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Comparative Analysis of Road Construction Projects Executed by Users' Committees and Contractors: A Case Study of Shuklagandaki Municipality, Tanahu

Bishwas Devkota, Rajendra Aryal, Prashrit Sapkota, Sundar Adhikari*

School of Engineering, Faculty of Science and Technology, Pokhara University, Nepal
** Author to whom correspondence should be addressed; E-Mail:* adsundar@pu.edu.np
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Abstract

Road construction projects in decentralized local governments are commonly implemented through Users' Committees and contractor-based procurement approaches; however, empirical evidence comparing their performance at the municipal level in Nepal remains limited. This study aims to compare the performance of road construction projects executed through Users' Committees and contractors in Shuklagandaki Municipality, Tanahu. Primary data were collected through questionnaire surveys, field observations, and stakeholder consultations covering 42 road construction projects (21 Users' Committee–executed and 21 contractor-executed), each with a project budget of NPR 2.4 million or above from fiscal year 2078/79 to 2080/81. A comparative quantitative research design was adopted, with respondents selected from Users' Committee members, contractors, municipal officials, and project beneficiaries using purposive sampling. Data were analysed using descriptive statistics, reliability testing (Cronbach's alpha), Relative Importance Index (RII), normality testing, and non-parametric analysis employing Kendall's coefficient of concordance.

The results indicate no statistically significant overall performance difference between Users' Committee–executed and contractor-executed projects (Kendall's W = 0.171, p = 0.886), leading to acceptance of the null hypothesis. Reliability analysis confirmed acceptable internal consistency across all performance dimensions (Cronbach's alpha > 0.60). While Users' Committees perform better in stakeholder engagement, communication, and timely completion, contractor-executed projects demonstrate stronger performance in technical quality, safety measures, and compliance with specifications. The findings suggest that procurement effectiveness is context-dependent rather than universally superior for either approach, supporting the adoption of a context-sensitive procurement strategy by local governments.

Keywords

Procurement; Local Government; Users' Committees; Contractor-Project; Relative Importance Index (RII)

1. Introduction

Road infrastructure is a fundamental component of local development, directly influencing mobility, economic activity, and access to essential services. In Nepal, the federal restructuring introduced by the Constitution of 2015 significantly transformed the governance of local infrastructure development by devolving substantial authority to local governments.

The Local Government Operation Act, 2017 further institutionalized this shift by empowering municipalities and rural municipalities to plan, finance, and implement local development projects, including road construction, with the objective of bringing governance and service delivery closer to citizens[1]. Within this decentralized framework, road construction projects at the local level are predominantly implemented through two approaches: contractor-based procurement and community-based execution through Users' Committees (UCs)[2]. Although both approaches are widely practiced, their relative effectiveness remains contested. Contractor-based procurement, typically awarded through competitive bidding and often guided by the lowest-bidder selection method, has raised concerns regarding declining construction quality, inadequate safety practices, and limited accountability in some local projects. Conversely, Users' Committees are valued for promoting community participation, local ownership, transparency, and employment generation; however, they are frequently criticized for limited technical capacity, weak supervision, and inconsistent quality control. These contrasting perceptions highlight a fundamental trade-off between professional technical delivery and participatory governance in local infrastructure implementation.

Despite the practical importance of this issue, empirical evidence comparing the performance of these two approaches at the municipal level in Nepal remains limited. Most existing studies either focus on a single implementation modality or assess performance using a narrow set of indicators, making it difficult for local governments to make evidence-based decisions regarding procurement strategies. This lack of systematic, comparative evaluation constitutes a critical research gap, particularly in the context of road construction projects that involve both technical complexity and strong community interaction.

Against this background, the present study aims to conduct a comparative analysis of road construction projects implemented through Users' Committees and contractor-based approaches in Shuklagandaki Municipality. Here are the general and specific objective of this study

- To evaluate the performance of road construction projects executed through Users' Committees and contractors in Suklagandaki Municipality.
- To compare project performance across cost, time, quality, safety, communication, and stakeholder engagement dimensions.
- To determine whether a statistically significant performance difference exists between the two procurement approaches.

By adopting a structured performance evaluation framework, the study seeks to provide an objective basis for comparing the strengths and limitations of each approach.

The significance of this study lies in its contribution to both policy and practice. For local governments operating under Nepal's decentralized system, the findings offer empirical insights to support informed procurement decisions tailored to project context and capacity. For practitioners and development stakeholders, the study highlights how different implementation mechanisms influence not only technical outcomes but also governance-related dimensions such as participation and accountability. From an academic perspective, the research contributes municipality-level evidence to the literature on community-based construction, decentralized project delivery, and construction performance evaluation in

developing-country contexts. Existing literature provides important insights into the performance of Users' Committees and contractor-led projects.

Studies conducted in municipalities such as Palungtar, Mahalaxmi, and Khairahani report that UC-executed projects often perform well in terms of budget compliance, community ownership, and stakeholder satisfaction, but consistently identify weaknesses related to technical supervision, safety measures, documentation, and quality control [3],[4],[5]. Similar patterns are observed in community-managed projects in other developing contexts, where strong participation and implementation efficiency coexist with challenges in meeting technical standards [6], Construction management research further emphasizes that professional competence, organizational environment, and the use of formal project management tools are critical to achieving technical quality and safety in contractor-led projects [7]. Comparative studies indicate that while contractor-based approaches tend to outperform in quality assurance, safety compliance, and adherence to specifications, Users' Committees excel in fostering participation, local employment, and a sense of ownership, albeit with limitations in technical rigor and defect liability enforcement [8]. Procurement practices play a critical role in shaping construction project performance, particularly in developing countries where lowest-bid selection remains prevalent [9]. Several studies highlight that project delivery approaches and governance mechanisms significantly influence construction performance in developing countries. Alongside institutional and procurement-related factors, participatory implementation models also affect time, cost, and social outcomes [10]. Construction projects in Nepal, especially those executed through User Committees (UCs), face challenges related to governance, political interference, and lack of resources. UCs, though designed to foster community participation, often encounter issues such as political bias during formation, leading to delays and inefficiencies in project execution [11]. However, systematic comparative analysis that evaluates both Users' Committee–executed and contractor-executed projects concurrently within the same municipal setting remains limited. In particular, there is a lack of empirical studies employing standardized performance indicators, Relative Importance Index (RII)–based ranking, and non-parametric statistical techniques to examine whether meaningful performance differences exist between the two procurement approaches at the municipal level. This study addresses this gap by providing a structured, data-driven comparative assessment of road construction projects executed through Users' Committees and contractors in Suklagandaki Municipality, Tanahu District, Nepal.

2. Methodology

This study was conducted in Shuklagandaki Municipality, located in Tanahu District of Gandaki Province, Nepal. The municipality is bordered by Pokhara Metropolitan City to the north, Byas Municipality and Myagde Rural Municipality to the east, Syangja District to the west, and Bhimad Municipality to the south. Shuklagandaki Municipality covers an area of approximately 165 km² and has a population of 55,620. Owing to its extensive use of both Users' Committees and contractor-based procurement for local road construction projects, the municipality provides a suitable context for comparative performance analysis. The geographical location of the study area is presented in Figure 1.

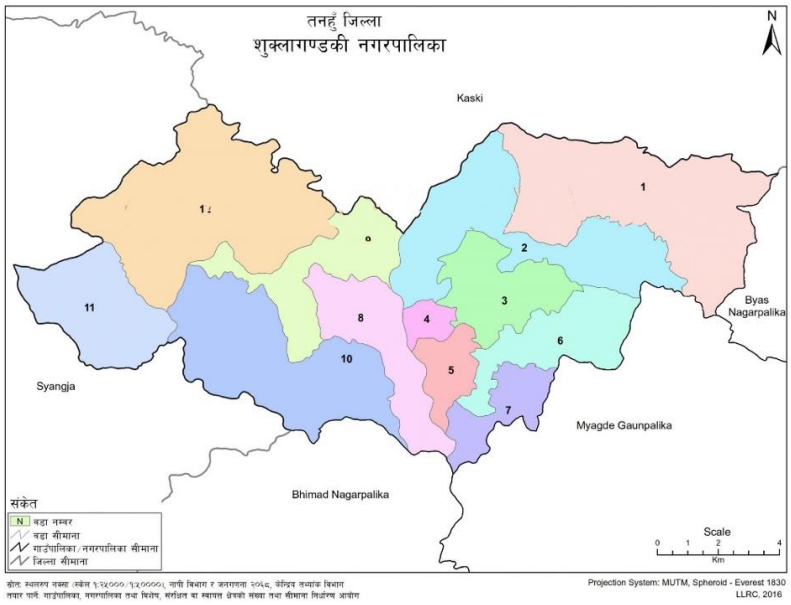

Figure 1: Map of Shuklagandaki Municipality

The methodological framework of the study followed a sequential process comprising identification of performance indicators through literature review, primary and secondary data collection, statistical analysis, and comparative evaluation. The overall research process and analytical sequence are illustrated in Figure 2. Both primary and secondary data were utilized to ensure analytical robustness and triangulation. Primary data were collected through structured questionnaire surveys, key information consultations, checklists, and field visits. The questionnaires were administered to Users' Committee members, contractors or their representatives, municipal officials, and selected project beneficiaries who were directly involved in or affected by the road construction projects. Respondents from Users' Committees were selected based on their availability and active involvement in project implementation within the project areas. Field visits were carried out to validate survey responses and to observe construction quality, safety practices, and project progress on site.

The study considered 42 road construction projects from fiscal year 2078/79 to 2080/81, comprising 21 projects implemented through Users' Committees and 21 executed by contractors. Assuming an average of four key respondents per project, the total population size was 168. The required sample size was determined using a 95% confidence level, a population proportion of 0.5, and a margin of error of 5%, resulting in a calculated sample size of 118 respondents. The distribution of population and sample size is presented in Table 1.

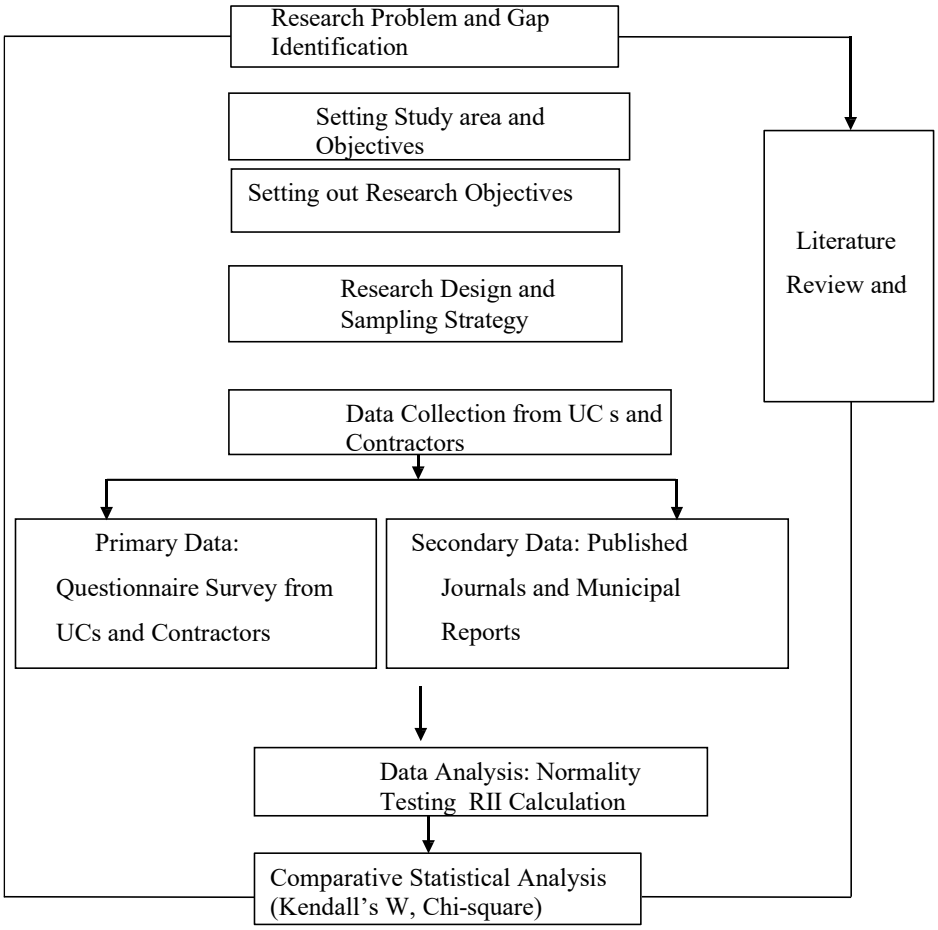

Figure 2: Methodological Research Framework

Table 1: Population and Sample Determination

Description	Value
Total Road Projects	42
Average Beneficiaries per Project	4
Total Population (N)	168
Confidence Level	95% (Z = 1.96)
Population Proportion (p)	0.5
Margin of Error (e)	5%
Calculated Sample Size	118

Secondary data were collected from municipal records, project documents, contract agreements, Users' Committee reports, relevant legal provisions, and previous research studies. These sources were used to complement primary data and to provide institutional and regulatory context for the analysis.

The collected data were coded and analysed using appropriate statistical techniques. Descriptive statistics were used to summarize respondent characteristics and project performance indicators. The internal consistency of the measurement scales was assessed using Cronbach's alpha. Comparative performance evaluation was carried out using Relative

Importance Index (RII) analysis. The relative importance index (RII) was calculated using the following formula [4].

$$RII = \frac{\sum WW}{A*N} \quad (1)$$

where,

W is the mentioned scale for rating a factor by the respondents, which ranges from one to five; A is the highest weight in the scale; N is the total number of respondents

Since normality tests indicated non-normal data distribution, non-parametric statistical methods, including Kendall's coefficient of concordance and the chi-square test, were applied to examine differences in performance between Users' Committee–executed and contractor-executed projects.

3. Results and Discussion

3.1 Respondent Characteristics

The demographic characteristics and procurement-related awareness of respondents are summarized in Table 2 which presents the demographic characteristics and procurement-related awareness of the respondents. More than half of the respondents (54.2%) had attained secondary-level education, while a smaller proportion reported university-level education (13.6%).

Table *2*: Respondent Demographic and Knowledge Profile

Characteristics	Category	Percentage (%)
Education Level	Primary	13.6
	Secondary	54.2
	University	13.6
Age Group	18–35 years	16.9
	35–60 years	61
	Above 60 years	22.1
Gender	Male	76.3
	Female	23.7
Knowledge of PPA/PPR	Aware	50.8
	Not aware	49.2

3.2 Reliability of Measurement Scales

Table 3 presents the results of the reliability analysis conducted using Cronbach's alpha to assess the internal consistency of the measurement scales for both procurement approaches. The Cronbach's alpha values ranged from 0.603 to 0.762 for Users' Committee–executed projects and from 0.627 to 0.780 for contractor-executed projects. All constructs exceeded the minimum acceptability threshold of 0.60, indicating satisfactory internal consistency of the survey instrument. These results support the reliability of the performance dimensions used for subsequent comparative and inferential analyses.

Table *3*: Reliability Analysis of Performance Dimensions

Performance Dimension	Cronbach's Alpha (Users' Committee)	Cronbach's Alpha (Contractor)
Cost Effectiveness	0.65	0.682
Quality of Construction	0.603	0.762
Timeliness of Completion	0.735	0.631
Safety Measures	0.716	0.735
Communication and Stakeholder Engagement	0.722	0.65
Budget and Financial Management	0.762	–
Formation and Coordination	0.608	–
Compliance with Specifications	–	0.78
Environmental Considerations	–	0.716
Contractual Obligations	–	0.722
Overall Satisfaction	0.696	0.627

3.3 Performance Evaluation of Users' Committee-Executed Projects (Users' Committee)

Table 4 summarizes the performance evaluation of road construction projects executed through Users' Committees based on respondents' mean scores and standard deviations. The results indicate relatively higher mean scores for overall satisfaction (mean = 3.75), budget and financial management (mean = 3.62), communication and transparency (mean = 3.47), and timeliness of works (mean = 3.44), suggesting positive stakeholder perceptions in community coordination and project delivery. Moderate scores were observed for quality of construction and stakeholder engagement, while comparatively lower mean values were recorded for safety measures and cost effectiveness, reflecting limitations in technical compliance and risk management. The standard deviation values indicate moderate variability in responses, implying differing experiences across projects.

Table 4: Performance Evaluation of Users' Committee-Executed Projects

Performance Dimension	Mean Score	Standard Deviation
Formation and Coordination	3.05	1.04
Budget and Financial Management	3.62	0.77
Stakeholder Engagement	3.3	0.82
Quality of Construction	3.23	1.04
Timeliness of Works	3.44	0.7
Cost Effectiveness	3.02	1.04
Safety Measures	3	1.04
Communication and Transparency	3.47	0.7
Design Drawings and Specifications	3.08	1.02
Community Benefits	3.05	1.04
Overall Satisfaction	3.75	0.94

(Scale: 1 = Strongly Disagree, 5 = Strongly Agree; n = 59)

3.4 Performance Evaluation of Contractor-Executed Projects

Table 5 presents the performance evaluation of contractor-executed road construction projects based on aggregated mean scores across performance dimensions. The highest mean scores were observed for communication and stakeholder engagement (mean = 3.64), safety measures (mean = 3.62), and quality of construction (mean = 3.46), indicating comparatively stronger performance in technical execution and site management practices. Compliance with specifications also demonstrated relatively consistent performance (mean = 3.45). In contrast, lower mean scores were recorded for environmental considerations (mean = 3.04), cost effectiveness (mean = 3.08), and contractual obligations (mean = 3.10). Overall satisfaction with contractor-executed projects remained moderate (mean = 3.31), reflecting mixed perceptions across different performance dimensions.

Table 5: Performance Evaluation of Contractor- Executed Projects

Performance Dimension	Mean Score	Standard Deviation
Cost Effectiveness	3.08	1.02
Quality of Construction	3.46	0.85
Timeliness of Completion	3.18	1.06
Compliance with Specifications	3.45	0.7
Safety Measures	3.62	0.77
Communication and Stakeholder Engagement	3.64	0.62
Environmental Considerations	3.04	1.04
Contractual Obligations	3.1	0.98
Overall Satisfaction	3.31	0.9

3.5 Relative Importance Index (RII)- Based Comparative Analysis

To enable a direct comparison between Users' Committee–executed and contractor-executed road construction projects, a Relative Importance Index (RII) analysis was conducted using performance dimensions common to both procurement approaches. The RII values were computed based on respondents' Likert-scale ratings and subsequently used to rank the relative importance of each performance factor.

3.5.1 *RII Ranking for Users' Committee-Executed Projects*

The RII ranking for Users' Committee–executed projects indicates that overall satisfaction was the highest-ranked performance factor (RII = 0.749), followed by communication and transparency (RII = 0.693) and time management (RII = 0.688). Cost and quality management occupied mid-level rankings, while safety measures received the lowest RII value (0.600), indicating comparatively weaker perceived performance in this domain as shown in Table 6.

Table 6: Relative Importance Index (RII) for Users' Committee Projects

Rank	Performance Factor	Mean (μ)	RII
1	Overall Satisfaction	3.746	0.8
2	Communication and Transparency	3.466	0.7
3	Time Management	3.441	0.7
4	Cost Management	3.318	0.7
5	Quality Management	3.232	0.7
6	Safety Measures	3	0.6

3.5.2 RII Ranking for Contractor- Executed Projects

For contractor-executed projects, quality management emerged as the highest-ranked factor (RII = 0.724), followed by time management (RII = 0.690) and safety measures (RII = 0.688). Cost management and overall satisfaction received moderate rankings, whereas communication and 3.4.2 RII Ranking for Contractor-Executed Projects transparency was ranked lowest (RII = 0.603), reflecting comparatively weaker perceptions in this area as shown in Table 7.

Table 7: Relative Importance Index (RII) for Contractor Projects

Rank	Performance Factor	Mean (μ)	RII
1	Quality Management	3.619	0.724
2	Time Management	3.452	0.69
3	Safety Measures	3.441	0.688
4	Cost Management	3.093	0.619
5	Overall Satisfaction	3.076	0.615
6	Communication and Transparency	3.017	0.603

3.6 Comparative Performance Evaluation Analysis and Statistical Analysis

To visually compare the performance of Users' Committee–executed and contractor-executed road construction projects, a comparative analysis of mean performance scores across common evaluation dimensions is presented in Figure 3.

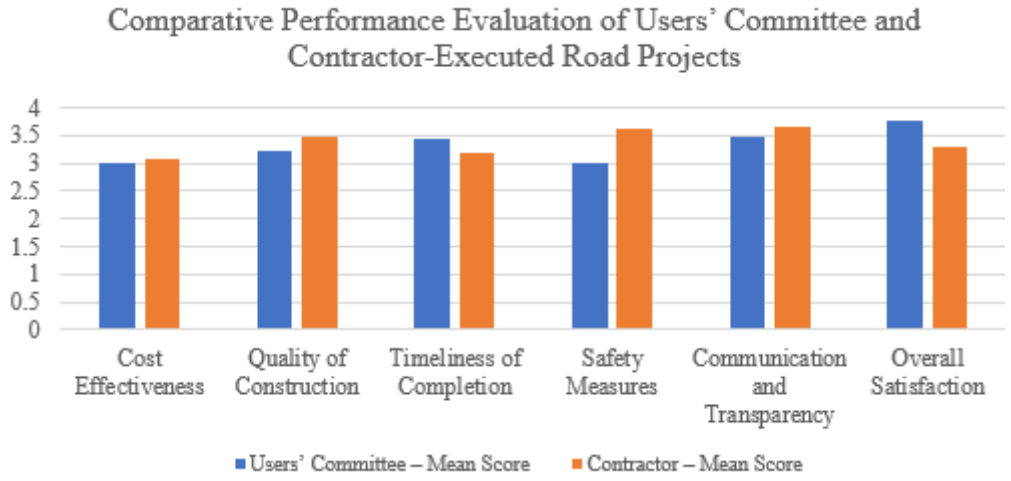

Figure 3: Comparative Performance Analysis

Figure 3 illustrates that the overall performance of Users' Committee–executed and contractor-executed projects is broadly comparable across key performance dimensions. Users' Committee–executed projects demonstrate relatively higher mean scores in timeliness of completion and overall satisfaction, reflecting stronger community engagement and localized coordination. In contrast, contractor-executed projects show higher mean scores in quality of construction, safety measures, and communication and transparency, indicating comparatively stronger technical execution and formal management practices. These visual trends are consistent with the statistical findings, which confirm that no significant overall performance difference exists between the two procurement approaches.

To examine whether a statistically significant difference exists between Users' Committee–executed and contractor-executed road construction projects, a comparative statistical analysis was conducted. Prior to hypothesis testing, the normality of the data was assessed to determine the suitability of parametric or non-parametric statistical methods.

3.6.1 Normality Test

Normality tests were conducted for the key performance factors of both Users' Committee–related projects and contractor-related projects using skewness, kurtosis, significance (p-value), and the Kolmogorov–Smirnov (K–S) test and is shown in Table 8.

Table 8: Normality Test for Users' Committee-Executed Projects

S.N.	Performance Factors	Skewness	Kurtosis	p-value	K–S Statistic
1	Cost Effectiveness	-0.374	-0.914	0	0.309
2	Quality of Construction	-0.616	-0.444	0	0.231
3	Timeliness of Completion	-0.863	-0.475	0	0.361
4	Safety Measures	-0.338	0.556	0	0.273
5	Communication and Transparency	-0.948	-0.358	0	0.311
6	Overall Satisfaction	-1.226	1.576	0	0.316

Table 9: Normality Test for Contractor-Executed Projects

S.N.	Performance Factors	Skewness	Kurtosis	p-value	K–S Statistic
1	Cost Effectiveness	-0.132	-1.081	0	0.221
2	Quality of Construction	-0.034	-0.242	0	0.238
3	Time Management	-0.416	-0.99	0	0.237
4	Safety Measures	-1.7	1.819	0	0.448
5	Communication	-1.527	1.295	0	0.432
6	Overall Satisfaction	-1.006	0.021	0	0.359

Skewness values within the range of ±2 and kurtosis values within ±7 are generally considered acceptable for normal distribution. However, for all performance factors across both procurement approaches, the significance values ($p < 0.05$) of the Kolmogorov–Smirnov test indicate a violation of the normality assumption as indicated in Table 9. Consequently, non-parametric statistical tests were adopted for subsequent comparative analysis.

3.6.2 Hypothesis Testing Using NON-Parametric Methods

Based on the non-normal distribution of data, Kendall's coefficient of concordance (W) and the Chi-square test were employed to examine whether a significant difference exists between the performance of Users' Committee–executed and contractor-executed projects.

Hypotheses

- **H_0:** There is no significant difference in performance between Users' Committee–executed and contractor-executed projects.
- **H_1:** There is a significant difference in performance between Users' Committee–executed and contractor-executed projects.

Table 10: Hypothesis Testing Results

Statistic	Value
Kendall's Coefficient (W)	0.171
Chi-square (χ^2)	1.71
Degrees of Freedom	5
p-value	0.886
Decision	Accept H_0

The results of the hypothesis testing indicate that the p-value (0.886) is substantially greater than the 0.05 level of significance as shown in Table 10. Therefore, the null hypothesis (H_0) is accepted and the alternative hypothesis (H_1) is rejected. This confirms that there is no statistically significant difference between the performance of road construction projects executed by contractors and those implemented by Users' Committees. The findings suggest that, despite differences in implementation mechanisms, both procurement approaches yield comparable performance outcomes when evaluated across cost effectiveness, quality, time management, safety measures, communication, and overall satisfaction. These results are consistent with respondents' general perceptions and reinforce the conclusion that neither approach demonstrates a clear performance advantage over the other. As the performance outcomes of both approaches are statistically similar, the selection between contractor-based and Users' Committee–based implementation becomes context-dependent rather than performance-driven. To further address this issue, an additional analysis was conducted using a second questionnaire to identify the most suitable procurement approach for small-scale projects based on specific operational and contextual parameters.

3.6.3 Selection of Preferred Procurement Strategy Based on Respondents' Choice

Following the finding that no statistically significant performance difference exists between Users' Committee and contractor-based procurement approaches, respondents were further asked to indicate which strategy they considered more suitable for construction work across specific performance parameters. This perception-based comparison was intended to guide procurement strategy selection for small-scale road projects where contextual suitability is critical and is shown in Table 11.

Table 11: Respondents' Preference for Procurement Strategy by Performance Parameter

Performance Parameter	Contractor (%)	Users' Committee (%)	Cannot Say (%)	Preferred Strategy
Budget and Work Coordination	43.3	46.5	10.2	Users' Committee
Stakeholder Engagement	10.2	85.8	3.9	Users' Committee
Timeliness of Completion	14.2	81.9	3.9	Users' Committee
Quality of Construction	55.1	37	7.9	Contractor
Accuracy of Design, Drawing & Specification	89	6.3	4.7	Contractor
Environmental Considerations	5.5	92.9	1.6	Users' Committee

Communication and Transparency	3.9	91.3	4.7	Users' Committee
Technical Skills and Construction Capacity	92.9	1.6	5.5	Contractor
Safety Considerations	63	33.9	5.5	Contractor
Manpower and Equipment for Complex Works	84.3	11.8	3.9	Contractor
Risks and Uncertainty Handling	23.6	72.4	3.9	Users' Committee
Ownership of Work	11	86.6	2.4	Users' Committee
Job Opportunities for Local People	22.8	70.9	6.3	Users' Committee

The comparative preference analysis reveals a clear contextual distinction between the two procurement approaches. Users' Committees are overwhelmingly preferred for parameters related to community engagement, communication, environmental responsibility, ownership of work, local employment generation, and timely completion**.** This preference is reinforced by documentary evidence from municipal records, which show that only one Users' Committee project required a time extension compared to six contractor-executed projects. Conversely, contractors are strongly favoured for technical complexity, including accuracy of design and specifications, safety practices, manpower and equipment availability, and overall construction quality—attributes closely associated with mechanization, professional expertise, and formal quality assurance mechanisms. Although cost performance records indicate slightly higher budget utilization efficiency in Users' Committee projects, the choice of procurement strategy ultimately depends on project scale and complexity rather than performance superiority alone.

3.7 Summary of Key Findings and Discussion

The analysis reveals that road construction projects executed by Users' Committees and contractors exhibit no statistically significant difference in overall performance, leading to acceptance of the null hypothesis. However, distinct strengths are evident across specific parameters. Users' Committees perform better in stakeholder engagement, communication, transparency, environmental consideration, ownership of work, and timely completion, reflecting the benefits of community participation and localized oversight. In contrast, contractor-executed projects demonstrate superior performance in technical quality, safety practices, accuracy of design and specifications, and capacity to handle complex works due to professional expertise and formal quality control mechanisms. These findings indicate that procurement effectiveness is context-dependent, rather than universally superior for either approach.

The comparative analysis of road construction projects executed through Users' Committees and contractors in Shuklagandaki Municipality demonstrates that, despite observable differences across individual performance dimensions, no statistically significant difference exists in overall project performance between the two procurement approaches, as confirmed by non-parametric testing. This finding is consistent with community-driven development

(CDD) literature, which suggests that participatory implementation mechanisms can achieve outcomes comparable to conventional contracting when evaluated holistically, particularly in decentralized governance contexts[12]. Empirical results from this study show that Users' Committee–executed projects perform relatively better in stakeholder engagement, communication, transparency, environmental consideration, ownership of work, and timely completion. These outcomes can be attributed to the institutional positioning of Users' Committees within Nepal's local governance framework under the Local Government Operation Act, which emphasizes community participation, accountability to beneficiaries, and localized decision-making[1]. Such participatory strengths are well documented in CDD research, which highlights the role of local ownership and social accountability in enhancing process efficiency and trust in public infrastructure delivery[12]. Conversely, contractor-executed projects exhibit superior performance in technical quality, safety measures, accuracy of design and specifications, and capacity to handle complex works—findings that align with construction management literature emphasizing the advantages of professional expertise, standardized quality control, and formal safety management systems in contractor-led projects[13]. The relatively higher safety and quality scores for contractor-executed projects in this study corroborate evidence that technical performance and risk management are more effectively addressed through professional contracting arrangements, even though such arrangements may involve greater procedural complexity[13].Importantly, the coexistence of these contrasting strengths explains the absence of a significant aggregate performance difference, reinforcing the argument that procurement effectiveness is context-dependent rather than universally modality-specific. From a governance and infrastructure planning perspective, these findings resonate with recent scholarship emphasizing the need to balance technical rigor with participatory legitimacy in infrastructure development, particularly within evolving transport and governance systems[13]. Overall, this study extends existing literature by providing municipality-level empirical evidence from Nepal that quantifies how decentralized, community-based procurement enhances social and process outcomes, while contractor-based procurement strengthens technical performance, thereby supporting the adoption of hybrid or context-sensitive procurement strategies for small-scale road construction projects.

4. Conclusion and recommendations

This study concludes that both Users' Committee–based and contractor-based procurement approaches are effective for road construction projects when applied under appropriate conditions. Although no significant overall performance difference was identified, Users' Committees are better suited for small-scale, community-oriented projects where local participation, cost control, transparency, and timely completion are critical. Conversely, contractor-based procurement is more appropriate for technically complex projects requiring specialized skills, advanced equipment, and formal safety and quality assurance mechanisms. It is recommended that local governments adopt a context-sensitive procurement strategy, utilizing Users' Committees for socially embedded projects with strengthened technical supervision and reserving contractor-led execution for complex works. Capacity building for Users' Committees and improved monitoring of contractor projects should be emphasized to enhance overall project performance.

Conflicts of Interest Statement

The Authors declare that they have no financial interests or personal relationships that could have influenced the research presented in this paper.

Data Availability Statement

The data supporting the findings of this study are presented in the manuscript. Additional data will be provided upon request.

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