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Community Engagement Strategies and Sustainability of Advanced Citizen Engagement Project in Gicumbi District, Rwanda

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Abstract: *The goal of this research was to evaluate the impact of community engagement tactics on the sustainability of rural development initiatives in Rwanda, specifically the Advanced Citizen participation Project in Gicumbi District. The research focused on how different types of engagement including participatory, collaborative, and consultative affect the sustainability of projects. Using qualitative and quantitative methods, descriptive and correlational research was conducted. The 303 participants in the Advanced Citizen Engagement Project in the Gicumbi District made up the major demographic for this research. To make sure that every category is sufficiently represented in the final sample based on their proportions, the research used stratified random sampling. In order to minimize selection bias, 172 respondents were selected using simple random sampling. The quantitative data was analyzed using descriptive and inferential statistics. With B = 0.319, t = 5.230, and p < .001, the regression results demonstrated that participatory involvement significantly improved the Advanced Citizen involvement Project's sustainability in Gicumbi District. Both collaborative and consultative involvement positively and significantly affected the outcomes (B = 0.393, t = 6.661, p < .001 for collaborative engagement and B = 0.359, t = 6.527, p < .001 for consultative engagement). According to the research, rural development initiatives were far more likely to be sustainable when participants took part in decision-making, shared responsibilities, and received ongoing feedback via participatory, collaborative, and consultative involvement. The study recommended that project authorities should institutionalize community engagement mechanisms throughout planning, implementation, monitoring, and post-project sustainability processes.*

Keywords: *Community Engagement Strategies, Participatory Engagement, Collaborative Engagement, Consultative Engagement, Sustainability of Rural Development Projects, Advanced Citizen Engagement Project*

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1. Introduction

It is widely acknowledged that community participation is crucial for rural development programs to be sustainable on a worldwide scale. Participatory and citizen-centered methods that highlight local ownership and responsibility have replaced top-down project delivery paradigms in development practice during the last twenty years. This evolution has been influenced by global development frameworks that prioritize inclusive institutions and community empowerment as drivers of long-term development outcomes. Evidence from international development programs indicates that projects with weak community involvement often experience early collapse once external funding ends. As a result, community engagement has become integral to

sustainability discourse in rural development programming (World Bank, 2022).

Kenya has adopted the Constituency Development Fund (CDF) alongside devolved county governments to anchor project identification at the grassroots level. The constitution mandates public participation forums where citizens act as key stakeholders in prioritizing development projects before funds are released. This legal requirement compels project management committees to hold regular barazas (meetings) to update community members on progress and financial expenditure. The framework is designed to transition communities from passive beneficiaries to active auditors of public resources (Wanjiku & Mbugua, 2023).

The Government of Rwanda has integrated community engagement into national life through Home Grown Solutions such as Umuganda (community work) and Imihigo (performance contracts). These mechanisms serve as platforms for citizens to contribute labor to public works and hold leaders accountable for development targets. The decentralization policy further empowers citizens at the village (Umudugudu) level to identify their priorities during the planning and budgeting process. This approach is intended to harmonize national development goals with local needs through a participatory planning chain (Uwayezu & de Vries, 2023).

The Advanced Citizen Engagement (ACE) Project, implemented by the World Bank in partnership with Spark Microgrants, aimed to strengthen citizen participation in local governance and development processes in Rwanda. The project used a community-driven development approach to empower citizens to actively identify their priorities, participate in decision-making, develop Village Development Plans (VDPs), and engage with local government in planning and monitoring development initiatives. Through participatory, collaborative, and consultative engagement strategies, the project sought to strengthen community ownership, improve accountability, enhance collaboration between citizens and government, and promote sustainable community-responsive development (Gasana & Nshimyumuremyi, 2023).

The sustainability of rural development projects remains a critical challenge in Rwanda, despite significant financial injections from both the government and development partners. Ideally, development projects should continue to deliver benefits to the community for an extended period after external funding has been withdrawn. However, the Office of the Auditor General (OAG) frequently reports cases of stalled or abandoned projects, citing a lack of ownership and poor maintenance planning (OAG, 2023).

Transparency International Rwanda (2024) reveal that approximately 30% of rural water and sanitation projects in the Northern Province encounter functional difficulties within three years of completion. This high failure rate represents a significant wastage of public resources and delays socio-economic transformation. The persistence of these failures suggests that the current models of project management are not sufficiently embedding sustainability principles. While participation is mandated by policy, in practice, it often takes the form of information giving rather than active decision-making or power-sharing. When communities are not genuinely involved in problem analysis and solution design, they rarely develop the psychological ownership necessary to care for the assets (Gasana & Nshimyumuremyi, 2023).

Despite substantial investments in rural development projects, limited evidence exists linking community engagement strategies directly to sustainability of rural development projects in Rwanda. No empirical research has specifically assessed this relationship in Advanced Citizen Engagement Project in Rwanda. In order to fill this knowledge vacuum, this research looked at how community participation tactics affected the long-term viability of Gicumbi District's rural development initiatives.

1.1 General Objective

The purpose of this study was to assess the effect of community engagement strategies on sustainability of rural development projects in Rwanda.

1.2 Specific Objectives

1. To assess the effect of participatory engagement on sustainability of Advanced Citizen Engagement Project in Gicumbi District.

2. To analyze the effect of collaborative engagement on sustainability of Advanced Citizen Engagement Project in Gicumbi District.

3. To evaluate the effect of consultative engagement on sustainability of Advanced Citizen Engagement Project in Gicumbi District.

2. Literature Review

This chapter provides a critical review of the literature on the topic of community engagement in rural development initiatives, which is essential for their long-term effectiveness. This chapter lays forth the theoretical framework for the current study and highlights knowledge gaps.

2.1 Theoretical Review

Stakeholder involvement and the long-term viability of rural development initiatives are discussed in this section in relation to well-established theoretical frameworks.

Within the framework of project management, the theories clarify the ways in which system interaction, cooperation, consultation, and participation impact project results. Each theory is reviewed based on its origin, core assumptions, and relevance to sustainability. The section concludes by linking each theory to the present study objectives.

2.1.1 Stakeholder Theory

Strategic Management: A Stakeholder Approach, R. Edward Freeman's 1984 landmark publication, officially developed the concept of Stakeholder Theory. This school of thought developed in reaction to management approaches that put the spotlight on shareholders at the expense of the many other stakeholders whose needs and perspectives are integral to any given project or company. According to Freeman, focusing just on financial results is not sustainable in the long run; a more important factor is maintaining a balance in stakeholder relationships. This theoretical viewpoint established the groundwork for inclusive project governance (Taufiq et al., 2023).

Stakeholder Theory holds that projects function as social systems involving beneficiaries, implementers, funders, regulators, and local institutions. Each stakeholder group possesses distinct expectations that influence project acceptance and continuity. The theory underscores the importance of identifying stakeholders early and integrating them throughout the project life cycle. Failure to manage stakeholder interests often results in resistance, reduced ownership, and sustainability risks (Mariotti & Sasso, 2024). Stakeholder Theory provides guidance on engagement strategies such as participation, collaboration, and consultation. These mechanisms enable project managers to align project objectives with community needs and institutional priorities. Empirical literature has shown that projects applying stakeholder-inclusive approaches demonstrate improved performance and post-completion sustainability. The theory therefore serves as a governance framework rather than a mere communication tool (Wazni & Nurman, 2025).

Stakeholder Theory guided the analysis of participatory, collaborative, and consultative engagement practices in rural development projects. The theory was used to explain how structured stakeholder involvement enhanced sustainability outcomes through ownership, accountability, and shared decision-making. By applying Freeman’s 1984 framework, the study assessed how engagement practices shaped long-term project viability beyond implementation phases.

2.1.2 Participatory Development Theory

Robert Chambers' 1983 publication Rural Development: Putting the Last First largely formulated Participatory Development Theory. Critiques of development planning from on high, which ignored local expertise, gave rise to the notion. According to Chambers, development interventions should put community voices first and end professional domination (Richu et al., 2025).

Sustainable development, according to the argument, can only take place when locals have a say in matters that directly impact their quality of life. Participation is viewed not as consultation alone but as shared control over planning, implementation, and evaluation. Participatory Development Theory recognizes communities as co-producers of development outcomes rather than passive recipients. The theory informs tools such as participatory needs assessment, community-led monitoring, and beneficiary-driven evaluation. Projects applying participatory principles tend to adapt more effectively to local contexts and risks. The theory also highlights learning and empowerment as sustainability enablers. These attributes are especially relevant in rural development settings where institutional capacity may be limited (Fischer & Schmidt, 2023).

Participatory Development Theory provided a lens for examining participatory engagement mechanisms in rural development projects. The theory supported analysis of how community involvement contributed to sustainability through ownership, skill development, and maintenance responsibility.

2.1.3 Social Capital Theory

Social Capital Theory was advanced by James Coleman in 1988, emphasizing the value of social relationships in facilitating collective action. Coleman conceptualized social capital as resources embedded within networks, norms, and trust. The theory challenged economic models that overlooked social structures in explaining performance outcomes. Its relevance quickly extended to development and project management disciplines (Pattnaik, 2022).

The theory explains how trust, reciprocity, and shared norms reduce coordination costs and enhance cooperation. Strong social ties enable communities to mobilize resources, share information, and resolve conflicts. Social capital strengthens institutional resilience, particularly in collective projects. Where trust is weak, project sustainability often deteriorates after external support ends. Collaborative engagement is a key mechanism for building social capital. Joint planning, shared monitoring, and inter-stakeholder partnerships strengthen horizontal and vertical linkages. Social Capital Theory explains why collaboration improves continuity and collective responsibility (Masiya et al., 2023).

Social Capital Theory was used to explain the role of collaborative engagement in sustaining rural development projects. The theory helped assess how

collaboration strengthened trust, coordination, and shared accountability among stakeholders. The study examined how accumulated social capital supported project sustainability beyond donor involvement.

2.1.4 Systems Theory

Systems Theory was developed by Ludwig von Bertalanffy in 1968 through his work General System Theory. The theory proposed that organizations and projects function as interconnected systems rather than isolated components. Bertalanffy emphasized interdependence, feedback loops, and adaptation within complex environments. This perspective transformed organizational and project analysis (Moyo & Nkosi, 2024).

Systems Theory views development projects as open systems interacting with social, economic, institutional, and environmental subsystems. Changes in one component influence outcomes in others, requiring holistic management approaches. Sustainability depends on balance, coordination, and continuous feedback. Consultative engagement is critical within a systems perspective, as it enables information flow across subsystems. Consultation facilitates feedback, learning, and adjustment during planning and implementation. Systems Theory therefore supports iterative consultation rather than one-time engagement (Njiru & Thoronjo, 2024).

Systems Theory framed the analysis of consultative engagement in rural development projects. The theory was applied to explain how consultation supported feedback mechanisms and adaptive management. The study assessed how systemic consultation enhanced sustainability through continuous alignment of project components.

2.2 Empirical Review

Using the study's stated goals as a guide, this analysis examines the effects of various engagement strategies on the long-term viability of development projects across a wide range of international and regional settings.

2.2.1 Participatory Engagement and Sustainability of Rural Development Projects

Mariotti and Sasso (2024) investigated the effect of governmental and private participation programs in Italy and Portugal under the title Revitalizing rural communities via innovation and entrepreneurship. The research examined the effects of community integration into digital hubs on local economic retention using case studies of Rural Move and the National Connected Hubs Network. The results showed that compared to facilities controlled from on high, human capital retention rates in innovation centers where local communities were actively involved were 15% higher. Researchers came to the conclusion that in order to combat rural depopulation, participatory ecosystems are crucial. Funding for physical infrastructure should be reallocated to human infrastructure that enables continual community involvement, according to their recommendations for EU policy.

The research team of Kampire and Njenga (2025) looked at the Gakenke District of Rwanda as part of a larger study on community involvement in monitoring, evaluation, and project sustainability. Research aimed primarily at understanding how community participation in monitoring activities affects the long-term viability of water and sanitation projects. Results from a descriptive research with 151 participants and an R-squared value of 0.976 show that beneficiary engagement in goal setting and monitoring accounts for 97.6% of the variance in project sustainability. To make sure the advantages keep rolling in even when donors walk away, the authors came to the conclusion that project monitoring is an essential instrument for sustainability. They concluded that all institutions should include beneficiaries into monitoring and evaluation in order to promote empowerment via the transfer of skills.

2.2.2 Collaborative Engagement and Sustainability of Rural Development Projects

Wazni and Nurman (2025) created a governance model for village development in Indonesia that is both hybrid and collaborative. Finding a middle ground between Kampar Regency's centralized governance methods and official decentralization requirements was the primary goal of the research. The authors draw the conclusion that by enhancing cooperation across sectors, collaborative governance decreases policy implementation fragmentation. To make decentralized development projects more legitimate and long-lasting, it was suggested that village institutions use hybrid governance models.

Uwamahoro and Shukla (2025) investigated how Rwanda's Kaizen Project's Stakeholder Engagement Affected Its Long-Term Viability. The overarching goal of the research was to find out if water utility projects funded by WASAC are more likely to be sustainable when their stakeholders work together, especially via capacity development and participatory planning. According to the data, 81% of people think that participatory planning makes projects more ownership-friendly, and the average score of 4.08 shows that people have a good impression of participation strategies. According to the research, stakeholder involvement is essential for institutions to be resilient, and it's not just a formality. In order to strengthen the ability of technical personnel and beneficiaries to work together, it was suggested that knowledge-sharing platforms and ongoing training be put into place.

2.2.3 Consultative Engagement and Sustainability of Rural Development Projects

Aras et al. (2023) investigated Collaborative Governance in Indonesia's Nutritious Food Policy to solve food security concerns. The purpose of the research was to examine the methods used to reduce stunting rates via consultation as part of multi-stakeholder initiatives. The results brought attention to a major shortcoming: policies were not able to adapt to local circumstances since there were no thorough multi-stakeholder feedback systems. The study's authors came to the conclusion that policy efficacy is substantially hindered in the absence of adequate consultation and accountability gaps. To guarantee that all stakeholders can work together and provide the essential input for the system's long-term viability, they suggested laying down specific protocols for consultative participation.

Gasore and Mulyungi (2024) did study on Beneficiary Consultation and the Sustainability of Agricultural Projects in Rwamagana District. This research set out to answer the question, "How does consulting farmers on crop selection affect the financial sustainability of cooperative projects?" by looking at this very question. The results showed that initiatives with farmers' input only after implementation were 45 percent less profitable than those with their input during the planning phase, according to the descriptive survey methodology. Results showed that late consultation is usually superficial and misses important regional agronomic expertise. All agricultural financing at the district level should be subject to a pre-feasibility consultation process, according to the authors' recommendation to the Ministry of Agriculture.

3. Methodology

3.1 Research Design

Descriptive and correlational research methods were used in this study. This design, which was a cross-sectional study, allowed the researcher to explain community involvement initiatives and analyze their link with sustainability results at a specific moment in time.

The descriptive part explained in detail the ways in which community engagement strategies are put into action within the project setting, and the correlational part enabled the researcher to determine how strong and in which direction the relationship is between community engagement and sustainability results. This method works well as it lets us gather quantitative data and run the numbers without changing any of the variables in the research.

3.2 Study Population

The 303 participants in the Advanced Citizen Engagement Project in the Gicumbi District made up the major demographic for this research. Personnel involved in managing and implementing the project, as well as local leaders and others who stand to benefit from it, were part of this group.

3.3 Sampling Design

Since the population size is known, Slovin's formula was used to calculate the sample size.

To make sure that every category is sufficiently represented in the final sample based on their proportions, the research used stratified random sampling. In order to minimize selection bias, individual responders were selected using simple random sampling. By combining these methods, we can ensure that the data accurately represents the complex and hierarchical nature of the project stakeholders.

3.4 Data Collection Instrument

The researcher reviewed existing project reports, minutes from community meetings, financial statements, and monitoring and evaluation reports. This instrument was particularly relevant for verifying objective indicators of sustainability, such as the number of years a project has been functional. By analyzing these documents, the study was able to corroborate the subjective perceptions of respondents regarding the frequency and quality of engagement meetings.

The poll uses a 5-point Likert scale, with 1 representing Strongly Disagree and 5 representing Strongly Agree, to measure people's opinions on Participatory, Collaborative, and Consultative involvement as well as the Sustainability qualities. This tool is critical for the correlational design since it generates the numerical data required for statistical analysis in SPSS release 29.

3.5 Pilot Study, Validity and Reliability

A pilot study was carried out by the researcher with a sample size equal to 10% of the total. To ensure that the final data was free of contamination, the piloting was conducted in a nearby region that is not part of the primary research area. The results from this pilot were used to clarify ambiguous questions, adjust the length of the questionnaire, and ensure the translation was accurate.

Researchers sent out questionnaires to academic supervisors and subject-matter experts in project management to ensure their content validity. A Content Validity Index (CVI) was determined by these experts after they score each item according to its relevance to

the research goals. Items were only included in the final instrument if their CVI is 0.7 or above. Following this procedure guaranteed that the theoretical concepts of Sustainability, Participatory, Collaborative, and Consultative involvement are appropriately addressed in the questions.

CVI = 20 / 24 = 0.83

The questionnaire used in this study has a high level of topic validity with a topic Validity Index of 0.83. The value is above the commonly accepted criterion of 0.70, confirming that the instrument was adequate for measuring participatory engagement, collaborative engagement, consultative engagement, and sustainability of Advanced Citizen Engagement Project in Gicumbi District.

The researcher used Cronbach's Alpha to evaluate reliability after the pilot trial. Using the pilot data entered into SPSS, we were able to calculate the alpha value for each variable. A Cronbach's Alpha value of 0.7 or above is considered good practice in the social sciences. The research aimed to achieve this. Researchers ensured the final instrument is statistically trustworthy by making adjustments or removing inconsistent items to minimize the coefficient..

Table 1: Reliability Statistics

Variables	N of Items	Cronbach's Alpha
Participatory Engagement	5	0.841
Collaborative Engagement	5	0.830
Consultative Engagement	5	0.817
Sustainability of Advanced Citizen Engagement Project	5	0.828

Source: Field data, 2026

The findings of the reliability analysis performed on the four primary variables of the research are shown in Table 1. The six items used to evaluate participatory involvement had a high level of reliability and internal consistency, as shown by the Cronbach's Alpha of 0.841.

A Cronbach's Alpha of 0.830 was reported for collaborative engagement and 0.817 for consultative engagement. Advanced Citizen Engagement Project's sustainability score was 0.828. The reliability of the data collection instrument and the interpretability of the findings obtained from these variables were both confirmed by the fact that all values were greater than the 0.70 threshold.

3.6 Data Analysis

Descriptive statistics including percentages, means, and standard deviations were used to analyze the demographic profile and the views of the respondents on the dependent and independent variables. In order to investigate the relationship between the engagement strategies and sustainability over the long run, researcher will use inferential statistics, namely Pearson's correlation and Multiple Regression Analysis. The regression model's expression is as follows:

$$Y=\beta0+\beta1X1+\beta2X2+\beta3X3 +\epsilon$$

With X1, X2, and X3 standing for Participatory, Collaborative, and Consultative participation, respectively, and Y representing Sustainability. Tables and text interpretation were used to present the results.

3.7 Ethical Considerations

Mount Kigali University formally informed the appropriate authorities in Gicumbi District of the study's goals and sought their approval to access necessary data via an authorization letter. To ensure openness and conformity with institutional and governmental ethical regulations, the study did not proceed until permission had been given.

All participants were given detailed information on the study's aims, procedures, and their rights before they were asked to participate. They have been informed that their participation is completely voluntary and that they are free to withdraw at any time without penalty. Getting their written consent proved their cooperation was entirely voluntary.

The utmost importance to us is maintaining confidentiality and ensuring that any data collected is used only for academic reasons. Names or personal identifiers must not be included in any published findings. All participant information was securely protected to avoid any unauthorized access or misuse, in compliance with Rwanda's Data Protection and Privacy Law No.058/2021. All digital information was password-protected and encrypted, and physical copies were stored in a secure vault.

4. Results and Discussions

4.1 Response Rate

The percentage of people who took the time to fill out a survey is called the response rate. As it aids in ascertaining if the acquired data is sufficient for analysis and interpretation, it is crucial. Participants in this

research were asked to fill out surveys related to the Advanced Citizen Engagement Project in Rwanda's Gicumbi District.

Table 2: Response Rate

Questionnaire Status	Frequency	Percentage (%)
Complete questionnaires returned	163	94.8
Incomplete questionnaires returned	6	3.5
Questionnaires not returned	3	1.7
Total	**172**	**100.0**

Source: Field Data, 2026

Table 2 shows the percentage of people who took part in the research on how to keep rural development initiatives running, with a specific emphasis on the Advanced Citizen Engagement Project in Rwanda's Gicumbi District. The findings indicate that 163 questionnaires, representing 94.8%, were properly completed and used for analysis. However, 6 questionnaires, equivalent to 3.5%, were incomplete, while 3 questionnaires, representing 1.7%, were not returned. The high proportion of complete responses shows that the study obtained sufficient data for meaningful analysis and interpretation.

4.2 Inferential Statistics

The impact of community participation tactics on the long-term viability of rural development initiatives was investigated using inferential statistics. Using Pearson correlation analysis, we found the direction and intensity of the correlations between project sustainability, participatory engagement, collaborative engagement, and consultative engagement. The Advanced Citizen Engagement Project's sustainability in Gicumbi District was examined using regression analysis to determine the impact of independent factors.

4.2.1 Correlation Analysis

To determine whether there were any significant links between project sustainability and participatory, collaborative, and consultative involvement, correlation analysis was used. Both the Pearson correlation coefficient and the Sig. value were used in the study, with a significance level of 0.05.

Table 3: Correlation Analysis

		Participatory Engagement	Collaborative Engagement	Consultative Engagement	Project Sustainability
Participatory Engagement	Pearson Correlation	1	.549**	.690**	.740**
	Sig. (2-tailed)		.000	.000	.000
	N	163	163	163	163
Collaborative Engagement	Pearson Correlation	.549**	1	.582**	.718**
	Sig. (2-tailed)	.000		.000	.000
	N	163	163	163	163
Consultative Engagement	Pearson Correlation	.690**	.582**	1	.776**
	Sig. (2-tailed)	.000	.000		.000
	N	163	163	163	163
Project Sustainability	Pearson Correlation	.740**	.718**	.776**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	163	163	163	163

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

Source: Field data, 2026

The findings in Table 3 show a link between community involvement tactics and the Advanced Citizen involvement Project's sustainability in Gicumbi District. The robust positive and statistically significant association between participatory participation and project sustainability was shown by a Pearson correlation coefficient of 0.740 and a Sig. value of 0.000. The correlation was deemed statistically significant due to the

Sig. value's fall below 0.05. This indicates that the Advanced Citizen Engagement Project was able to better withstand the test of time as a result of increased participation.

The Pearson correlation coefficient for collaborative participation was 0.718 and the Sig. value was 0.000, indicating a strong positive and statistically significant link with project sustainability. Thus, the correlation was indeed statistically significant, since the Sig. value was lower than the 0.05 threshold of significance. Project implementers, community representatives, and stakeholders were shown to have superior sustainability results when they collaborated stronger. That is why the Advanced Citizen Engagement Project was able to last longer thanks to participant collaboration.

There was a very significant positive link between consulting involvement and project sustainability (Sig. = 0.000, Pearson r = 0.776). A Sig. value below 0.05 indicates a statistically significant link. The results show that there was a substantial correlation between sustainability and features like frequent feedback, community forums, opinion inclusion, and interaction of information. Results from the correlation analysis reveal that there was a positive and statistically significant association between project sustainability and each of the community involvement tactics.

4.2.2 Regression Analysis

The Advanced Citizen Engagement Project in Gicumbi District was tested for sustainability by regression analysis to identify the impact of participatory, collaborative, and consultative engagement. The model summary detailed the regression model's strong points. To see whether the model was statistically significant, we looked at the ANOVA table. Each independent variable's impact on the project's sustainability was detailed in the coefficients table.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.868[a]	.753	.748	.23642	1.545

a. Predictors: (Constant), Consultative Engagement, Collaborative Engagement, Participatory Engagement

b. Dependent Variable: Project Sustainability

Source: Field data, 2026

Table 4 shows the outcomes of the Advanced Citizen involvement Project's model summary for community involvement techniques and sustainability in Gicumbi District. Participatory engagement, collaborative engagement, consultative engagement, and project sustainability are strongly related, as shown by the R value of 0.868. With an R-squared value of 0.753, the model's three community involvement techniques accounted for 75.3% of the variation in project sustainability. This model does not account for the remaining 24.7%, which might be explained by other causes. The model did not have major autocorrelation issues, since the Durbin-Watson value was 1.545, which was near to 2.

Table 5: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.062	3	9.021	161.089	.000[b]
	Residual	8.887	159	.056		
	Total	35.949	162			

a. Dependent Variable: Project Sustainability

b. Predictors: (Constant), Consultative Engagement, Collaborative Engagement, Participatory Engagement

Source: Field data, 2026

Table 5 shows the results of the analysis of variance (ANOVA) for the regression model that the Advanced Citizen participation Project in Gicumbi District used to determine the methods for community participation and the sustainability of those tactics. The regression model's high F-value of 161.089 indicates its robust explanatory ability. The significance threshold was less than 0.05, with a Sig. value of 0.000. Project sustainability was significantly impacted by the combined effects of participatory engagement, collaborative engagement, and consultative engagement. Gicumbi District's Advanced Citizen Engagement Project's long-term viability was, therefore, well explained by the model.

Table 6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.302	.217		1.392	.166		
	Participatory Engagement	.319	.061	.295	5.230	.000	.491	2.036
	Collaborative Engagement	.393	.059	.336	6.661	.000	.620	1.612
	Consultative Engagement	.359	.055	.377	6.527	.000	.465	2.150

a. Dependent Variable: Project Sustainability

Source: Field data, 2026

For the Advanced Citizen involvement Project in Gicumbi District, Table 6 shows the findings of the coefficient summary for the influence of community involvement initiatives on sustainability. B=0.302, t=1.392, and Sig. = 0.166 were the values of the constant. No statistical significance was found for the constant since the Sig. value was greater than 0.05. In other words, when all three independent factors were taken into account, the constant failed to provide an independent explanation for the sustainability of the project. Participatory, collaborative, and consultative involvement were the key points of emphasis in the study's interpretation.

B=0.319, t=5.230, and Sig. = 0.000 were the results of the participatory engagement. The Advanced Citizen involvement Project in Gicumbi District benefited significantly from participatory involvement in terms of sustainability, as shown by the Sig. value being below 0.05. If all other factors stay the same, the coefficient indicates that there would be a 0.319-unit improvement in project sustainability for every 1-unit increase in participatory participation. With a VIF of 2.036 and a tolerance value of 0.491, no major multicollinearity issue was detected. Consequently, the Advanced Citizen Engagement Project in Gicumbi District's sustainability was shown to be positively impacted by participatory engagement, hence rejecting the null hypothesis.

B=0.393, t=6.661, and Sig. = 0.000 were the results of the collaborative engagement. Collaborative participation significantly improved the Advanced Citizen participation Project's sustainability in Gicumbi District, as shown by a Sig. value lower than 0.05. According to the coefficient, all other factors being equal, a one-unit increase in collaborative participation would lead to a 0.393-unit increase in project sustainability. Collinearity data were deemed acceptable with a tolerance value of 0.620 and a VIF of 1.612. As a result, we can say that the Advanced Citizen Engagement Project in Gicumbi District is more likely to be sustainable when participants work together, contrary to the null hypothesis.

B=0.359, t=6.527, and Sig. = 0.000 were the results of the consulting engagement. With a Sig. value less than 0.05, it is clear that consultative participation significantly improved the Advanced Citizen participation Project's sustainability in Gicumbi District. When all other factors are held constant, the coefficient indicates that there would be a 0.359-unit improvement in project sustainability for every one-unit rise in consultative involvement. There was no major issue with multicollinearity, as shown by the tolerance value of 0.465 and VIF of 2.150. Hence, the Advanced Citizen involvement Project in Gicumbi District's sustainability was determined to be positively impacted by consultative involvement, disproving the null hypothesis.

According to the summary of the coefficients, all three methods of community involvement significantly improved the project's long-term viability. According to the unstandardized coefficient, the three types of interaction were as follows: collaborative, consultative, and participatory. The Advanced Citizen Engagement Project was able to remain operational because to the combined efforts of team members, advisors, and members of the community. The regression model that was ultimately chosen was Project Sustainability = 0.302 + 0.319(Participatory Engagement) + 0.393(Collaborative Engagement) + 0.359(Consultative Engagement) + ε.

4.3 Decision on Null Hypotheses

This section presents the decision on the null hypotheses based on the coefficient results. The decision was made using the Sig. value at the 0.05 level of significance.

Table 7: Decision on Null Hypotheses

Hypothesis	Statement	Sig.	Decision
$H_0$1	There is no significant effect of participatory engagement on the sustainability of the Advanced Citizen Engagement Project in Gicumbi District.	0.000	Rejected
$H_0$2	There is no significant effect of collaborative engagement on the sustainability of the Advanced Citizen Engagement Project in Gicumbi District.	0.000	Rejected
$H_0$3	There is no significant effect of consultative engagement on the sustainability of the Advanced Citizen Engagement Project in Gicumbi District.	0.000	Rejected

Source: Field data, 2026

Table 7 shows the results of the research on the Advanced Citizen involvement Project's sustainability and community involvement tactics in Gicumbi District, as well as the choice on the null hypotheses. The significance levels for all three hypotheses were less than 0.05, with Sig. values of 0.000. It may be inferred that there were substantial impacts on project sustainability via participatory, collaborative, and consultative participation. Consequently, the research proved that community participation tactics greatly affect the sustainability of rural development programs, and all null hypotheses were rejected.

4.4 Discussion of Research Findings

4.4.1 Participatory Engagement and Sustainability of the Advanced Citizen Engagement Project

The outcomes on participatory engagement align with Mariotti and Sasso (2024), who emphasized that rural initiatives become stronger when local communities are integrated into decision-making and implementation processes. They also agree with Bassey and Okon (2025), who argued that beneficiaries move from passive receivers to active stakeholders when they participate in planning, implementation, and monitoring. This means that participatory engagement strengthens ownership and makes rural development projects more responsive to local needs.

The inferential outcomes on participatory engagement are supported by Kampire and Njenga (2025), who found that beneficiary involvement in monitoring and goal development contributes to project sustainability. They also resonate with Niyonsaba and Mulyungi (2024), who showed that stakeholder participation in planning improves project implementation outcomes. Participatory Development Theory further supports these findings because it explains that sustainable development is achieved when communities actively influence decisions affecting their livelihoods.

4.4.2 Collaborative Engagement and Sustainability of the Advanced Citizen Engagement Project

The results on collaborative engagement are supported by Wazni and Nurman (2025), who observed that collaborative governance improves responsiveness and reduces fragmentation in village development. They also agree with Kovacs and Varga (2022), who reported that formal collaboration between local actors and institutions strengthens rural development initiatives. This shows that collaboration supports sustainability through joint responsibility, shared resources, and coordinated implementation.

The inferential findings on collaborative engagement are consistent with Njiru and Thoronjo (2024), who emphasized that stakeholder management practices improve project performance when concerns are jointly identified and addressed. They also consent with Uwamahoro and Shukla (2025), who argued that stakeholder involvement strengthens ownership and institutional resilience in project implementation. Social Capital Theory supports this objective because collaboration builds trust, networks, reciprocity, and shared accountability among project actors.

4.4.3 Consultative Engagement and Sustainability of the Advanced Citizen Engagement Project

The findings on consultative engagement resonate with Aras et al. (2023), who emphasized that multi-stakeholder feedback systems are important for adapting projects to local conditions. They are also supported by Fischer and Schmidt (2023), who found that early public consultation helps reduce resistance and improves community acceptance of development projects. This means that consultation helps project implementers collect views, manage grievances, and align activities with community priorities.

Kosgei (2021) discovered a favorable correlation between stakeholder consultation and the effective execution of projects, lending credence to the inferential conclusions on consultative involvement. In addition, they agree with Gasore and Mulyungi (2024) that planning consultation makes agricultural development programs more relevant and sustainable. Systems theory

lends credence to this goal by outlining how projects may be better integrated into their social and institutional contexts via the use of feedback, information sharing, and continual modification.

5. Conclusions and Recommendations

5.1 Conclusion

Regarding participatory engagement, the study concluded that involving community members in decision-making, implementation, monitoring, leadership selection, and needs prioritization improves sustainability of rural development projects. Participation strengthens ownership and accountability among beneficiaries. It also helps project activities reflect community priorities and continue beyond external support.

Regarding collaborative engagement, the study concluded that joint committees, progress reviews, budgeting, formal agreements, and cross-sector collaboration contribute to project sustainability. Collaboration improves coordination between project implementers, community structures, and other stakeholders. It also strengthens shared responsibility and reduces the risk of isolated decision-making.

Regarding consultative engagement, the study concluded that feedback sessions, community forums, opinion incorporation, information exchange, and advisory meetings improve project sustainability. Consultation helps project implementers understand community concerns and adjust activities to local needs. It also supports transparency, acceptance, and continuous improvement of project activities.

The study concluded that community engagement strategies significantly contribute to sustainability of rural development projects. Participatory, collaborative, and consultative engagement all support ownership, continuity, responsiveness, and stakeholder commitment. The Advanced Citizen Engagement Project in Gicumbi District therefore becomes more sustainable when communities are actively involved throughout the project cycle.

5.2 Recommendations

Based on the findings, the following recommendations were proposed to enhance project participation, accountability, and long-term sustainability.

1. Project authorities should strengthen participatory planning by giving community members more structured opportunities to contribute to decisions on project activities.
2. Gicumbi District and project managers should strengthen community monitoring mechanisms by involving beneficiaries in regular review of project activities.
3. Project implementers should institutionalize joint progress review meetings between project staff, community representatives, and local leaders.
4. Beneficiaries should actively participate in feedback sessions, community forums, and monitoring activities organized under the project. Their continued participation will help the project remain responsive to local needs and sustainability challenges.
5. Development partners and civil society organizations should support collaborative engagement through training, facilitation, and resource-sharing mechanisms.

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