce pre-determined engineering designs, denying communities any genuine opportunity to shape project parameters. On the other hand, while some projects implement consultative forums, feedback mechanisms are frequently designed as extractive data-gathering exercises rather than interactive dialogues. Community members voice grievances or preferences, but these inputs rarely translate into structural modifications in project execution (Nabatchi & Amsler, 2014).

Studies show that there are many factors that influence effective participation in high density areas. In high-density settlements like Mtendere and Kamanga, systemic vulnerabilities such as informal housing tenures, high illiteracy rates, and extreme poverty further depress participation levels (World Bank, 2021). End-users are rarely integrated into operational maintenance committees or local monitoring structures, ensuring that control remains centralized within external donor agencies, government, and the project team, while effectively excluding project end-users (Cleaver, 2001; Mansuri & Rao, 2013).

Challenges Faced in Engaging Project End-Users

Despite the extensive theoretical consensus supporting stakeholder participation, a critical evaluation of existing literature reveals notable shortcomings or challenges (Cooke & Kothari, 2001). Engaging marginalized urban populations in complex infrastructure projects introduces multifaceted operational, social, and institutional barriers (Oino, Mugambi, & Simba, 2015). The literature categorizes these challenges into distinct dimensions that severely obstruct meaningful dialogue. These are:

Communication and Linguistic Barriers: Project documentation, environmental impact assessments, and engineering schematics are routinely published using highly technical jargon and restricted to official languages. This effectively disenfranchises a large proportion of local residents who require accessible vernacular translations (Abneey et al., 2021).

Asymmetrical Power Dynamics: Severe power imbalances routinely characterize interactions between resource-constrained community members and powerful institutional stakeholders, including municipal authorities, engineering contractors, and international donors (Flyvbjerg, 2014). Residents frequently report feeling intimidated, ignored, or dismissed when raising localized concerns (Gaventa, 2006).

Inadequate institutional feedback loops: The absence of responsive grievance-redress mechanisms remains a critical vulnerability. When end-users submit complaints regarding construction disruptions, misplaced water kiosks, or uncollected drainage waste, project management teams rarely provide transparent or prompt resolutions, leading to widespread community apathy and resistance (Mara, 2017).

Gender disparities: Because women and girls bear the disproportionate physical and economic burden of domestic water collection, hygiene management, and sanitation labour in peri-urban households, engagement frameworks that fail to proactively target female cohorts systematically reinforce gender inequities (Sorenson, Morssink, & Amarasinghe, 2011).

Effectiveness of Engagement Processes on Project Outcomes

Empirical literature robustly demonstrates a direct causal relationship between the quality of stakeholder engagement and the long-term sustainability, operational efficiency, and social return on investment of infrastructure initiatives (Project Pathways, 2019; Nguyen et al., 2018). Literature identifies several factors that determine or influence the effectiveness of an engagement process. These include:

Trust: Effective engagement acts as a vital mediating variable that builds institutional trust between municipal agencies and end-users (Putnam, 2000). Where communities are genuinely consulted, willingness-to-pay metrics, cooperative infrastructure protection, and compliance with public health directives increase significantly (Whittington et al., 2009). (Briscoe & De Ferranti, 1988) point out that projects that marginalize end-users frequently experience high rates of post-implementation vandalism, unauthorized tampering with water kiosks, and premature infrastructure decay. Conversely, inclusive engagement fosters local stewardship, transforming passive consumers into active co-custodians of community assets (Ostrom, 1990).

User satisfaction and economic impact: Given that inadequate sanitation and water access cost developing nations substantial percentages of their Gross Domestic Product through preventable waterborne epidemics and lost labour productivity, effective community engagement directly enhances public health outcomes and consumer satisfaction by tailoring technical solutions to localized realities (World Bank, 2012; Hutton, 2013).

3. Research Methodology

The study adopted a mixed-methods design, integrating quantitative survey data with qualitative insights. The target population comprised residents of Mtendere and Kamanga townships with a sample size of $N = 100$. Structured questionnaires were used to collect data from respondents. Quantitative data were analyzed using descriptive statistics, bivariate analyses and Chi-square tests of independence. Qualitative data underwent thematic analysis to triangulate and enrich numerical findings.

Limitations of the study- This study used snowball as the sampling technique. Snowballing” of participants contains many people who have interrelationships, they are likely to share similar interests and values. This study was a cross cutting one that it was only able to provide a snap shot of the situation for a particular point only thereby making generalisation difficult. On the other hand, the study only considered the views of the end users only.

Ethical considerations-The ethical guidelines were in place during the study, which included keeping the research data confidential throughout the study while the data was collected based on voluntary data sources, the aim and methods explained to respondents, and last but not least the confidentiality and anonymity of individual respondents assured.

4. Results and Discussion

Table 1: Demographic characteristics of residents (n=100)

Characteristic	Category	Percentage (%)	Frequency (n)
Age Group	20–25 years	16%	16
	26–30 years	21%	21
	31–35 years	34%	34
	Above 35 years	29%	29

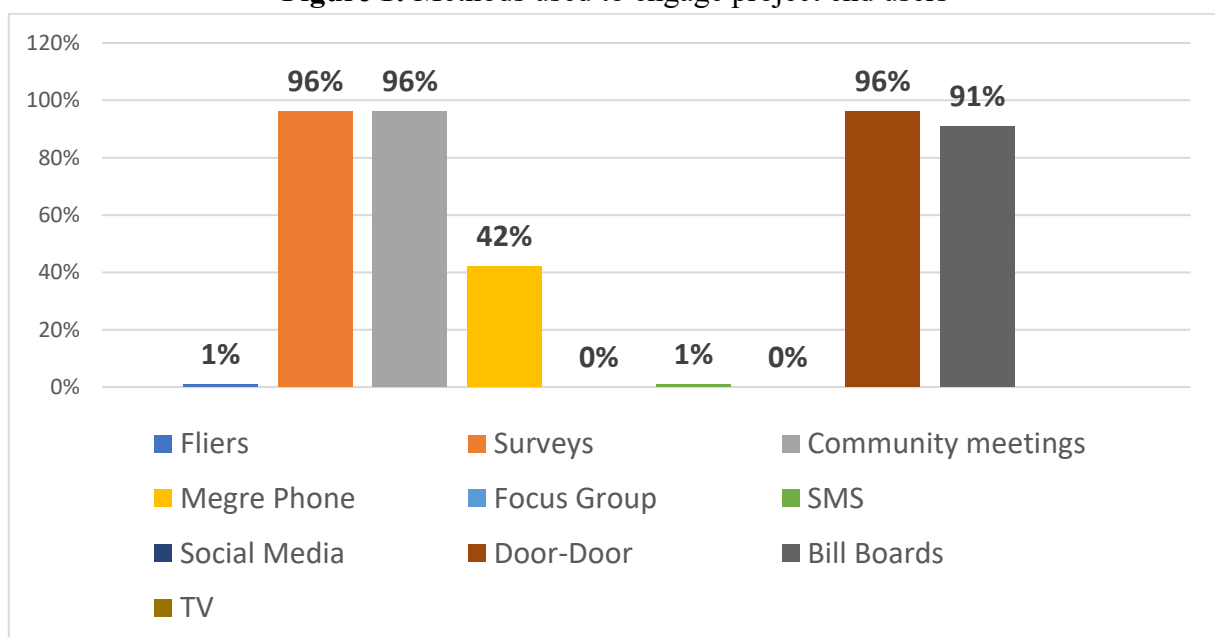
Gender (Sex)	Female	54%	54
	Male	46%	46
Level of Education	No formal education	12%	12
	Primary education	17%	17
	Secondary education	35%	35
	Tertiary education	36%	36
Residential Tenure	5–10 years	16%	16
	11–15 years	20%	20
	16–20 years	32%	32
	Over 20 years	32%	32
Type of Resident	Tenant	64%	64
	Landlord	36%	36

This study considered respondents with a minimum age of 20 while 56% were female and 44% were men. 64% were tenants while 36% were landlords with a minimum tenure being 5 years.

Stakeholder engagement processes that were used to engage project end users.

The project used several methods to engage project end users. Findings demonstrate that a multi-method approach was used. These include surveys (96%), community meetings (96%), and door-to-door (96%). These approaches yielded the highest response rates, each achieving a dominant 96% engagement level. Billboards followed closely at 91%, while Meger Phone strategies secured moderate traction at 42%. Conversely, alternative communication modalities including fliers, focus groups, SMS, social media, and television exhibited negligible outcomes, failing to exceed a 1% threshold as shown on Figure below.

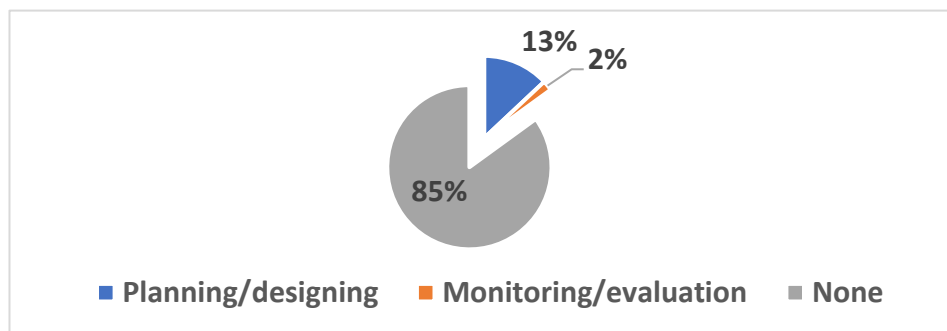
Figure 1: Methods used to engage project end users



Levels of end-user participation

End users participated at various phases of the project. However, as shown on Figure 2 below, the majority (85%) did not participate at all. Conversely, only a marginal 13% reported active consultation during the conceptual and planning phases while only 2% took part at monitoring and evaluation phases. On the other hand, 68% of surveyed end-users perceived their role as strictly passive recipients of information, indicating that communication functioned as a top-down, asymmetrical monologue rather than a collaborative dialogue.

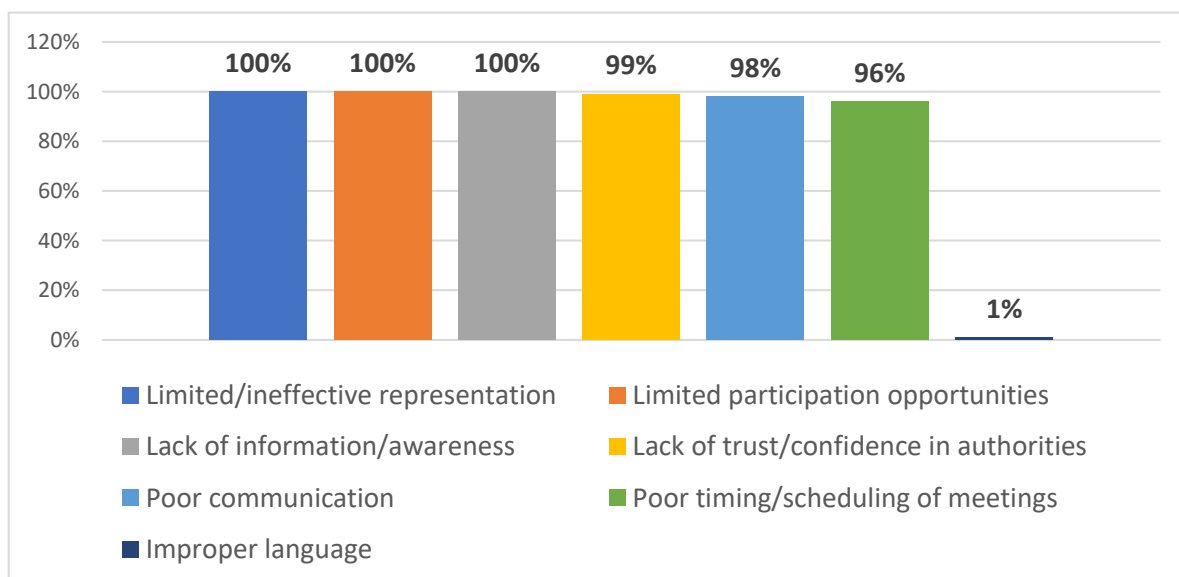
Figure 2: Phases at which end users participated



Challenges faced by end users in participating in engagement activities

As shown on Figure 3 below, end users encountered multiple challenges when attempting to participate in the engagement activities. Three primary challenges achieved a 100% response rate. These are limited or ineffective representation (100%), limited participation opportunities (100%), and a general lack of information or awareness (100%). These were closely followed by a lack of trust or confidence in authorities (99%), poor communication (98%), and poor meeting scheduling or timing (96%). In contrast, improper language was rarely cited as a barrier, accounting for only 1% of responses. These challenges prevented end users from effectively participating in engagement activities.

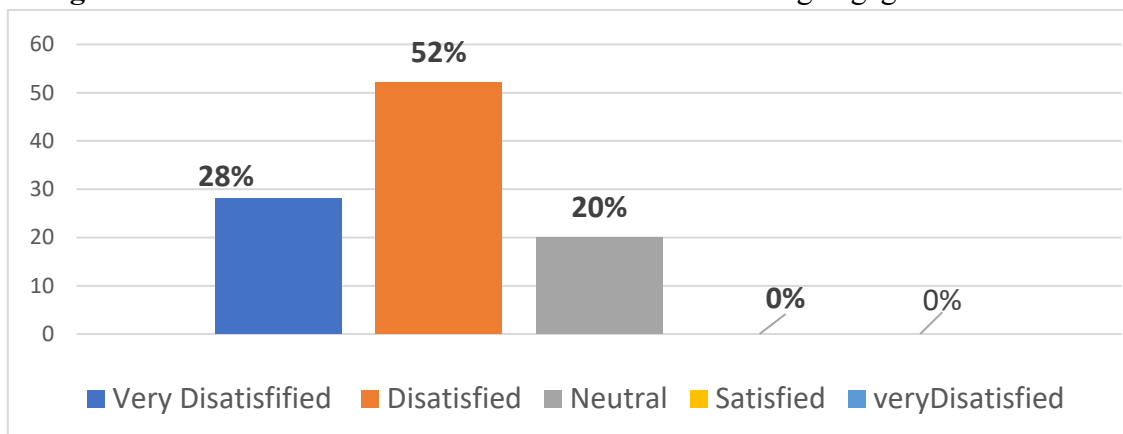
Figure 3: Challenges faced by end users in participating in engagement activities



Effectiveness of the stakeholder engagement process applied on project end users in Lusaka's Mtendere and Kamanga Townships

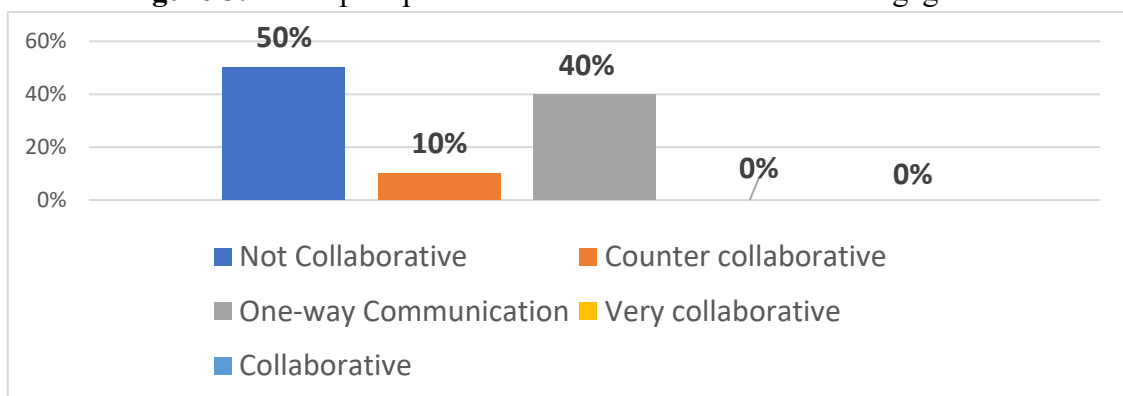
There are several factors that bring about the effectiveness of stakeholder engagement. These include communication quality, timeliness, responsiveness to concerns, collaborative decision-making, and perceived influence. Unfortunately for this study, all determinants showed significant deficiencies causing widespread user dissatisfaction. As shown on Figure 4, 80% of respondents expressed widespread dissatisfaction with communication with a total absence of perceived collaboration (Figure 5) while unmet expectations were high (Figure 6). On the other hand, timeliness was poor (Figure 7) while the relationship with project team was negative (Figure 8). Over 50% of end users reported being dissatisfied with the communication process (Figure 9) while over 95% reported that their contribution had no observable effect on project outcomes (Figure 10). The project team responsiveness to end-user concerns was low (Figure 11) while the majority of end users perceived no meaningful impact from their input on decision making process (Figure 13). Based on these findings, all key determinants of effective stakeholder engagement were deficient or absent. It can thus be said that the stakeholder engagement applied was not effective.

Figure 4: Satisfaction with the communication made during engagement activities



Results show a widespread dissatisfaction among end users. A combined 80% of respondents expressed dissatisfaction (52% dissatisfied and 28% very dissatisfied) with the communication channels used during the project leaving only 20% (20) expressing a neutral stance.

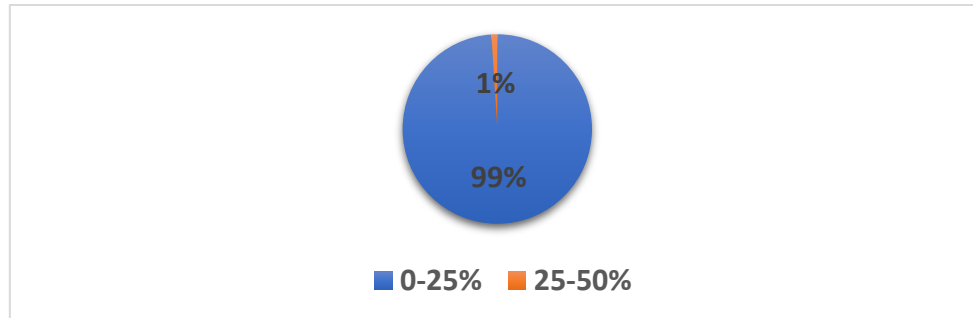
Figure 5: Participant perceived levels of collaboration in engagement



The findings reveal a total absence of perceived collaboration regarding how feedback influenced final project decisions. Half of the respondents (50%) viewed the process as not collaborative, while 40%

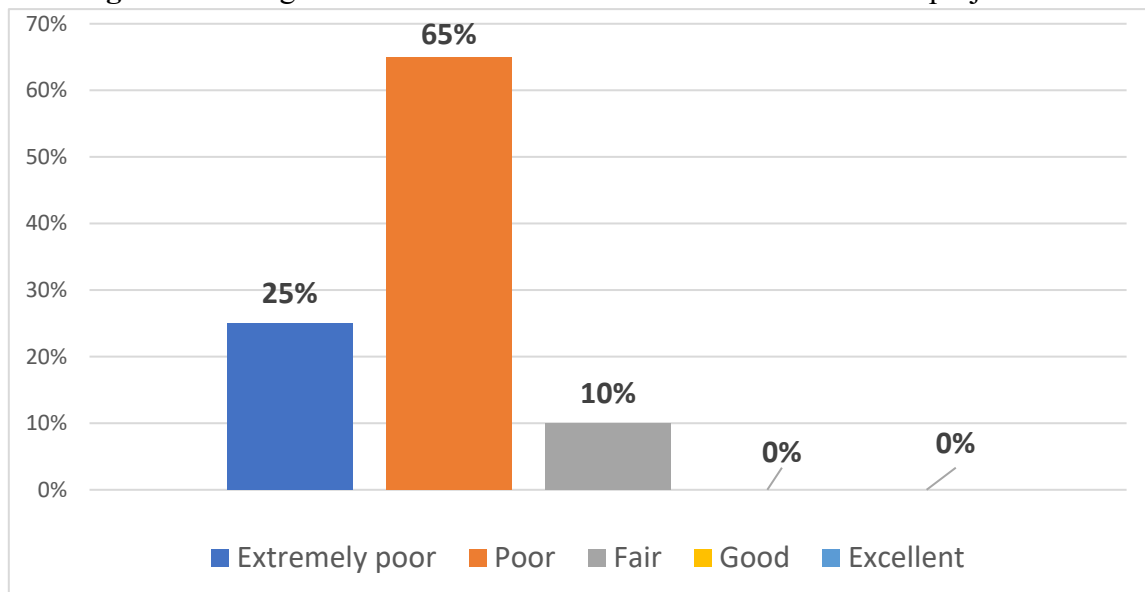
characterized it merely as one-way communication. Additionally, 10% described the experience as counter-collaborative, highlighting a complete lack of genuine participation or impact on outcomes. In other words, participants report a complete lack of meaningful collaboration in engagement process.

Figure 6: Perceived extent of the engagement process in meeting end users' expectations



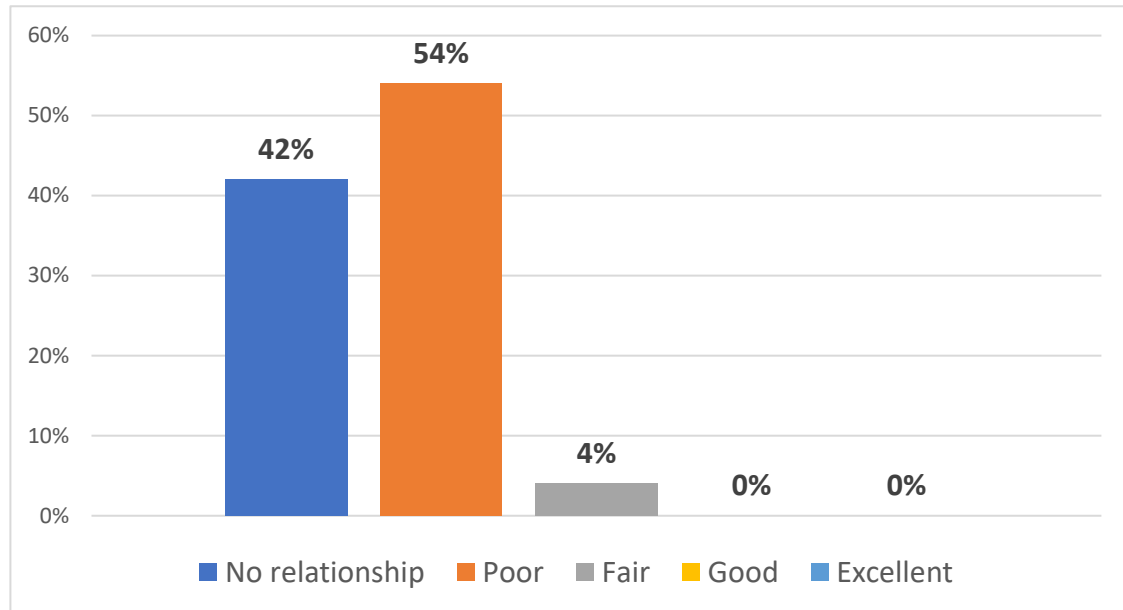
Regarding the engagement process in meeting end users' expectations, unmet expectations were high. Findings show that 99% of participants stated that the engagement process met between 0% and 25% of their expectations while 1% reported meeting 25-50%. No respondent reported having their expectations met for more than 50%.

Figure 7: Rating of the timeliness of the communication from the project team



On timeliness, results show that there was poor timeliness. 90% rated the timeliness of communication as poor or extremely poor (65% poor, 25% extremely poor). 10% (10) of participants rated it fair while no respondent rated it as being good or excellent. Furthermore, 50% viewed the process as entirely uncollaborative, while 40% classified it as a one-way monologue.

Figure 8: End users' relationship with the project team



End-users reported overwhelmingly negative relationships with the project team. Figure illustrates how end-users characterized their relationship with the project team. The findings reveal that 54% of participants ($n = 54$) described the relationship as poor, and 42% ($n = 42$) reported that no relationship existed at all. Only 4% ($n = 4$) characterized the relationship as fair, with zero respondents rating it as good or excellent.

Figure 9: Participant satisfaction with communication and information provided during the engagement activities.

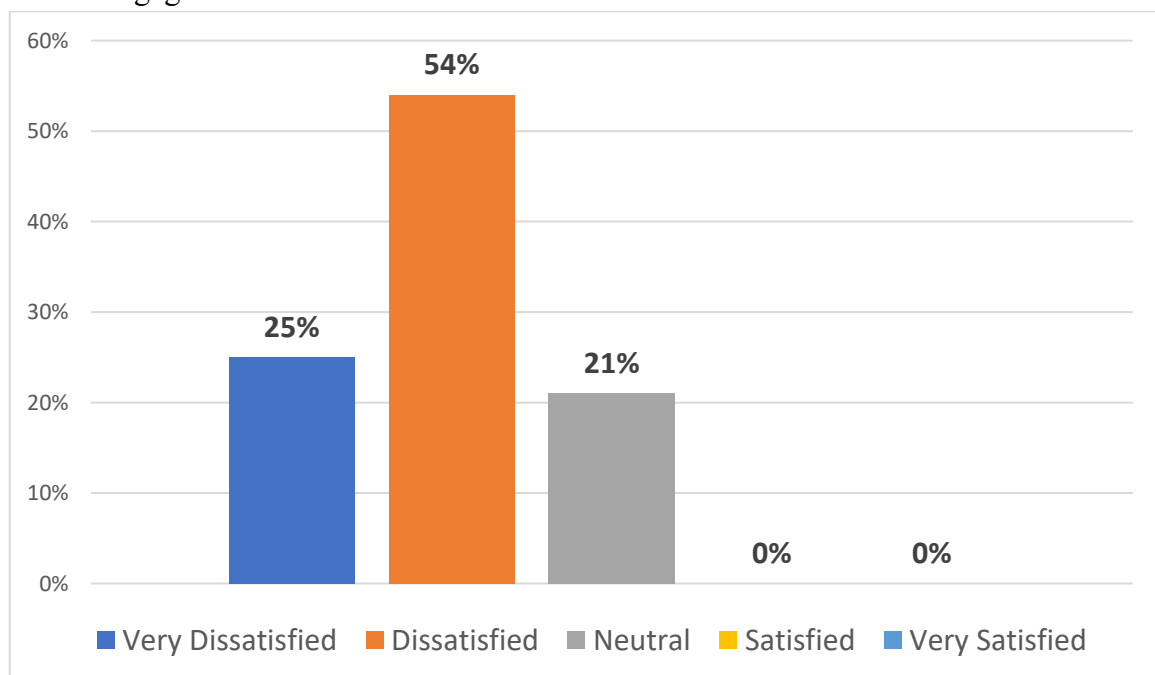


Figure 9 illustrates participant satisfaction with communication during the engagement process. The findings indicate that 54% of participants reported being dissatisfied and 25% were very dissatisfied, while 21% felt neither satisfied nor dissatisfied. Notably, no respondents expressed any level of satisfaction.

Figure 10: Perceived contribution of end users to project outcomes

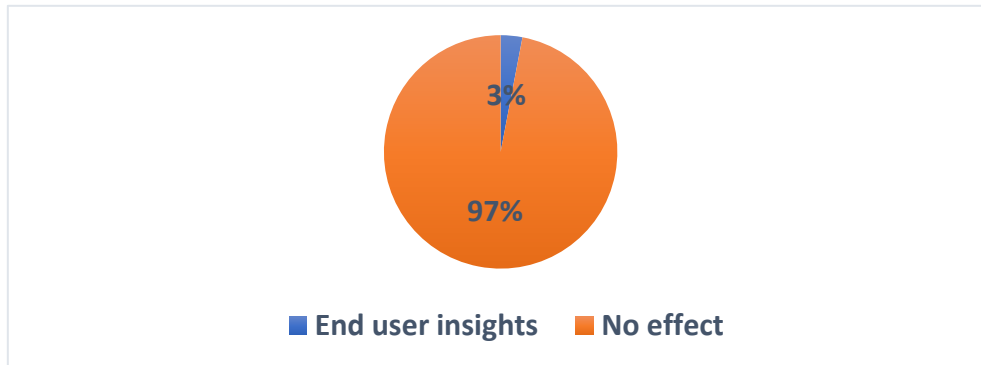
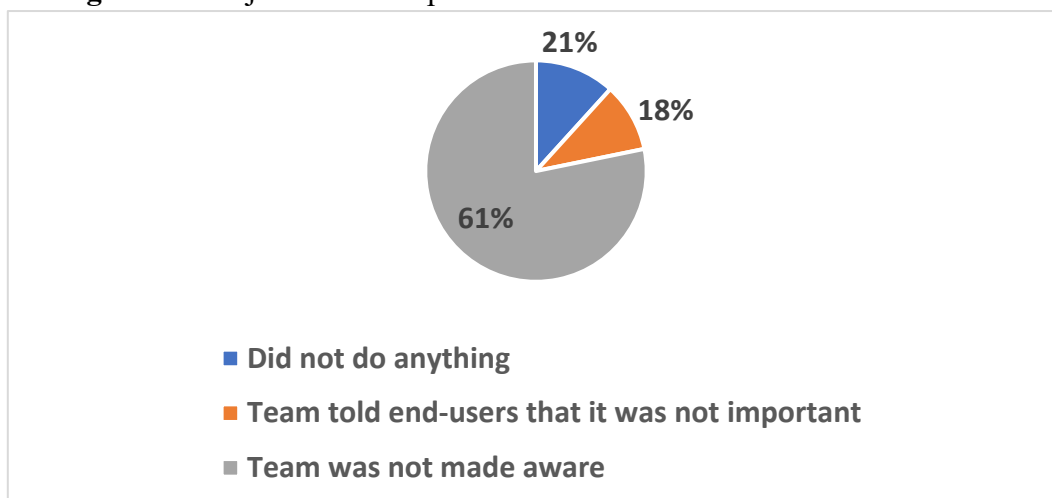


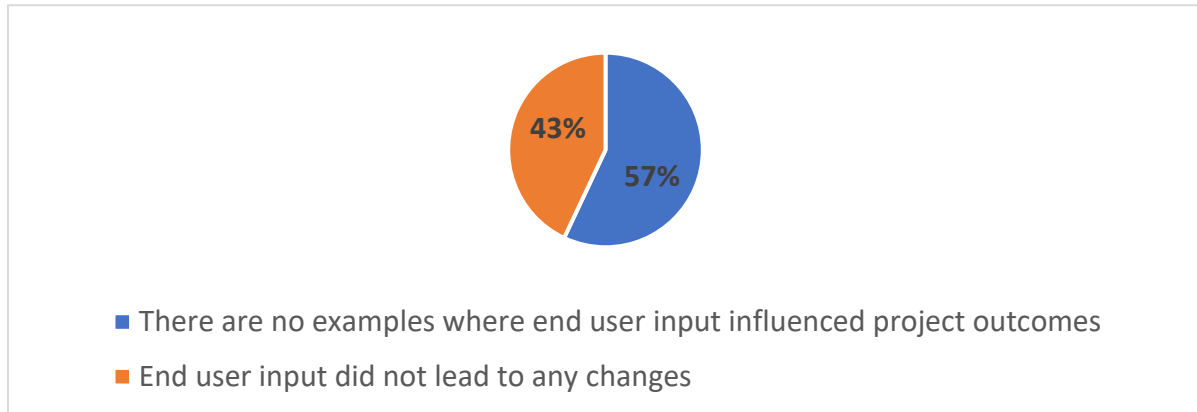
Figure 2 illustrates the perceived contribution of end-users to project outcomes. The findings demonstrate that 97% of participants reported no observable effect, whereas only 3% indicated that end-user insights were utilized.

Figure 11: Project Team Responsiveness to Individual End-User Concerns



As shown in Figure above, project team responsiveness to end-user concerns was low, with 61% of participants withholding their issues, 18% being dismissed by the team as unimportant, while the project team opted not to take any action on concerns raised by 21% of participants.

Figure 12: Specific examples where project end user input influenced project decisions or implementation



Considering their input, end users felt that their input did not result into any project modifications. Figure 5 illustrates specific examples of end-user input influencing project decisions and implementation. The findings reveal that 57% of participants were unable to provide instances where end user input affected project outcomes, while 43% reported that end-user input resulted in no changes or project modifications.

Figure 13: End-User Perceptions of Influence on Project Decision-Making Processes

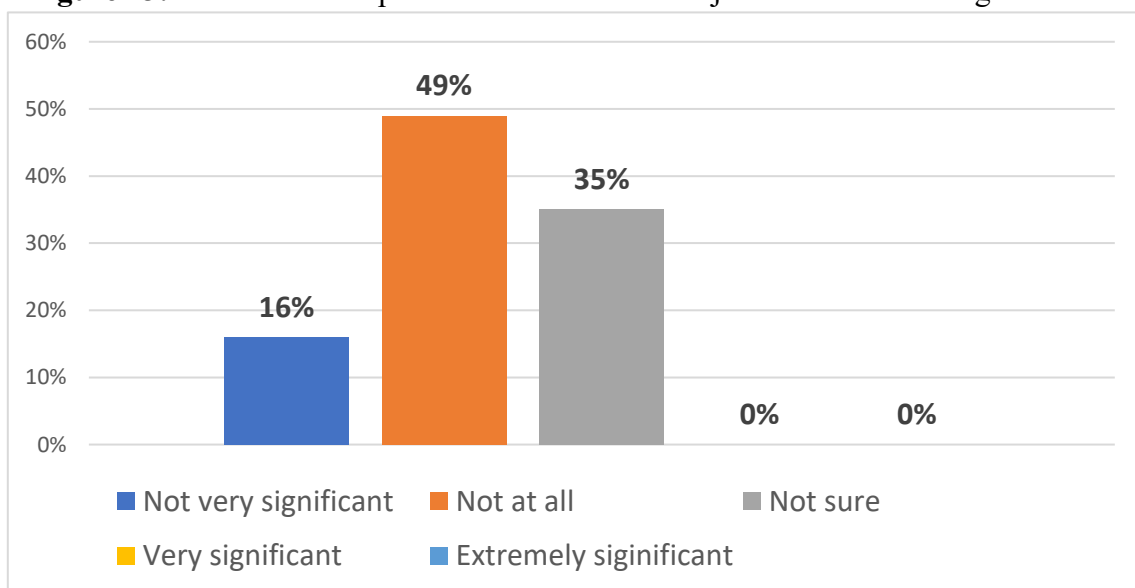


Figure 3 illustrates end-user perceptions regarding their influence on project decision-making processes. The findings reveal that 65% of participants perceived no meaningful impact from their input (with 49% stating it had no influence at all and 16% indicating it was not very significant). Additionally, 35% of participants were uncertain whether their input influenced the project.

5. Conclusion and Recommendations

This study examined the effectiveness of stakeholder engagement process that were applied on end users in the LWSSD project in Lusaka's Mtendere and Kamanga Townships. The findings confirm a severe structural variance between institutional design and community integration within the project. When stakeholder engagement is reduced to a top-down information dissemination exercise, public trust erodes, resulting in diminished project ownership and compromised sustainability. The study concludes that the engagement process was largely ineffective and defaulted to symbolic tokenism rather than genuine transformative participation. This disconnect severely eroded public trust, diminished project ownership, and negatively impacted long-term sustainability.

Recommendations

To enhance future urban infrastructure initiatives, project management practices must incorporate the following recommendations:

- i. Initiate stakeholder engagement during the earliest conceptual and planning phases of the project lifecycle rather than as a retroactive measure.
- ii. Eliminate Communication Barriers: Translate technical project documentation into accessible local languages and simplified formats, ensuring complete information sharing.
- iii. **Establish Two-Way Dialogue:** Shift from tokenistic dissemination to inclusive, participatory forums where community feedback directly shapes decision-making and operational maintenance.
- iv. **Strengthen Grievance Redress Mechanisms:** Implement transparent, prompt, and accountable feedback loops to resolve localized community concerns effectively.

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