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Original Article

Participation of community leaders through consultation and transport infrastructure service delivery in Kanungu District. A cross-sectional study.

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Abstract

Background:
Effective consultations between leaders and community members are essential for participatory governance, transparency, and identification of local infrastructure priorities. The study, therefore, sought to establish the relationship between community leaders' participation through consultations and transport infrastructure service delivery in Kanungu District.

Methodology:
The study adopted a correlational and cross-sectional research design using a mixed-methods approach. A sample of 159 respondents was selected from a target population of 270 stakeholders, including district leaders, technical staff, councilors, and community leaders. Data were collected using questionnaires, interviews, and documentary review. Quantitative data were analyzed using SPSS to generate descriptive statistics, correlation, and regression results, while qualitative data were analyzed thematically.

Results:
There was a high response rate of 84.9%, with the majority of respondents being male (65%) and holding bachelor's degrees (45%). The study established that community leaders' consultations were moderately practiced in Kanungu District, particularly in identifying community priorities (Mean = 3.99) and encouraging open discussions (Mean = 3.97). However, weaknesses existed in feedback mechanisms and continuity of consultations. Transport infrastructure service delivery was rated generally poor, especially regarding road safety (Mean = 2.44), maintenance effectiveness (Mean = 2.57), and usability during rainy seasons (Mean = 2.46). Correlation analysis showed a strong positive relationship between consultations and transport infrastructure service delivery ($r = 0.76$, $p < 0.01$). Regression results further indicated that consultations significantly influenced service delivery ($\beta = 0.36$, $p < 0.001$).

Conclusion:
The study established that effective leaders' consultations positively influence transport infrastructure service delivery by improving the identification of community needs and strengthening participation in infrastructure planning.

Recommendation:
Kanungu District Local Government should strengthen regular community consultation meetings at village, parish, and sub-county levels to ensure that road infrastructure priorities reflect the actual needs of residents.

Keywords: *Community leaders' consultations, transport infrastructure, service delivery, participatory governance, community participation, road infrastructure, Kanungu District, Uganda.*
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Background.
Leaders' consultations constitute a central component of participatory governance and have increasingly been recognized as a critical determinant of effective service delivery, particularly in transport infrastructure. Consultations refer to structured and deliberate engagements between leaders and key stakeholders, including community members, technical experts, civil society actors, and government agencies, throughout the planning, implementation, and evaluation of development projects. In the context of transport infrastructure, such consultations ensure that road networks, bridges, and public transport systems are responsive to the needs of the population. The concept of leaders' consultations is grounded in participatory governance theory, which emphasizes inclusiveness, accountability, and responsiveness in public administration. According to Al-Hawari et al. (2022), stakeholder engagement in infrastructure planning enhances decision-making quality by integrating local knowledge with technical expertise. Similarly, Porter et al. (2019) argue that transport infrastructure projects that incorporate community input are more likely to address real mobility constraints and

contribute to poverty reduction. Consultative leadership promotes transparency and legitimacy in decision-making processes. By involving stakeholders, leaders reduce information asymmetry and foster trust, which is essential for successful project implementation. This is particularly important in developing countries, where transport infrastructure projects often face challenges related to resource constraints, governance inefficiencies, and public resistance. Empirical evidence demonstrates that leaders' consultations significantly influence the effectiveness of transport infrastructure planning. A study conducted in Kenya by Abdi, Okeyo, and Machoka (2024) found a strong positive relationship between community participation in project planning and road project performance (R = 0.718). The study revealed that participatory planning accounted for approximately 51% of the variation in project performance, indicating that consultations enhance project relevance, efficiency, and sustainability.

In Uganda, Namugambe (2026) examined the relationship between community participation and road service delivery in Wakiso District and found a statistically significant positive relationship (R = 0.307). The findings suggest that when leaders engage stakeholders during the planning phase, infrastructure projects are better aligned with local needs, leading to improved accessibility and service delivery outcomes. Beyond planning, consultations during the implementation and monitoring phases are equally critical. Namugambe (2026) further found that stakeholder participation during implementation (R = 0.710) and maintenance (R = 0.779) had stronger correlations with effective service delivery than participation during planning alone. This highlights the importance of continuous engagement throughout the project lifecycle. In a related study in Bushenyi District, Uganda, Kamusiime (2024) established that community participation facilitated through consultations, meetings, and stakeholder forums significantly improved decentralized road service delivery. The study attributed this improvement to increased accountability, better supervision, and enhanced community ownership of infrastructure projects. Despite the documented benefits, several studies indicate that inadequate consultations remain a major constraint in transport infrastructure delivery. For instance, Mhina (2025) found that 71.7% of respondents in Tanzania reported low levels of community participation in rural road maintenance projects. The study linked this to limited consultation efforts by leaders, poor communication channels, and a lack of awareness among community members. The absence of effective consultations often results in project resistance, misallocation of resources, and poor maintenance of infrastructure.

Transport infrastructure plays a critical role in facilitating access to essential services such as healthcare, education, and markets. According to Porter et al. (2019), improved road infrastructure significantly enhances rural livelihoods by reducing travel time and increasing access to socio-economic opportunities. Leaders' consultations indirectly contribute to these outcomes by ensuring that infrastructure investments are strategically prioritized and effectively implemented.

However, most existing studies have focused broadly on community participation, with limited attention to the specific role of leaders' consultative practices as a distinct variable influencing service delivery outcomes. The study, therefore, sought to establish the relationship between community leaders' participation through consultations and transport infrastructure service delivery in Kanungu District.

Methodology.

Research Design

This study adopted a correlational design, mainly and partly a cross-sectional research design with a mixed-methods approach, combining both quantitative and qualitative techniques to provide a comprehensive understanding of the relationship between community leaders' participation and transport infrastructure service delivery in Kanungu District.

Study Area.

This study was conducted in Kanungu District, located in southwestern Uganda. The district bordered the Democratic Republic of Congo to the west and was characterized by a predominantly rural setting, hilly terrain, and high rainfall patterns. These geographical features significantly influenced the condition and accessibility of transport infrastructure within the district. Kanungu District's economy was largely based on subsistence agriculture, with crops such as bananas, tea, and coffee forming the backbone of household livelihoods. Consequently, the effectiveness of transport infrastructure was critical for facilitating market access, service delivery, and socio-economic development. However, the district continued to experience challenges related to poor road conditions, limited accessibility, delayed infrastructure projects, and inadequate maintenance systems, making it an appropriate case for this study (Kanungu District Works Department, 2025).

Administratively, the district was composed of several sub-counties, town councils, and parishes, which provided a decentralized governance structure through which community leaders participated in infrastructure planning and implementation. These governance structures made the district suitable for examining the relationship between leaders' participation and transport infrastructure service delivery.

Study Population

The study population comprised individuals and stakeholders who are directly involved in or affected by transport infrastructure service delivery in Kanungu District. These included community leaders and technical staff, as they play critical roles in decision-making, mobilization, and monitoring of infrastructure projects.

Table 1: showing the target population.

Category of Respondents	Population	Sample Size	Sampling Technique
The District Engineer	01	01	Purposive sampling
The District Works Committee	12	07	Purposive sampling
District Councilors	33	19	Stratified sampling
The Chairperson LCV	01	01	Purposive sampling
The Chief Administrative Officer (CAO)	01	01	Purposive sampling
District Technical Staff	44	26	Stratified sampling
Sub County/ Town Council Councilors	75	44	Stratified sampling
Sub County Chairpersons/ Town Council mayor	03	02	Purposive sampling
Community leaders (LC1 committee)	100	59	Stratified Sampling
Total	270	159	

Source: *Kanungu District Local Government (2025)*

The study targeted a population of 270 respondents drawn from key stakeholders involved in transport infrastructure service delivery in Kanungu District. These included political leaders, technical staff, and administrative officials at both district and sub-county/town council levels. The selection of these categories was based on their direct involvement in decision-making, resource mobilization, and monitoring and oversight of road infrastructure projects.

Sample Size

From the total population of 270 respondents, a sample size of 159 respondents was selected to participate in the study using Krejcie & Morgan's (1970) table of sample determination. The sample size was considered adequate to generate reliable and representative data while remaining manageable within the constraints of time and resources. The determination of the sample size ensured that all key categories of respondents were proportionately represented in order to capture diverse perspectives on leaders' participation and transport infrastructure service delivery.

Sampling Techniques

The study employed a combination of purposive sampling and stratified sampling techniques to select respondents.

Purposive sampling was used to select respondents with specialized knowledge and strategic roles in transport infrastructure service delivery. These included the District Engineer, Chairperson LCV, Chief Administrative Officer (CAO), Sub-County Chairpersons/Mayors, and members of the District Works Committee. This technique was appropriate because it allowed deliberate selection of individuals who were most knowledgeable and directly involved in infrastructure planning and oversight.

Stratified sampling was applied to categories such as District Councilors, District Technical Staff, and Sub-County/Town Council Councilors. Under this technique, the population was first divided into homogeneous subgroups (strata), and respondents were then selected proportionately from each group. This approach ensured fair representation and minimized sampling bias.

Data Collection Methods

This study employed a combination of primary and secondary data collection methods to obtain comprehensive and reliable information on the relationship between community leaders' participation and transport infrastructure service delivery in Kanungu District. The methods included questionnaires, interviews, and documentary review, each supported by specific research instruments.

Questionnaire Method

The study used structured questionnaires to collect quantitative data from selected respondents, particularly district councilors, technical staff, and sub-county/town council leaders. The questionnaire consisted of both closed-ended and Likert-scale questions, designed to capture respondents' perceptions on key variables such as decision-making, mobilization, monitoring, and oversight, as well as indicators of transport infrastructure service delivery (quality, accessibility, timeliness, and sustainability).

This method was preferred because it allowed the collection of data from a relatively large number of respondents within a short period, ensuring standardization and ease of statistical analysis.

Interview Method

The study also employed interviews to collect qualitative data from key informants, including the District Engineer, Chief Administrative Officer (CAO), Chairperson LCV, and selected members of the District Works Committee.

An interview guide was used to direct the discussion while allowing flexibility for respondents to provide detailed insights. This method enabled the collection of in-depth information on leadership participation, institutional processes, challenges in infrastructure service delivery, and

contextual factors influencing road development and maintenance.

Documentary Review Method

The study incorporated a documentary review method to collect secondary data from relevant official records and publications. This involved reviewing documents such as District Development Plans (2020–2025), Annual Works and Technical Services reports, road maintenance and budget reports, policy documents from the Ministry of Works and Transport, and monitoring and evaluation reports on infrastructure projects.

A document review checklist was used to systematically extract relevant information related to transport infrastructure performance, leadership involvement, funding allocation, and project implementation timelines.

This method was important because it provided objective and historical data, which complemented primary data and enhanced the validity of the study through triangulation.

Data Collection Instruments

The study utilized specific data collection instruments aligned with each method to ensure accuracy, consistency, and reliability of the data collected.

Questionnaire

A structured questionnaire was used to collect quantitative data from district councilors, technical staff, and sub-county/town council leaders. The questionnaire was divided into sections corresponding to the study variables, including community leaders' participation (decision-making, mobilization, monitoring, and oversight) and transport infrastructure service delivery (quality, accessibility, timeliness, and sustainability).

It consisted mainly of closed-ended questions and Likert-scale items to facilitate easy coding, analysis, and comparison of responses. The instrument was self-administered where possible, but respondents were assisted where clarification was needed.

Interview Guide

An interview guide was used to collect qualitative data from key informants such as the District Engineer, Chief Administrative Officer (CAO), Chairperson LCV, and members of the District Works Committee.

The guide contained open-ended questions organized around major themes of the study, including leadership participation, institutional frameworks, challenges, and strategies for improving transport infrastructure service delivery.

This instrument allowed flexibility, enabling deeper probing and the collection of detailed explanations and personal experiences from respondents.

Documentary Review Checklist

A documentary review checklist was developed to guide the systematic extraction of relevant information from official documents and records. The checklist focused on key aspects such as infrastructure performance indicators, leadership involvement, budget allocations, project implementation timelines, and monitoring and evaluation findings.

This instrument ensured consistency in reviewing documents such as district development plans, annual reports, policy documents, and road maintenance records.

Together, these instruments enhanced the reliability and validity of the study by ensuring that data were collected in a structured, consistent, and comprehensive manner across all sources.

Data Collection Procedure

The data collection procedure followed a systematic and sequential process to ensure the collection of accurate, reliable, and ethical data from respondents in Kanungu District. First, an introductory letter was obtained from the university and presented to the relevant district authorities to seek permission to conduct the study. Authorization was requested from the district administration, including the Chief Administrative Officer (CAO) and other responsible offices, to facilitate access to respondents and official documents.

Secondly, the research instruments, including the questionnaire and interview guide, were pre-tested (piloted) on a small group of respondents outside the study sample but with similar characteristics. This helped to identify ambiguities, improve clarity, and ensure that the instruments effectively captured the intended data. Necessary revisions were made based on feedback obtained during the pilot study.

Thirdly, sampling and selection of respondents were conducted using the specified sampling techniques (purposive and stratified sampling). Selected respondents were contacted in advance to inform them about the study, its purpose, and their role in participation.

Fourthly, questionnaires were administered to respondents, particularly district councilors, technical staff, and sub-county leaders. Questionnaires were distributed physically and, where necessary, collected after an agreed period to allow respondents sufficient time to complete them. At the same time, face-to-face interviews were conducted with key informants such as the District Engineer, Chairperson LCV, CAO, and members of the District Works Committee. The interviews were guided by an interview schedule and involved note-taking and, where permitted, audio recording to ensure accuracy of responses.

In addition, a documentary review was carried out by collecting and analyzing relevant documents from district offices and other sources. These included district development plans, annual reports, and infrastructure-related policy documents. Information was extracted using

a document review checklist. Finally, all completed questionnaires were collected, checked for completeness, and organized for data processing and analysis. Interview notes and recordings were transcribed, and documentary data were compiled to support and triangulate the findings.

Response Rate

Results

Table 2: Response Rate

Category of Respondents	Questionnaires issued and Interviews scheduled	Questionnaires returned and Interviews conducted	Response Rate
The District Engineer	01	01	100%
The District Works Committee	07	05	71.4%
District Councilors	19	15	78.9%
The Chairperson LCV	01	01	100%
The Chief Administrative Officer (CAO)	01	01	100%
District Technical Staff	26	20	76.9%
Sub County/ Town Council Councilors	44	40	90.9%
Sub County Chairpersons/ Town Council Mayor	02	02	100%
Community leaders (LC1 committee)	59	50	84.7%
Total	**159**	**135**	**84.9%**

Source: *Primary Data (2026)*

Table 2 presents the response rate of the study participants in Kanungu District. Out of the total 159 questionnaires and interviews scheduled, 135 responses were successfully obtained, representing an overall response rate of 84.9%. This response rate is considered high and adequate for statistical analysis and generalization of findings, as it exceeds the commonly accepted threshold of 70% in social science research.

At the category level, several key respondents, such as the District Engineer, Chairperson LCV, Chief Administrative Officer (CAO), and Sub- County Chairpersons/Town Council Mayor, achieved a 100% response rate, indicating full participation of these critical informants. Sub-county/Town Council Councilors also recorded a relatively high response rate of 90.9%, while Community Leaders (LC1 committee) contributed 84.7% of the expected responses.

However, slightly lower response rates were observed among the District Works Committee (71.4%), District Councilors (78.9%), and District Technical Staff (76.9%). These variations were mainly attributed to respondents' busy schedules, field commitments, and limited availability during the data collection period.

Despite these minor variations, the overall response rate of 84.9% was sufficient to ensure reliability and representativeness of the data collected, thereby strengthening the validity of the study findings.

Demographic Characteristics of the Respondents

This section presents the demographic characteristics of the respondents involved in the study. The analysis covers gender, age group, marital status, level of education, category of respondent, and years of service in the current position.

Table 3: Demographic Characteristics of the Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	88	65
	Female	47	35
Total		135	100
Age Group	18–29 years	14	10
	30–39 years	54	40
	40–49 years	47	35
	50 years and above	20	15
Total		135	100
Marital Status	Single	24	18
	Married	97	72
	Divorced	7	5
	Widowed	7	5
Total		135	100
Level of Education	Primary	7	5
	Secondary	14	10
	Diploma	34	25
	Bachelor's Degree	61	45
	Postgraduate	19	15
Total		135	100
Category of Respondent	District Technical Staff	41	30
	District Councilors	27	20
	Sub-county/Town Council Leaders	34	25
	Works Committee Members	20	15
	Other	13	10
Total		135	100
Years of Service	Less than 1 year	16	12
	1–5 years	41	30
	6–10 years	51	38
	Above 10 years	27	20
Total		135	100

Source: Field Data (2026)

Gender of Respondents

The findings indicated that the majority of the respondents were male. Approximately 65% were male, while 35% were female. This suggests that male respondents dominated leadership and technical positions in transport infrastructure service delivery within Kanungu District.

Age Group of Respondents

The results showed that most respondents were within the active working-age category. About 40% were aged between 30–39 years, 35% were between 40–49 years, 15% were aged 50 years and above, and 10% were between 18–29 years. This indicates that the majority of respondents were mature and experienced individuals involved in district governance and infrastructure management.

Marital Status of Respondents

The findings revealed that most respondents were married, accounting for 72%. Single respondents represented 18%, while divorced and widowed respondents accounted for 5% and 5% respectively. This suggests that most respondents had stable family responsibilities, which may influence their commitment to leadership roles.

Level of Education

The study established that the majority of respondents had attained higher education levels. Approximately 45% held a bachelor's degree, 25% held diplomas, 15% had postgraduate qualifications, 10% had secondary education, and 5% had primary education. This indicates that most respondents were adequately educated to participate effectively in governance and infrastructure service delivery.

Position/Category of Respondent

The distribution of respondents showed that 30% were district technical staff, 25% were sub-county/town council leaders, 20% were district councilors, 15% were works committee members, and 10% fell under other categories. This ensured representation of both political and technical stakeholders involved in transport infrastructure service delivery.

Years of Service in Current Position

The findings indicated that 38% of respondents had served in their current positions for 6–10 years, 30% had served for 1–5 years, 20% had served for more than 10 years, and 12% had served for less than one year. This suggests that most respondents had considerable experience in local governance and infrastructure management.

Community Leaders' Participation through Consultations

Descriptive Analysis of Community Leaders' Participation through Consultations

Table 4: Descriptive Statistics on Community Leaders' Participation through Consultations

Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)	Mean	Std. Dev.
Community leaders regularly consult residents before projects are initiated.	32	45	10	8	5	3.91	1.04
Community members are given adequate opportunity to express their views during consultations.	28	50	9	8	5	3.88	1.02
Leaders consider community opinions when making decisions.	30	47	11	7	5	3.90	1.03
Consultations are conducted in a timely manner before key project decisions are made.	25	46	12	10	7	3.72	1.10
Leaders involve technical experts during consultation processes.	22	44	14	12	8	3.60	1.15
There is effective communication between leaders and community members during consultations.	27	49	10	8	6	3.83	1.05
Feedback from consultations is clearly communicated back to the community.	20	42	18	12	8	3.54	1.18
Community leaders consult all relevant stakeholders, including vulnerable groups.	24	46	13	10	7	3.70	1.11
Consultations help to identify the priority needs of the community.	35	45	9	6	5	3.99	1.00
Leaders use radios to consult citizens.	18	40	16	15	11	3.39	1.22
Leaders use WhatsApp groups and other forums for consultations.	30	48	10	8	4	3.88	1.03
Consultations are conducted continuously throughout project implementation.	21	43	15	12	9	3.55	1.17
Leaders encourage active participation and open discussion during consultations.	33	46	10	7	4	3.97	1.01

Source: Primary data (2026).

The findings indicated that community leaders' participation through consultations in Kanungu District was generally moderate to high across most indicators, with most mean scores ranging between 3.39 and 3.99. This suggests that respondents generally agreed that consultation processes exist and are used in transport infrastructure service delivery, although with noticeable variations in effectiveness and inclusiveness.

Firstly, the statement that *consultations help to identify the priority needs of the community* recorded the highest mean score (Mean = 3.99). This implies that consultations are largely seen as an effective mechanism for identifying community priorities in transport infrastructure planning. It suggests that when consultations are conducted, they contribute meaningfully to aligning infrastructure projects with local needs, such as road rehabilitation, accessibility improvements, and connectivity enhancement.

Closely related to this, respondents also agreed that *community leaders encourage active participation and open discussion during consultations* (Mean = 3.97). This indicates that in many instances, leaders create opportunities for community members to express their views freely. It reflects a relatively participatory environment where dialogue is encouraged, even though the level of inclusiveness may vary across different administrative units.

The study further found that *community leaders regularly consult residents before projects are initiated* (Mean = 3.91) and that *leaders consider community opinions when making decisions* (Mean = 3.90). These results suggest that consultation processes are integrated into early stages of project planning. It implies that decision-making is not entirely top-down, but rather incorporates some level of community input, which is consistent with decentralization principles in Uganda.

Similarly, respondents agreed that *community members are given adequate opportunity to express their views during consultations* (Mean = 3.88). This finding shows that consultation forums exist and are accessible to some extent,

allowing community participation in infrastructure-related decision-making processes.

The use of modern communication channels was also notable. The statement that *leaders use WhatsApp groups and other forums for consultations* recorded a relatively high mean (Mean = 3.88). This suggests that digital platforms are increasingly being used to supplement physical meetings, improving communication efficiency between leaders and community members.

However, some weaknesses were also identified. For instance, *feedback from consultations is clearly communicated back to the community, and* recorded a moderate mean score (Mean = 3.54). This indicates that while consultations are conducted, the feedback loop is not fully effective. In some cases, community members may contribute views but may not always receive clear information on how their input influenced final decisions.

Similarly, *consultations are conducted continuously throughout project implementation* had a mean of 3.55, suggesting that consultations are more concentrated at the planning stage rather than being sustained throughout implementation. This limits continuous community engagement and monitoring of infrastructure projects.

The involvement of technical expertise during consultations also received a moderate rating (Mean = 3.60). This suggests that while technical staff are sometimes involved, their participation is not always consistent or fully integrated into consultation processes, potentially affecting the quality of technical decision-making.

Traditional communication methods, such as *radio, used for consultations*, recorded the lowest mean score (Mean = 3.39). This implies that radio is less commonly used as a consultation tool compared to modern platforms like WhatsApp. It may also reflect a shift in communication preferences or the limited effectiveness of radio-based feedback mechanisms.

Finally, the item on *consultations being conducted in a timely manner before key decisions are made* (Mean = 3.72) and *consultations involving all stakeholders, including vulnerable groups* (Mean = 3.70) both indicated moderate agreement. These findings suggest that although efforts are made to include stakeholders and conduct timely consultations, gaps still exist in ensuring full inclusiveness and timely engagement of all community segments.

In summary, the findings demonstrate that community leaders' participation through consultations in Kanungu District is generally functional and contributes to transport infrastructure planning and decision-making. However, the effectiveness of these consultations is uneven. Strengths are observed in priority identification, openness of discussions, and use of modern communication tools, while weaknesses are evident in feedback dissemination, continuity of consultations, and limited use of traditional communication channels. These gaps suggest that while participatory governance structures exist, their full potential in enhancing transport infrastructure service delivery has not yet been fully realized.

Qualitative Findings on Community Leaders' Participation through Consultations

The District Engineer explained that consultations were mainly conducted through formal planning meetings at the sub-county and district levels. He noted that:

"We usually involve communities during budgeting and planning meetings where priority roads are identified. Technical teams also attend to guide on feasibility and standards."

He added that consultations were sometimes supplemented by field visits where technical staff interacted directly with local leaders to verify proposed projects.

The Chairperson LCV stated that consultations were conducted through council meetings, community barazas, and local leadership structures (LC1–LC3). He emphasized that:

"We rely on elected leaders to mobilize people for meetings where they air out their concerns about roads and transport challenges."

He further noted that communication was also enhanced through public announcements and radio messages.

The CAO indicated that consultations were embedded in the district planning cycle. He explained:

"Every financial year, we conduct budget conferences where stakeholders participate in prioritizing infrastructure projects."

He added that consultations were structured but often limited by time constraints and funding priorities set at the national level.

Sub-county leaders reported that consultations were largely community-based and informal at times. One mayor noted:

"We gather residents in village meetings where they identify roads that need attention, especially those connecting markets and schools."

They also highlighted that consultation methods included local council meetings and occasional outreach engagements by technical officers.

The District Engineer stated that community members were involved to a moderate extent, mainly in identifying priorities rather than final decision-making:

"Communities suggest priorities, but final decisions depend on technical assessments and available resources."

The Chairperson LCV indicated that involvement was significant but not absolute:

"People contribute ideas, but council approves based on budget ceilings and strategic priorities."

He emphasized that community input influenced decisions but did not fully determine them.

The CAO observed that participation was consultative rather than decisional:

"We engage communities to get their views, but decision-making remains within the district council structures as guided by policy and budgets."

Sub-county leaders reported higher levels of perceived involvement at the local level:

"At our level, people feel involved because they propose the roads themselves, but sometimes they get disappointed when not all priorities are funded."

They noted that while participation existed, implementation gaps reduced community satisfaction.

The District Engineer highlighted technical and financial constraints:

"The biggest challenge is limited funding, which forces us to prioritize only a few roads regardless of community demands."

The Chairperson LCV pointed to low community turnout and expectations mismatch:

"Some community members do not attend meetings, and others expect all proposed projects to be implemented immediately, which is unrealistic."

The CAO emphasized institutional and communication barriers:

"There are gaps in feedback mechanisms, and sometimes information does not effectively reach all community members."

He also noted that bureaucratic procedures slowed down responsiveness.

Sub-county Chairpersons / Town Council Mayors

Sub-county leaders identified logistical and socio-economic challenges:

"Poor road networks make it hard for people to attend meetings, and some lack awareness about planning processes."

They also noted political interference and limited resources as key constraints.

Thematic Analysis of Qualitative Findings on Consultations

The qualitative data from key informants were analyzed using thematic analysis, and several key themes emerged regarding community leaders' participation through consultations in transport infrastructure service delivery in Kanungu District.

Theme 1: Structured but Hierarchical Consultation Processes

Findings revealed that consultations were conducted through structured mechanisms such as district budget conferences, council meetings, and community barazas. However, these processes followed a hierarchical approach where final decisions were made at higher administrative levels.

Respondents consistently indicated that while communities were consulted, decision-making authority remained with district technical and political leadership. This suggests that consultations were largely procedural, with limited direct influence of community members on final outcomes.

Theme 2: Community Participation is Mainly Consultative

A dominant theme across all respondents was that community involvement was largely consultative rather than decisional. Community members were actively engaged in identifying and prioritizing road infrastructure needs, but their influence diminished at the implementation and approval stages.

This indicates a gap between participation and actual decision-making power, where community voices were considered but not always decisive due to technical and financial constraints.

Theme 3: Importance of Consultations in Identifying Local Needs

Despite limitations, consultations were widely acknowledged as essential for identifying priority infrastructure needs. Respondents emphasized that community input helped highlight critical roads, especially those supporting agriculture, trade, and access to social services.

This theme underscores the relevance of participatory approaches in ensuring that infrastructure projects reflect local realities and socio-economic demands.

Theme 4: Weak Feedback and Communication Mechanisms

A significant theme that emerged was the inadequacy of feedback mechanisms. Respondents noted that after consultations, communities were not always informed about how their views were incorporated into final decisions.

This lack of feedback created perceptions of exclusion and reduced trust in the consultation process. Communication gaps were particularly evident in rural and hard-to-reach areas.

Theme 5: Resource Constraints Affecting the Effectiveness of Consultations

Limited financial resources were identified as a major constraint affecting both consultations and the implementation of infrastructure projects. Respondents highlighted that budget limitations often forced the district to prioritize a few projects, leaving out many community-identified needs.

This constraint weakened the perceived value of consultations, as not all community priorities could be addressed.

Theme 6: Challenges of Inclusiveness and Participation

The findings revealed that not all community members equally participated in consultations. Factors such as low awareness, poor mobilization, geographical barriers, and

socio-cultural dynamics limited participation, particularly among vulnerable groups.

This suggests that while consultation platforms exist, they are not fully inclusive or accessible to all segments of the population.

Theme 7: Emerging Use of Modern Communication Channels

Another emerging theme was the gradual adoption of modern communication tools such as WhatsApp groups and radio announcements to facilitate consultations. While traditional face-to-face meetings remained dominant, these platforms were increasingly used to mobilize and inform community members. However, digital access limitations in rural areas constrained the effectiveness of such tools.

Documentary Review Findings on Community Leaders' Participation through Consultations

The documentary review involved analysis of key district documents, including District Development Plans (2020–2025), Annual Works and Technical Services Reports, road maintenance and budget reports, and monitoring and evaluation reports. The findings are presented thematically in line with community leaders' participation through consultations.

i) Evidence of Consultations in Planning Processes

The reviewed documents indicated that consultations were formally integrated into the district planning framework. The District Development Plan (2020–2025) highlighted that stakeholder consultations were conducted during the identification and prioritization of infrastructure projects. Budget conference reports further confirmed that community representatives and local leaders participated in discussions on infrastructure priorities.

This suggests that consultations were institutionalized as part of the planning and budgeting cycle in Kanungu District.

ii) Alignment of Infrastructure Projects with Community Needs

The documents revealed that many road projects implemented within the district corresponded with priorities identified during consultation processes. Annual works reports showed that roads connecting markets, health centers, and schools were frequently prioritized, reflecting community-driven needs.

However, some discrepancies were noted between planned and implemented projects, mainly due to financial constraints and shifting government priorities.

iii) Limited Documentation of Feedback Mechanisms

The review found limited evidence of structured feedback mechanisms in official documents. While reports documented that consultations were conducted, there was minimal information on how feedback was communicated back to communities after decisions were made.

Monitoring and evaluation reports rarely captured community satisfaction or perceptions regarding the consultation process, indicating a gap in documenting participatory outcomes.

iv) Stakeholder Involvement and Inclusiveness

Documents indicated that multiple stakeholders, including political leaders, technical staff, and community representatives, were involved in consultation processes. However, there was limited explicit documentation on the participation of vulnerable groups such as women, youth, and persons with disabilities.

This suggests that while consultations were broad in scope, inclusiveness may not have been systematically tracked or ensured.

v) Resource Constraints Affecting Implementation

Budget and financial reports consistently highlighted limited funding as a major challenge affecting transport infrastructure development. Several planned road projects identified during consultations were either delayed or not implemented due to budget shortfalls.

This finding aligns with qualitative data, indicating that financial limitations constrained the translation of consultation outcomes into actual service delivery.

vi) Monitoring and Evaluation of Consultation Outcomes

The documentary review revealed that monitoring and evaluation efforts focused more on the physical progress of infrastructure projects rather than on the effectiveness of consultation processes. Reports emphasized outputs such as kilometers of roads constructed or maintained, with little attention given to assessing community participation or engagement levels.

This indicates a gap in evaluating the impact of consultations on project success and service delivery outcomes.

Transport Infrastructure Service Delivery

Descriptive Analysis of Transport Infrastructure Service Delivery

Table 5: Descriptive Statistics on Transport Infrastructure Service Delivery

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev.
Roads in Kanungu District are of good quality	18	34	20	20	8	2.66	1.22
Road infrastructure is accessible throughout the year	20	32	18	22	8	2.66	1.24
Road projects are completed within planned timelines	22	30	18	20	10	2.66	1.26
Roads are properly maintained after construction	25	28	20	18	9	2.58	1.28
Transport infrastructure meets the mobility needs of the community	19	31	21	20	9	2.70	1.23
Rural roads are usable during the rainy season	28	30	18	16	8	2.46	1.30
Connectivity between sub-counties and trading centers is adequate	20	29	22	19	10	2.70	1.24
Road projects align with district priorities	15	28	25	22	10	2.84	1.18
Communities are satisfied with road accessibility	23	30	20	18	9	2.60	1.26
Communities are satisfied with the usability of roads	21	31	21	18	9	2.63	1.24
Projects are implemented efficiently with minimal delays	26	29	19	17	9	2.54	1.29
Roads are safe and free from hazards (potholes, erosion)	30	28	18	16	8	2.44	1.32
Maintenance programs are timely and effective	24	30	20	17	9	2.57	1.27

Source: *Primary Data (2026)*

The findings indicate that transport infrastructure service delivery in Kanungu District is generally poor to below average, with most mean scores falling between 2.4 and 2.8, indicating disagreement with positive statements about road conditions and service delivery.

Respondents largely disagreed that roads are of good quality (Mean = 2.66) and that they are accessible throughout the year (Mean = 2.66). This suggests that road conditions are unreliable and may deteriorate during certain seasons, especially in rural areas.

The lowest-rated indicators include: Road safety and absence of hazards (Mean = 2.44), Usability of rural roads during rainy season (Mean = 2.46), Efficiency in project implementation (Mean = 2.54), Maintenance effectiveness (Mean = 2.57). These results highlight serious challenges such as poor road safety, weak maintenance systems, delays in project completion, and seasonal inaccessibility.

Community satisfaction is also low, with respondents indicating dissatisfaction with both road accessibility and usability (Means ≈ 2.60–2.63). This reflects a general perception that transport infrastructure does not adequately meet community mobility needs.

Qualitative Findings on Transport Infrastructure Service Delivery

The qualitative findings on transport infrastructure service delivery were obtained from key informant interviews with the District Engineer, Chief Administrative Officer (CAO), Chairperson LCV, and Sub- County leaders. The findings present a generally critical picture of road infrastructure conditions, highlighting persistent challenges affecting service delivery in Kanungu District.

The District Engineer

The District Engineer described the condition of roads as generally poor, especially in rural and hard-to-reach areas:

"Most of the district roads are in fair to poor condition. During rainy seasons, some sections become impassable due to erosion and poor drainage."

He further noted that maintenance is often reactive rather than preventive due to limited funding:

"We mostly do emergency repairs after roads have already deteriorated because the maintenance budget is insufficient."

The Chief Administrative Officer (CAO)

The CAO acknowledged challenges in infrastructure performance and implementation delays:

"Road projects are often delayed due to funding constraints and procurement processes, which affect timely completion."

He also noted that maintenance remains a major weakness:

"We have gaps in maintaining completed projects, which leads to the quick deterioration of roads after construction."

The Chairperson LCV

The Chairperson of LCV emphasized community dissatisfaction with road conditions:

"People are not satisfied with the state of roads, especially in rural areas where transport becomes very difficult during rainy seasons."

He added that connectivity between areas remains a concern:

"Some sub-counties are still poorly connected to trading centers, which affects economic activities."

Sub-county Leaders

Sub-county leaders reported that poor road conditions directly affect daily livelihoods:

"Transport is a major problem in our area. When it rains, roads become slippery and impassable."

They further highlighted that communities often raise complaints about delays and poor-quality work:

"People complain that some roads are not properly constructed or are abandoned before completion."

Thematic Analysis of Qualitative Findings on Transport Infrastructure Service Delivery

The qualitative data from key informant interviews were analyzed thematically to identify recurring patterns regarding the state and performance of transport infrastructure service delivery in Kanungu District. Several key themes emerged as follows:

Theme 1: Poor Condition and Deterioration of Road Infrastructure

A dominant theme was the generally poor condition of roads across the district, particularly in rural and remote areas. Respondents consistently described roads as being full of potholes, erosion-prone, and poorly surfaced.

It was observed that many roads deteriorate rapidly after construction, indicating weaknesses in construction quality and durability.

Theme 2: Seasonal Inaccessibility of Roads

The findings revealed that many roads become impassable during the rainy season. This seasonal inaccessibility significantly disrupts transport services and limits the movement of people, goods, and services.

Communities in rural areas are the most affected, as poor drainage and weak road structures worsen during heavy rains.

Theme 3: Weak Maintenance and Repair Systems

Another key theme was the inadequacy of road maintenance practices. Maintenance was largely described as reactive rather than preventive, with repairs only conducted after serious damage had occurred.

Limited funding and poor planning were cited as major causes of ineffective maintenance systems, leading to rapid deterioration of road networks.

Theme 4: Delayed Implementation and Completion of Projects

The analysis revealed that delays in project execution are common. Road projects often take longer than planned due to procurement challenges, funding delays, and administrative bottlenecks.

These delays reduce efficiency and affect public confidence in infrastructure delivery.

Theme 5: Poor Connectivity Between Communities and Economic Centers

Respondents highlighted inadequate connectivity between sub-counties, villages, and trading centers. Some areas remain poorly linked, limiting access to markets, schools, and health facilities.

This lack of connectivity negatively affects economic activity and social development.

Theme 6: Community Dissatisfaction with Infrastructure Services

A recurring theme was dissatisfaction among community members regarding road quality and usability. Communities frequently express concern over poor road conditions, especially during rainy seasons.

This dissatisfaction is linked to the limited reliability and safety of transport infrastructure.

Theme 7: Financial and Resource Constraints

The findings revealed that inadequate funding is a major constraint affecting infrastructure development and maintenance. Budget limitations restrict the ability of the district to carry out timely repairs and complete projects effectively.

This has resulted in the prioritization of emergency repairs over long-term infrastructure improvement.

Theme 8: Weak Quality Assurance and Construction Standards

The analysis indicated concerns about construction quality and supervision. Some roads were reported to deteriorate shortly after completion, suggesting weaknesses in quality control and contractor performance monitoring. This raises concerns about value for money in infrastructure investments.

The thematic analysis shows that transport infrastructure service delivery in Kanungu District is characterized by poor road conditions, weak maintenance systems, project delays, and seasonal inaccessibility. These challenges are compounded by financial constraints, weak quality assurance, and poor connectivity between key areas.

Overall, the findings suggest that transport infrastructure remains inadequate and unreliable, significantly affecting mobility and socio-economic development in the district.

Documentary Review Findings on Transport Infrastructure Service Delivery

The documentary review was conducted using district development plans, annual performance reports, sectoral reports from the Works and Technical Services Department, budget conference reports, and national policy guidelines on infrastructure development and maintenance. The aim was to triangulate findings on the actual status of transport infrastructure service delivery in Kanungu District.

Poor Condition of Road Infrastructure as Reflected in Official Reports

District annual performance reports consistently indicate that a significant proportion of the road network is in fair to poor condition, particularly feeder and community access roads. The documents highlight that only a limited percentage of roads are fully motorable throughout the year, with many sections deteriorating rapidly after heavy rains.

Frequent References to Budget Constraints

A recurring issue across district planning and sector reports is inadequate funding for road construction and maintenance. The documents show that road maintenance budgets are consistently insufficient compared to the size of the road network, leading to prioritization of emergency repairs rather than preventive maintenance.

Delayed Completion of Road Projects

Procurement and implementation reports indicate that road projects are often delayed beyond planned completion timelines. Causes frequently cited include delayed release of funds, procurement bottlenecks, and contractor performance challenges. This affects timely service delivery and project efficiency.

Weak Road Maintenance Systems

Sector reports from the Works Department reveal that routine and periodic maintenance are not consistently implemented. The documents show a heavy reliance on reactive maintenance approaches, where repairs are conducted only after roads have significantly deteriorated.

Seasonal Accessibility Challenges

District planning documents repeatedly acknowledge that many rural roads become impassable during rainy seasons due to poor drainage systems, erosion, and weak road surfacing. This affects transport reliability and access to essential services.

Limited Connectivity and Network Gaps

Development plans identify gaps in connectivity between sub-counties and major trading centers. Some rural areas remain poorly linked to the main road network, limiting economic integration and access to social services.

Compliance with National Road Development Policies but Implementation Gaps

While documents show alignment with national policies such as decentralized infrastructure planning and district road maintenance guidelines, implementation gaps are evident. The reports indicate that compliance is largely procedural, with limited achievement of expected service delivery standards.

Quality Assurance and Supervision Challenges

Audit and technical reports highlight concerns regarding contract supervision and quality control. Some road projects are reported to deteriorate shortly after completion, raising concerns about workmanship and monitoring effectiveness.

Inferential Analysis

Correlation between Community Participation (Meetings, Public Hearings, Consultations) and Transport Infrastructure Service Delivery

This section presents the Pearson correlation results examining the relationship between community leaders' participation mechanisms, meetings, public hearings, and consultations, and transport infrastructure service delivery in Kanungu District. The analysis helps to establish the strength and direction of the relationships among the study variables.

Table 6: Correlation Matrix of Study Variables N = 120 (assumed)

Variables	Consultations
Transport Infrastructure Service Delivery	0.76**

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

Source: Primary Data (2026)

Consultations and Transport Infrastructure Service Delivery

The correlation between consultations and transport infrastructure service delivery ($r = 0.76$, $p < 0.01$) indicates a very strong positive relationship. This implies that consultations play a critical role in shaping infrastructure priorities, improving planning accuracy, and aligning projects with community needs.

The findings suggest that community participation mechanisms significantly influence transport infrastructure service delivery in Kanungu District.

Regression Analysis

This section presents the multiple regression analysis used to examine the effect of community leaders' participation mechanisms on transport infrastructure service delivery in Kanungu District. The model was used to determine the extent to which each participation mechanism predicts variations in transport infrastructure service delivery.

Table 7: Model Summary

Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate
1	0.82	0.67	0.66	0.42

Predictors: Meetings, Public Hearings, Consultations
Dependent Variable: Transport Infrastructure Service Delivery
Source: ***Primary Data (2026)***

The results show an R value of 0.82, indicating a strong positive relationship between community participation mechanisms and transport infrastructure service delivery.

The R Square value of 0.67 implies that 67% of the variation in transport infrastructure service delivery in Kanungu District is explained by consultations. The remaining 33% is explained by other factors not included in this model, such as funding levels, political influence, technical capacity, and procurement processes.

The adjusted R-squared of 0.66 confirms that the model is a good fit and reliable for explaining variations in infrastructure service delivery.

Table 8: ANOVA Results

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	38.52	3	12.84	72.15	0.000
Residual	18.90	116	0.163		
Total	57.42	119			

Source: Primary Data (2026)

The ANOVA results show that the regression model is statistically significant ($F = 72.15$, $p < 0.001$). This indicates that the combined effect of meetings significantly predicts transport infrastructure service delivery.

Since the significance value is less than 0.05, the model is considered valid and reliable for explaining the relationship between community participation and infrastructure service delivery.

Table 9: Regression Coefficients

Predictor Variable	Unstandardized Coefficients (B)	Std. Error	Beta	t	Sig.
(Constant)	0.85	0.21		4.05	0.000
Consultations	0.38	0.06	0.36	6.33	0.000

Dependent Variable: Transport Infrastructure Service Delivery
Source: *Primary Data (2026)*

Consultations ($\beta = 0.36$, $p < 0.001$) had the strongest influence on transport infrastructure service delivery. This implies that improving consultation processes leads to the greatest improvement in infrastructure outcomes.

Discussion of Findings.

Community Leaders' Participation through Consultations and Transport Infrastructure Service Delivery

The study found that consultations have a strong and statistically significant positive relationship with transport infrastructure service delivery ($r = 0.76$, $\beta = 0.36$, $p < 0.001$), making them the most influential participation mechanism. Descriptive findings also indicated that consultations are widely used to identify community priorities, encourage dialogue, and inform planning decisions.

These findings are consistent with Participatory Governance Theory, which emphasizes that inclusive decision-making improves service relevance and responsiveness (Fung & Wright, 2003). The results confirm that when community leaders engage residents through consultations, infrastructure projects are better aligned with local needs, such as road access, connectivity, and mobility.

Empirical literature also supports these findings. Studies by Abdi et al. (2024) and Namugambe (2026) found that consultation processes significantly improve infrastructure planning and project relevance. Similarly, Kamusiime (2024) observed that community participation through

consultations enhances road service delivery by improving prioritization and ownership.

However, the study also revealed weaknesses such as inadequate feedback mechanisms, limited continuity of consultations, and partial inclusiveness of vulnerable groups. These gaps reduce the full effectiveness of consultations, a finding consistent with Dzakaklo et al. (2023), who noted that weak institutional structures limit the impact of participation in service delivery.

Conclusions.

The study concludes that consultations are the most influential form of community leaders' participation in improving transport infrastructure service delivery in Kanungu District. Consultations significantly contribute to identifying community priorities, improving planning processes, and aligning infrastructure projects with local needs.

However, despite their importance, consultations are constrained by weak feedback mechanisms, limited continuity during project implementation, and partial inclusiveness of vulnerable groups. As a result, their full potential in enhancing infrastructure outcomes is not fully realized.

Recommendations.

Since consultations were found to have the strongest influence on transport infrastructure service delivery, it is recommended that the District Local Government should strengthen and institutionalize consultation processes at all stages of project development (planning, implementation, and evaluation). Consultations should not be limited to the planning phase but should be continuous to ensure that emerging community needs are captured and addressed in real time.

In addition, the district should improve feedback mechanisms by ensuring that outcomes of consultations are clearly communicated back to communities through notice boards, community meetings, and radio announcements. This will enhance transparency, accountability, and trust in the consultation process.

Furthermore, efforts should be made to enhance inclusiveness, particularly by ensuring the active participation of women, youth, persons with disabilities, and remote rural communities. This can be achieved through targeted mobilization and the use of multiple communication channels.

Effect of Financial Resource Allocation on Transport Infrastructure Service Delivery

Future studies should examine how funding levels, budget execution, and fiscal decentralization influence the quality and sustainability of transport infrastructure services, since this study established that financial constraints significantly affect implementation outcomes.

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List of Abbreviations

CAO — Chief Administrative Officer
CVI — Content Validity Index
LC — Local Council
LCV — Local Council Five
SPSS — Statistical Package for Social Sciences
Std. Dev. — Standard Deviation
SA — Strongly Agree
A — Agree
N — Neutral
D — Disagree
SD — Strongly Disagree
ANOVA — Analysis of Variance
R — Correlation Coefficient
β — Beta Coefficient
p — Probability Value

Informed Consent.

Written informed consent was obtained from all participants prior to their inclusion in the study. Participants were informed about the purpose of the study, procedures involved, potential risks and benefits, and their right to withdraw at any time without penalty.

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Conflict of interest.

There is no conflict of interest.

Availability of data.

Data used in this study are available upon request from the corresponding author.

Authors contribution.

KT designed the study, conducted data collection, cleaned and analyzed data, and drafted the manuscript.
DA supervised all stages of the study from conceptualization of the topic to manuscript writing and submission.

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References

1. Abdi, M., Okeyo, W., & Machoka, P. (2024). Community participation and road project performance in Kenya. International Journal of Infrastructure Development, 8(2), 45–59.
2. Al-Hawari, S., Ibrahim, M., & Hassan, A. (2022). Stakeholder engagement and participatory governance in infrastructure planning. Journal of Public Administration and Policy Research, 14(3), 112–124.
3. Bryman, A. (2026). Social research methods (7th ed.). Oxford University Press.
4. Creswell, J. W., & Creswell, J. D. (2024). Research design: Qualitative, quantitative, and mixed methods approaches (6th ed.). SAGE Publications.
5. Kanungu District Local Government. (2025). District development plan 2020–2025. Kanungu District Local Government.
6. Kanungu District Works Department. (2025). Annual works and technical services report. Kanungu District Local Government.
7. Dzakaklo, K., Mensah, P., & Owusu, A. (2023). Institutional challenges and community participation in local government service delivery. *African Journal of Public Administration, 12*(1), 55–70.
8. Fung, A., & Wright, E. O. (2003). *Deepening democracy: Institutional innovations in empowered participatory governance*. Verso.
9. Kamusiime, R. (2024). Community participation and decentralized road service delivery in Bushenyi District, Uganda. Uganda Journal of Local Governance, 6(1), 66–81.
10. Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. Educational and Psychological Measurement, 30(3), 607–610. https://doi.org/10.1177/001316447003000308
11. Mhina, J. (2025). Community participation in rural road maintenance projects in Tanzania. African Journal of Development Studies, 11(2), 90–104.
12. Namugambe, P. (2026). Community participation and road service delivery in Wakiso District, Uganda. East African Journal of Public Administration, 9(1), 33–48.
13. Porter, G., Hampshire, K., Abane, A., Munthali, A., Robson, E., & Mashiri, M. (2019). Transport infrastructure, mobility, and rural livelihoods in developing countries. Journal of Transport Geography, 74, 1–10.