



Stakeholder Engagement and the Success of Agri-Hub Project in Musanze District, Rwanda

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Abstract: Stakeholder engagement is central to multi-actor agricultural projects because implementation depends on clear communication, responsive feedback, realistic expectations, and coordinated action. This study assessed stakeholder engagement and the success of the Agri-Hub project in Musanze District, Rwanda, focusing on communication effectiveness, feedback mechanisms, and stakeholder expectation management. A cross-sectional descriptive and correlational mixed-methods design was used. The target population was 304 Agri-Hub employees and other stakeholders. Yamane's formula generated a quantitative sample of 173 respondents, and all 173 completed questionnaires were retained for analysis; key-informant interviews and focus group discussions provided qualitative evidence. Quantitative data were analyzed using descriptive statistics, Pearson correlation, and multiple linear regression, while qualitative data were analyzed thematically and triangulated with the statistical findings. Communication effectiveness was positively related to project success ($r = 0.613$, $p < 0.001$), as were feedback mechanisms ($r = 0.540$, $p < 0.001$) and expectation management ($r = 0.516$, $p < 0.001$). The regression model was significant, $F(3,169) = 74.93$, $p < 0.001$, and explained 57.1% of variation in project success. Communication effectiveness was the strongest predictor ($\beta = 0.420$). The study recommends institutionalized two-way communication, documented feedback tracking, timely grievance resolution, and continuous alignment of stakeholder expectations with project resources and responsibilities.

Keywords: Stakeholders, Communication, Feedback, Expectations, Projects, Agriculture, Rwanda

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1. Introduction

Stakeholder engagement is a core element of project management because projects depend on individuals and institutions that provide resources, information, legitimacy, implementation support, or are directly affected by project decisions. In multi-actor projects, success is rarely determined by technical design alone. It also depends on whether stakeholders receive understandable information, can raise concerns, understand their roles, and see that their expectations are treated realistically. Stakeholder Theory therefore emphasizes the need to recognize and manage relationships with groups that can affect or are affected by organizational objectives (Freeman, 1984).

Agricultural innovation projects are especially dependent on stakeholder relationships. Farmers, cooperatives, extension officers, government agencies, private-sector

actors, development partners, project staff, researchers, and market actors may have different knowledge, incentives, and expectations. Implementation often requires coordinated training, input distribution, technical advice, field demonstrations, market linkage, monitoring, and adaptation to local conditions. If information is late or unclear, stakeholders may miss activities or operate on conflicting assumptions. If feedback is collected but not acted upon, field problems can remain unresolved. If expectations are unrealistic or poorly clarified, dissatisfaction and conflict may weaken ownership. International literature increasingly treats engagement as an iterative process rather than a one-off consultation. Fejzic and Usher (2025) show that multi-stakeholder engagement requires structured dialogue, transparent communication, and repeated interaction if it is to generate legitimate and usable outputs. In agri-food systems, Rastorgueva et al. (2023) similarly show that successful transitions depend on networking, strategic development, communication, and

other generic skills in addition to technical competence. These findings suggest that agricultural project performance can be strengthened when project teams combine technical delivery with deliberate relationship management.

The importance of stakeholder engagement is also evident in African agricultural systems, where projects must operate through local institutions and farmer organizations while responding to market, resource, and implementation constraints. Olabanji and Chitakira (2025), reviewing climate-smart agriculture among smallholders in South Africa, emphasized institutional coordination, policy coherence, farmer organizations, extension services, finance, and market integration as conditions for successful adoption and scaling. Although their focus was climate-smart agriculture rather than project management directly, the study demonstrates that technology cannot be separated from the institutional relationships through which farmers receive information, support, and incentives.

In Rwanda, agricultural transformation increasingly involves collaboration among public institutions, private firms, cooperatives, extension services, farmers, and development partners. Recent empirical evidence confirms that participation matters. Igirimbabazi and Amolo (2025) found that participatory planning, implementation, and monitoring and evaluation were significantly associated with agricultural project performance in Musanze District. Ufitimfura and Amolo (2025), studying an agricultural project in Rutsiro District, similarly reported positive effects of collaboration, involvement, empowerment, and consultation. These studies provide a strong national basis for examining the operational quality of stakeholder engagement.

The Agri-Hub project in Musanze District provides a particularly relevant setting because it brings together multiple stakeholder categories around agricultural innovation, farmer capacity, value-chain development, and agribusiness support. The project requires communication between staff and beneficiaries, feedback from field activities, coordination with extension and government actors, and management of expectations about training, technical support, market access, and project benefits. Differences in access to information, responsiveness of feedback, or clarity of roles can therefore influence both day-to-day implementation and longer-term stakeholder satisfaction.

This study focused on three operational dimensions of stakeholder engagement: communication effectiveness, feedback mechanisms, and stakeholder expectation management. Communication effectiveness was measured through clarity, timeliness, accessibility, accuracy, and two-way exchange. Feedback mechanisms covered opportunities to provide feedback, timeliness of response, use of feedback in decision-making, grievance resolution, and review meetings. Expectation management covered identification of expectations, role clarity, alignment with available resources, transparency, and conflict

management. Project success was assessed through time, budget, scope, quality, stakeholder satisfaction, sustainability of benefits, livelihood improvement, and market access.

The study is significant because it moves beyond the broad proposition that stakeholder participation is beneficial and asks which operational engagement practices are associated with success in a bounded agricultural innovation project. It also combines quantitative evidence from 173 respondents with qualitative explanations from key informants and focus groups. This provides a basis for practical recommendations on communication, feedback, grievance management, role clarification, and expectation-resource alignment within the Agri-Hub setting.

1.1 Problem Statement

The management problem underlying this study is not the complete absence of stakeholders from the Agri-Hub project, but uneven quality of engagement among actors whose cooperation is required for implementation. Agricultural projects may formally involve farmers, cooperatives, extension officers, government institutions, project staff, private actors, and development partners, yet still experience delays, misunderstandings, weak ownership, or dissatisfaction if communication is late, feedback is not acted upon, roles are unclear, or expectations exceed available project resources.

The problem is important because stakeholder engagement can influence both operational performance and sustainability. Information determines whether actors understand activities and responsibilities; feedback determines whether field-level problems reach decision makers and generate corrective action; expectation management determines whether stakeholders understand project capacity, benefits, and limitations. Weakness in any of these mechanisms can create conflict, disengagement, duplicated effort, delayed decisions, or unrealistic demands even when the technical intervention itself is appropriate.

Recent Rwandan studies demonstrate positive relationships between broad participatory practices and agricultural project performance (Igirimbabazi & Amolo, 2025; Ufitimfura & Amolo, 2025). However, these studies do not isolate the Agri-Hub Musanze setting or examine the combined contribution of communication effectiveness, structured feedback, and expectation management as separate operational dimensions. International research also often uses broad labels such as participation, involvement, or engagement, making it difficult for managers to identify which day-to-day practices require improvement (Fejzic & Usher, 2025).

The specific gap is therefore contextual, conceptual, and methodological. Contextually, limited published evidence focuses on the Agri-Hub project in Musanze District. Conceptually, broad engagement constructs do not show

whether communication, feedback, or expectation management has the strongest association with success. Methodologically, relatively few local studies combine statistical relationships with qualitative explanations of how these mechanisms work in practice. The present study addressed these gaps by estimating the separate and combined relationships of the three engagement dimensions with project success and triangulating the results with stakeholder explanations.

1.2 Study Objective

The study sought to assess the stakeholder engagement and the success of the Agri-Hub project in Musanze District, Rwanda. Specifically, it examined the relationship between communication effectiveness and project success, analyzed the contribution of feedback mechanisms, and evaluated the relationship between stakeholder expectation management and project success.

1.3 Research Questions

1. What is the relationship between communication effectiveness and the success of the Agri-Hub project in Musanze District?
2. What is the relationship between feedback mechanisms and the success of the Agri-Hub project in Musanze District?
3. What is the relationship between stakeholder expectation management and the success of the Agri-Hub project in Musanze District?

2. Related Literature and Studies

2.1 Conceptual Review

Stakeholder engagement refers to the processes through which project actors identify relevant stakeholders, exchange information, seek participation, understand interests, respond to concerns, and maintain relationships during the project life cycle. Engagement is broader than attendance at meetings. It includes the quality of information, opportunities for stakeholder voice, responsiveness to concerns, transparency of decisions, negotiation of competing interests, and mechanisms for resolving disagreement. In agricultural projects, these processes connect technical interventions to farmers, institutions, markets, and local implementation realities.

Communication effectiveness concerns whether project information is clear, timely, accurate, accessible, and exchanged in a two-way manner. Clear communication reduces ambiguity about activities, schedules, responsibilities, and changes. Timeliness allows stakeholders to prepare for meetings, field work, training, or input delivery. Accessibility ensures that information reaches groups with different levels of digital access and organizational connection. Two-way communication is especially important because project teams need

information from the field as much as beneficiaries need information from managers.

Feedback mechanisms are formal or informal channels through which stakeholders express concerns, suggestions, observations, and satisfaction and receive a response from the project. Effective feedback requires more than collection. It should include a route for recording issues, assigning responsibility, responding within a reasonable period, escalating unresolved matters, and closing the loop by informing the stakeholder what action was taken. Feedback therefore connects participation to adaptive management and accountability.

Stakeholder expectation management is the process of identifying what different stakeholders expect, clarifying roles and responsibilities, comparing expectations with available resources and project scope, communicating realistic benefits and limitations, and resolving conflicts when interests differ. Expectation management is important because dissatisfaction may arise even when technical activities are completed if stakeholders anticipated benefits that the project could not provide. Transparent alignment at the beginning and during implementation helps protect trust and ownership.

Project success in the present study was treated as multidimensional. Traditional project performance emphasizes time, cost, scope, and quality, but stakeholder-centered perspectives also recognize satisfaction, sustainability, value creation, and intended benefits (Atkinson, 1999; PMI, 2021). In the Agri-Hub context, project success therefore included timely completion, budget adherence, scope achievement, quality of deliverables, stakeholder satisfaction, sustainability of project benefits, and improved livelihood and market access.

The three stakeholder-engagement dimensions are related but distinct. Communication enables information exchange, feedback enables stakeholder voice and project response, and expectation management aligns interests and project capacity. Treating them separately makes it possible to identify whether one dimension has a stronger relationship with project success while still recognizing that effective engagement requires the three mechanisms to work together.

2.2 Theoretical Review

Stakeholder Theory is the principal theory guiding the study. Freeman (1984) proposed that organizations should consider groups and individuals who can affect or are affected by organizational objectives. In a project setting, this means that managers should not view beneficiaries, government agencies, suppliers, partners, and staff as peripheral actors. Their interests, information needs, influence, and expectations can shape implementation and outcomes. The theory therefore provides a direct foundation

for examining engagement as a contributor to project success.

Communication effectiveness fits Stakeholder Theory because relationships depend on the exchange of relevant information. Feedback mechanisms fit the theory because they create channels through which stakeholders can influence decisions and signal implementation problems. Expectation management fits the theory because stakeholders may have different interests and definitions of value, requiring managers to clarify roles, negotiate differences, and communicate constraints. The theory therefore explains why engagement quality can affect both operational performance and stakeholder satisfaction.

A multidimensional project-success perspective complements Stakeholder Theory. Atkinson (1999) argued that the traditional cost-time-quality triangle is too narrow when used as the only definition of success, and the PMBOK Guide similarly emphasizes value and stakeholder outcomes in contemporary project management (PMI, 2021). In the present study, this perspective justified measuring success through operational indicators together with stakeholder satisfaction, sustainability, livelihood improvement, and market access.

The combined theoretical position predicts that higher-quality communication, stronger feedback systems, and better management of stakeholder expectations should be associated with higher project-success scores. It also recognizes that engagement is not the only determinant of performance; resources, technical capacity, leadership, policy conditions, and market factors can contribute. This expectation is consistent with a regression model in which the three engagement dimensions explain part, but not all, of variation in project success.

2.3 Empirical Studies: Global to Local Perspective

At the global level, Fejzic and Usher (2025) reviewed multi-stakeholder engagement in climate and energy research and found that engagement terminology is often used inconsistently, while robust processes require clearer methods for dialogue and co-design. Their work is relevant to the present study because it shows that the label stakeholder engagement is insufficient unless the process is operationalized through specific practices. This supports separate measurement of communication, feedback, and expectation management rather than treating engagement as one undifferentiated concept.

Research on agri-food systems reinforces the importance of communication and collaboration. Rastorgueva et al. (2023) found that stakeholders viewed generic skills such as communication, networking, strategic development, and collaborative competencies as important for transitions toward sustainable food systems. The implication for Agri-Hub projects is that technical agricultural expertise must be

accompanied by the relationship skills needed to coordinate actors with different roles and knowledge.

Institutional evidence from Southern Africa reaches a similar conclusion. Olabanji and Chitakira (2025), in a review of climate-smart agriculture adoption among South African smallholders, identified extension services, farmer organizations, finance, market integration, institutional coordination, and policy coherence as important enabling conditions. Their findings demonstrate that agricultural innovation is embedded in networks of institutions and stakeholders and that adoption can remain limited when these relationships are fragmented.

Feedback and accountability research provides evidence for the second study dimension. Lesiamito and Ombui (2024) found significant relationships between participatory monitoring and evaluation practices and performance of agriculture projects in Samburu County, Kenya. Fiala and Premand (2026), using experimental evidence from Uganda, showed that community monitoring was more effective when training was combined with information about project performance. These studies suggest that feedback becomes more useful when stakeholders receive information, understand performance, and have mechanisms through which concerns can influence implementation.

Expectation management is linked to early and meaningful stakeholder involvement. Mbugua and Waruguru (2025) reported a significant positive relationship between stakeholder involvement during project identification and performance of agricultural projects in Kenya. Early participation can clarify needs, project priorities, roles, and realistic benefits before implementation begins. However, expectation management remains analytically distinct because stakeholders can participate frequently and still hold unrealistic expectations if project limitations and resource constraints are not communicated transparently.

Rwandan studies provide direct contextual evidence. Igrimbabazi and Amolo (2025), in Musanze District, found that participatory planning, participatory implementation, and participatory monitoring and evaluation were significantly related to agricultural project performance. Ufitimfura and Amolo (2025), studying an agricultural project in Rutsiro District, found positive effects of collaboration, involvement, empowerment, and consultation. These studies demonstrate that engagement matters in Rwanda but use broader participation constructs than the present study.

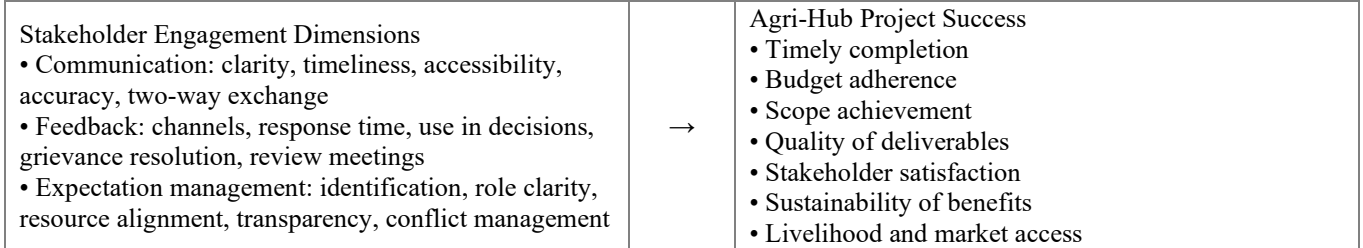
The literature therefore leaves a clear gap. Few studies isolate communication effectiveness, feedback mechanisms, and expectation management in one agricultural innovation project, compare their standardized contributions in a common regression model, and integrate the statistical results with qualitative explanations. The current study responds to that gap within Agri-Hub Musanze and provides direct managerial evidence about

which engagement processes are strongest and where practice remains moderate.

2.4 Conceptual Framework

The analytical framework treated communication effectiveness, feedback mechanisms, and stakeholder expectation management as the independent variables and Agri-Hub project success as the dependent variable. All three relationships were expected to be positive. The framework includes only variables that were directly measured and analyzed in the completed study.

Figure 1: Conceptual Framework



Expected direction: stronger engagement dimensions are positively associated with project success.

2.5 Critical Synthesis and Research Gap

A critical synthesis of the reviewed evidence shows that stakeholder engagement is often treated as a broad umbrella concept. Studies may combine consultation, participation, collaboration, empowerment, communication, and monitoring in one construct. This approach confirms that engagement matters, but it offers limited guidance to managers who need to know which operational process requires improvement. The present study separates communication effectiveness, feedback mechanisms, and expectation management so that their individual contributions can be compared directly.

The literature also shows that stakeholder engagement is context dependent. Multi-stakeholder research in Europe emphasizes co-design and dialogue (Fejzic & Usher, 2025), agricultural studies in Kenya and Uganda emphasize participatory monitoring and project information (Lesiamito & Ombui, 2024; Fiala & Premand, 2026), and Rwandan studies emphasize participation, collaboration, and consultation (Igirimbabazi & Amolo, 2025; Ufitimfura & Amolo, 2025). These findings are complementary but do not establish that the same engagement mechanism has equal importance in every project setting.

The Agri-Hub Musanze case therefore addresses a practical and empirical gap. It compares three engagement dimensions in one regression model, uses a multidimensional project-success measure, and integrates the statistical findings with explanations from people involved in implementation. This approach allows the study to identify not only whether engagement is associated with success, but also which dimension is strongest and which operational weaknesses - delayed information, incomplete feedback follow-up, or unrealistic expectations - require managerial attention.

3. Methodology

The study used a cross-sectional descriptive and correlational design within a mixed-methods approach. The cross-sectional component captured stakeholder perceptions during the 2026 study period, the descriptive component summarized the level of communication effectiveness, feedback mechanisms, expectation management, and project success, and the correlational component assessed the direction and strength of relationships among the variables. No variables were experimentally manipulated; therefore, the findings are interpreted as statistical associations rather than proof of direct causation.

A mixed-methods approach was appropriate because the research questions required both measurable evidence and contextual explanation. Quantitative questionnaire data provided comparable scores across a relatively large stakeholder sample, while key-informant interviews and focus group discussions captured how communication, feedback, and expectation management were experienced during implementation. The two evidence streams were integrated through triangulation so that qualitative findings could confirm, explain, or qualify the quantitative relationships.

The study was conducted in Musanze District, Northern Province of Rwanda, where the Agri-Hub project provides a platform for agribusiness innovation, value-chain development, farmer support, and collaboration among project and institutional actors. The target population was 304 stakeholders, consisting of 61 Agri-Hub employees and 243 other stakeholders. The wider population included project staff, farmers, cooperative members, extension officers, government officials, private-sector actors, and development partners.

The quantitative sample size was determined using Yamane's finite-population formula at a 5% margin of error. With N = 304, the planned sample was 173 respondents. All 173 questionnaires in the final analyzable dataset were complete and retained, giving a 100% response rate relative to the planned quantitative sample. The final sample

comprised 35 project staff/Agri-Hub employees, 55 farmers, 38 cooperative members, 16 extension officers, 12 government officials, 10 private-sector actors, and 7 NGO/development-partner representatives.

The quantitative sampling frame was organized into stakeholder groups. Stratified and simple random procedures were used to support representation across the relevant stakeholder categories, while key informants and focus group participants were selected purposively because they had direct experience of project management, extension, stakeholder coordination, cooperative operations, and implementation challenges. The qualitative sample was guided by information richness and saturation rather than statistical representativeness.

A structured questionnaire generated the quantitative data. Communication effectiveness was measured through clarity, timeliness, accessibility, accuracy, and two-way communication. Feedback mechanisms were measured through availability and accessibility of channels, timeliness of response, use of feedback in decision-making, grievance resolution, and review meetings. Expectation management was measured through identification of stakeholder expectations, role clarity, alignment with available resources, transparency, and conflict management. Project success was measured through time, budget, scope, quality, satisfaction, sustainability, livelihood improvement, and market access. Qualitative interview and focus-group guides explored the same domains to facilitate triangulation.

Content validity was strengthened by aligning data-collection items with the research objectives, conceptual framework, and reviewed literature. The final post-defense revision also checked consistency between the questionnaire, analyzed indicators, and results tables. A formal pilot-test dataset or retained Cronbach's alpha coefficient was not available in the study records supplied for the final revision; consequently, no reliability statistic has been fabricated retrospectively. This limitation is disclosed so that readers can distinguish documented evidence from procedures that cannot be verified after data collection.

Quantitative data were analyzed using SPSS. Frequencies and percentages described respondents, while means and standard deviations summarized the four study indices. Pearson correlation assessed the bivariate relationship between each engagement dimension and project success. Multiple linear regression estimated the simultaneous model $PS = \beta_0 + \beta_1CE + \beta_2FM + \beta_3SEM + \epsilon$, where PS represented project success, CE communication effectiveness, FM feedback mechanisms, and SEM stakeholder expectation management. Statistical significance was assessed at $\alpha = 0.05$. Qualitative data were coded and grouped into themes corresponding to the three research questions, and findings were integrated with the quantitative evidence.

Ethical safeguards included informed consent, voluntary participation, confidentiality, anonymity, secure handling of responses, respectful facilitation of interviews and discussions, and the right to withdraw without negative consequences. The main methodological limitations were the single-project setting, cross-sectional design, dependence on stakeholder perceptions, and the absence of a retained numerical reliability coefficient. These limitations restrict causal and national generalization but do not prevent careful interpretation of the associations within the Agri-Hub Musanze case.

Data quality was protected through review of completed questionnaires, consistency checks between variable labels and questionnaire items, and verification that the final sample totals matched the analyzed stakeholder categories. Likert items were coded consistently from 1 to 5 and grouped into composite indices that corresponded directly with the three approved objectives and the project-success outcome. The final post-defense revision also aligned the questionnaire, conceptual framework, and results tables so that unmeasured constructs were not presented as analyzed variables.

The interpretation of the composite indices reflected item direction. Higher communication scores represented clearer, timelier, more accessible, accurate, and two-way communication. Higher feedback scores represented stronger channels, response, decision use, grievance resolution, and review. Higher expectation-management scores represented better role clarity, transparency, resource alignment, and conflict management. Higher project-success scores represented stronger performance across time, budget, scope, quality, satisfaction, sustainability, livelihood, and market-access indicators.

The regression analysis was intended to compare the independent statistical contribution of the three engagement dimensions while holding the others constant. This distinction was important because communication, feedback, and expectation management were correlated but conceptually different. The model therefore answered whether each dimension remained associated with project success after shared variation with the other engagement dimensions was taken into account. Coefficients were interpreted as associations because the cross-sectional design could not establish temporal causation.

Qualitative analysis followed the same research-question structure as the quantitative analysis. Interview and focus-group responses were coded under communication, feedback, expectation management, and project-success themes. Triangulation considered whether the qualitative evidence confirmed the direction of the statistical relationship, explained why the relationship existed, or identified operational weaknesses not visible in the coefficients. This integration strengthened the usefulness of the findings for project management practice.

The final quantitative sample distribution was also used as a check on representativeness across the operational stakeholder groups included in the study. Results were interpreted at the aggregate study level rather than as population estimates for each subgroup because subgroup population denominators were not fully documented in the retained records. This cautious approach avoided overstating precision while preserving the value of the overall sample for answering the three research questions.

4. Results and Discussion

4.1 Results / Findings

Table 1: Selected Background Characteristics of Respondents (n = 173)

Characteristic	Category	n	%
Sex	Male	95	54.9
	Female	78	45.1
Age	18-24	6	3.5
	25-34	43	24.9
	35-44	62	35.8
	45-54	48	27.7
	55+	14	8.1
Stakeholder category	Project staff / Agri-Hub	35	20.2
	Farmer	55	31.8
	Cooperative member	38	22.0
	Extension officer	16	9.2
	Government official	12	6.9
	Private sector	10	5.8
	NGO / development partner	7	4.0

4.1.1 Research Question One: Communication Effectiveness and Project Success

Communication effectiveness had an overall mean of 3.14 (SD = 0.97), indicating a moderate level. Accessibility of communication channels received the highest mean (3.20), while timeliness received the lowest mean (3.08). The pattern suggests that communication channels existed and were generally usable, but information did not reach all stakeholders with consistently strong timeliness and regularity.

Communication effectiveness had the strongest bivariate relationship with project success ($r = 0.613$, $p < 0.001$). It also remained the strongest predictor in the multiple regression model ($B = 0.441$, $\beta = 0.420$, $t = 7.47$, $p < 0.001$). Holding feedback mechanisms and expectation management constant, higher communication-effectiveness scores were associated with higher project-success scores.

Qualitative participants explained that timely and clear information helped farmers and other stakeholders prepare for training sessions, field demonstrations, input distribution, meetings, and follow-up activities. Common channels included community meetings, cooperative leaders, extension officers, phone calls, WhatsApp messages, and field visits. Some stakeholders located farther from cooperative centers or with limited phone

access nevertheless reported delayed receipt of information. The qualitative evidence therefore explains why communication was statistically strong while still rated only moderate overall.

All 173 planned quantitative questionnaires were included in the final analysis. Men represented 54.9% of respondents and women 45.1%. The largest age category was 35-44 years (35.8%), followed by 45-54 years (27.7%) and 25-34 years (24.9%). Farmers constituted the largest stakeholder category (31.8%), followed by cooperative members (22.0%) and Agri-Hub project staff (20.2%). University education was reported by 32.4%, TVET by 21.4%, while primary and secondary education each accounted for 20.8%. The sample therefore captured project implementers, beneficiaries, institutional actors, and market-related stakeholders.

4.1.2 Research Question Two: Feedback Mechanisms and Project Success

Feedback mechanisms had an overall mean of 3.05 (SD = 0.91), also indicating a moderate level. Use of feedback in decision-making had the highest mean (3.08), while regular review meetings had the lowest mean (3.01). The results show that feedback opportunities were present but were not consistently institutionalized across all stakeholders or linked to documented follow-up.

Feedback mechanisms were positively and significantly related to project success ($r = 0.540$, $p < 0.001$). In the multiple regression model, feedback remained a significant positive predictor ($B = 0.292$, $\beta = 0.261$, $t = 4.56$, $p < 0.001$). The result indicates that stronger feedback channels, more timely responses, use of stakeholder input in decisions, grievance resolution, and review meetings were associated with stronger project outcomes.

Key informants and focus-group participants reported that feedback was provided through review meetings, cooperative discussions, field visits, training evaluations, and consultations with extension officers. These mechanisms helped identify delays, difficulties in applying new practices, unclear training content, market-access challenges, and concerns about project benefits. Participants also observed that feedback was not always followed by a timely response and that complaints were not consistently tracked to closure. This explains why feedback had a significant association with success but the descriptive level remained moderate.

4.1.3 Research Question Three: Expectation Management and Project Success

Stakeholder expectation management had an overall mean of 3.17 (SD = 0.92), indicating a moderate level. Clear roles and responsibilities, transparency in project decisions, and conflict management were among the stronger indicators, while alignment of stakeholder expectations with available resources was comparatively weaker. This suggests that stakeholders generally understood project processes but

some expected benefits beyond what the project could realistically provide.

Expectation management was positively and significantly related to project success ($r = 0.516$, $p < 0.001$). In the multiple regression model, it remained a significant positive predictor ($B = 0.373$, $\beta = 0.334$, $t = 6.27$, $p < 0.001$). The result indicates that identifying expectations, clarifying roles, aligning benefits with resources, maintaining transparency, and managing conflict were associated with stronger project-success scores.

Qualitative participants reported that stakeholders expected training, improved farming skills, market opportunities, innovation, productivity gains, and better household income. Transparent discussion of what the project could and could not provide reduced complaints and improved commitment. Difficulty emerged when stakeholders expected immediate financial gains or direct material support beyond project capacity. Continuous clarification of project scope, responsibilities, and resource limits was therefore necessary to maintain trust and ownership.

Table 2: Descriptive Summary of Main Study Variables

Variable	Mean	SD	Interpretation
Communication effectiveness	3.14	0.97	Moderate
Feedback mechanisms	3.05	0.91	Moderate
Expectation management	3.17	0.92	Moderate
Project success	3.39	1.02	Moderate

Table 3: Correlations with Project Success

Predictor	r	p-value	Direction
Communication effectiveness	0.613	<0.001	Positive
Feedback mechanisms	0.540	<0.001	Positive
Expectation management	0.516	<0.001	Positive

Table 4: Multiple Linear Regression Predicting Agri-Hub Project Success

Predictor	B	SE	Beta	t	p
Constant	-0.069	0.239	-	-0.29	0.773
Communication effectiveness	0.441	0.059	0.420	7.47	<0.001
Feedback mechanisms	0.292	0.064	0.261	4.56	<0.001
Expectation management	0.373	0.060	0.334	6.27	<0.001

Model summary: $R = 0.756$; $R^2 = 0.571$; Adjusted $R^2 = 0.563$; $F(3,169) = 74.93$; $p < 0.001$.

The overall project-success index had a mean of 3.39 (SD = 1.02), indicating moderate performance. Scope achievement was the highest-rated indicator ($M = 3.46$), followed by budget adherence ($M = 3.43$) and quality of deliverables ($M = 3.42$). Sustainability of project benefits had a mean of 3.40, timely completion 3.38, and stakeholder satisfaction 3.34. Improved livelihood and market access received the lowest mean (3.31). These results suggest that the project performed somewhat better on operational delivery than on longer-term developmental benefits.

The correlations among the three predictors were positive but moderate: communication effectiveness correlated with feedback mechanisms ($r = 0.427$, $p < 0.001$) and expectation management ($r = 0.246$, $p = 0.001$), while feedback

correlated with expectation management ($r = 0.301$, $p < 0.001$). These values support the view that the three dimensions belong to a broader stakeholder-engagement system but are sufficiently distinct to be examined together in the regression model.

The regression equation was $\text{Project Success} = -0.069 + 0.441(\text{Communication Effectiveness}) + 0.292(\text{Feedback Mechanisms}) + 0.373(\text{Expectation Management})$. All three slopes were positive, while the constant was not statistically significant. The standardized coefficients show that communication effectiveness contributed most strongly, followed by expectation management and feedback. The model therefore answers the three research questions in the

same direction while also revealing differences in their relative strength.

Taken together, the descriptive results indicate that all three engagement systems were functioning but not yet at an optimal level. This is important because the significant regression coefficients should not be read as evidence that current practice was already strong. Instead, the results show that improvement in these moderate engagement processes was statistically associated with better project-success outcomes.

4.2 Discussion

The first research question examined communication effectiveness, which emerged as the strongest predictor of Agri-Hub project success. This result is consistent with the broader engagement literature showing that structured dialogue and repeated interaction improve the quality and legitimacy of multi-stakeholder processes (Fejzic & Usher, 2025). It also complements Rastorgueva et al. (2023), who identified communication and collaborative skills as important for sustainable agri-food transitions. In the present study, the practical mechanism was clear: timely information allowed stakeholders to prepare for activities, understand responsibilities, coordinate with extension and project staff, and reduce misunderstandings.

The communication result also aligns with Rwandan evidence. Igirimbabazi and Amolo (2025) found that participatory project-management practices were significantly related to agricultural project performance in Musanze District, while Ufitimfura and Amolo (2025) reported positive effects of collaboration, involvement, empowerment, and consultation in Rutsiro District. The present study extends this evidence by isolating communication quality rather than measuring broad participation. The moderate mean, particularly the lower rating for timeliness, indicates that increasing the number of channels alone is insufficient. Management must ensure that information arrives before it is needed and reaches stakeholders with different levels of digital access.

The second research question showed that feedback mechanisms were positively associated with project success. This finding is consistent with Lesiamito and Ombui (2024), who linked participatory monitoring and evaluation practices with agricultural-project performance, and with Fiala and Premand (2026), whose experimental evidence from Uganda showed that community monitoring was more effective when stakeholders received project-performance information and could act collectively. The current qualitative results add an important practical qualification: feedback is valuable when it generates response and adaptation, not simply when comments are collected.

The moderate feedback score and low rating for regular review meetings point to a specific management gap.

Stakeholders reported opportunities to raise issues through meetings, consultations, and field visits, but follow-up was not always documented or timely. This means that the Agri-Hub can strengthen accountability by moving from informal listening to a closed-loop feedback system in which each issue is recorded, assigned, responded to, and closed. Such a system would make stakeholder voice visible in project decisions and reduce frustration caused by unresolved concerns.

The third research question demonstrated that expectation management remained significant after communication and feedback were controlled statistically. The result is consistent with Mbugua and Waruguru (2025), who found that stakeholder involvement during project identification was significantly related to agricultural-project performance. Early involvement can clarify needs and expected benefits, but the present study shows that the management task continues throughout implementation. Expectations must be compared with available resources, roles must be clear, decisions must be transparent, and conflict must be addressed before dissatisfaction undermines participation.

The relatively weak rating for alignment of expectations with available resources is especially important. Stakeholders may interpret project involvement as a promise of immediate financial support, inputs, employment, or market benefits, while the project may have more limited capacity. Transparent explanation of what support is available, what beneficiaries are expected to contribute, what outcomes require time, and what falls outside project scope can reduce perceived failure. Expectation management therefore protects trust even when the project cannot meet every stakeholder preference.

The combined regression model explained 57.1% of variation in project success, showing that the three engagement dimensions collectively had substantial explanatory power. At the same time, 42.9% of variation remained outside the model. Technical capacity, financing, leadership, market conditions, implementation systems, policy factors, and other contextual influences may also shape success. The result therefore supports Stakeholder Theory without implying that engagement alone determines performance.

The mixed-method integration strengthens the study's contribution. Quantitative analysis established the magnitude and statistical significance of the relationships, while qualitative evidence showed the mechanisms behind them: communication improved coordination, feedback supported adaptive decision-making, and realistic expectation management strengthened trust, role clarity, and ownership. For managers, the implication is that stakeholder engagement should be treated as a measurable operating system with standards, response procedures, and monitoring indicators rather than as an occasional consultation activity.

The communication finding has a direct management implication: access to a channel is not the same as communication effectiveness. The lowest-rated communication component was timeliness, and qualitative participants described delayed information among people farther from cooperative centers or with limited digital access. Agri-Hub management should therefore evaluate communication by whether the right stakeholder receives the right message before action is required, not by whether a WhatsApp group, meeting, or extension channel simply exists.

The feedback finding similarly distinguishes stakeholder voice from responsive management. A project may collect many comments and still perform poorly if issues are not assigned, answered, and closed. The evidence from Uganda reported by Fiala and Premand (2026) reinforces the importance of combining monitoring capacity with usable performance information. In the Agri-Hub case, a closed-loop system would allow managers to identify recurring concerns, track response time, distinguish complaints from suggestions, and demonstrate that stakeholder contributions influence decisions.

Expectation management is closely connected to trust because project success is judged partly against what stakeholders believe they were promised. The qualitative evidence showed that some participants expected quick financial gains or material support beyond available resources. Clear explanation of project scope and limits is therefore not a defensive communication exercise; it is a way of protecting long-term participation. Role agreements, transparent eligibility criteria, and regular clarification when plans change can reduce frustration and conflict.

At the theoretical level, the results support Stakeholder Theory by demonstrating that stakeholder relationships are associated with project outcomes through concrete operational mechanisms. Communication represents information exchange, feedback represents voice and responsiveness, and expectation management represents alignment of interests and value. The 57.1% explained variance is substantial, but the remaining 42.9% also confirms that stakeholder relationships operate alongside technical, financial, institutional, and market factors rather than replacing them.

5. Conclusions and Recommendations

5.1 Conclusions

Research Question One: Communication effectiveness had a positive and statistically significant relationship with Agri-Hub project success and was the strongest predictor in the regression model. Clear, accurate, timely, accessible, and two-way communication improved coordination and stakeholder understanding. The conclusion is that communication quality is the most important of the three

measured engagement dimensions for day-to-day Agri-Hub performance.

Research Question Two: Feedback mechanisms were positively and significantly associated with project success. Feedback helped identify field-level challenges, supported adaptive decisions, and created opportunities for grievance resolution. However, the moderate descriptive score shows that feedback was not fully institutionalized or consistently tracked. The conclusion is that stakeholder voice contributes most when the project closes the loop between receiving an issue and documenting the response.

Research Question Three: Stakeholder expectation management had a positive and statistically significant relationship with project success. Role clarity, transparency, realistic alignment with available resources, and conflict management strengthened trust and ownership. The conclusion is that projects can reduce dissatisfaction and improve cooperation by continuously clarifying what the project can provide and what responsibilities stakeholders hold.

5.2 Recommendations

Research Question One: Agri-Hub management should establish a stakeholder communication schedule showing what information must be shared, responsible persons, deadlines, target stakeholder groups, and appropriate channels. Important messages should be distributed through more than one channel where digital access is uneven, and two-way communication should be built into meetings, extension visits, and field activities.

Research Question Two: A formal feedback and grievance register should be introduced. Each issue should record the date raised, stakeholder category, responsible focal person, action or decision, response date, and closure status. Regular review meetings should use this register so that feedback is linked visibly to decisions and unresolved issues are escalated.

Research Question Three: Stakeholder expectations should be identified at project entry and reviewed whenever major activities, resources, or schedules change. Project objectives, expected benefits, limitations, stakeholder responsibilities, resource constraints, and conflict-resolution procedures should be communicated transparently. Agreements on roles and benefits should be documented where appropriate.

Cross-cutting recommendation: Stakeholder-engagement indicators should be integrated into routine monitoring and evaluation. Useful indicators include timeliness of communication, proportion of issues receiving a documented response, participation by stakeholder category, grievance-resolution time, frequency of review meetings, and periodic assessment of whether stakeholder expectations remain aligned with project resources.

5.3 Limitations and Future Research

The study was cross-sectional, focused on a single Agri-Hub setting, and relied substantially on stakeholder perceptions. A retained numerical pilot reliability coefficient was not available in the final study records. Future research should apply longitudinal and multi-site designs, compare different agricultural innovation hubs, and combine stakeholder perceptions with objective implementation records such as activity completion, financial performance, grievance logs, and market outcomes. Further studies could also test whether trust, commitment, collaboration, or knowledge sharing mediate the relationship between engagement practices and project success.

5.4 Contribution to Practice and Knowledge

The study contributes to practice by translating the broad concept of stakeholder engagement into three measurable management processes. Rather than recommending more participation in general, the findings identify communication timeliness, feedback follow-up, grievance resolution, role clarity, and expectation-resource alignment as specific areas that can be monitored and improved within the Agri-Hub project.

The study contributes academically by providing mixed-method evidence from a bounded agricultural innovation setting in Rwanda and by comparing the standardized contribution of three engagement dimensions within one model. Future research can build on this structure by testing the model across multiple Agri-Hubs, adding objective project-performance data, and examining whether trust, commitment, collaboration, or knowledge sharing mediate the relationship between engagement practices and success.

References

- Atkinson, R. (1999). Project management: Cost, time and quality, two best guesses and a phenomenon, it's time to accept other success criteria. *International Journal of Project Management*, 17(6), 337-342. [https://doi.org/10.1016/S0263-7863\(98\)00069-6](https://doi.org/10.1016/S0263-7863(98)00069-6)
- Fejzic, E., & Usher, W. (2025). Stakeholder engagement for co-designing European climate and energy research priorities. *Renewable and Sustainable Energy Reviews*, 215, 115574. <https://doi.org/10.1016/j.rser.2025.115574>
- Fiala, N., & Premand, P. (2026). Community monitoring and social accountability in development projects: Experimental evidence from Uganda. *Journal of Development Economics*, 178, 103537. <https://doi.org/10.1016/j.jdeveco.2025.103537>
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.
- Igirimbabazi, F., & Amolo, A. E. J. (2025). Impact of participatory project management on agricultural project performance: A case study of Musanze District. *International Journal of Finance & Banking Studies*, 14(2), 1-9. <https://doi.org/10.20525/ijfbs.v14i2.3959>
- Lesiamito, B. P., & Ombui, K. (2024). Participatory monitoring and evaluation practices and performance of agriculture projects in Samburu County, Kenya. *International Journal of Social Sciences Management and Entrepreneurship*, 8(3), 445-457.
- Mbugua, R. W., & Waruguru, M. (2025). Stakeholder involvement at project identification and performance of agricultural projects in Kenya. *International Journal of Research in Social Science and Humanities*, 6(9), 62-70. <https://doi.org/10.47505/IJRSS.2025.10.7>
- Olabanji, M. F., & Chitakira, M. (2025). The adoption and scaling of climate-smart agriculture innovation by smallholder farmers in South Africa: A review of institutional mechanisms, policy frameworks and market dynamics. *World*, 6(2), 51. <https://doi.org/10.3390/world6020051>
- Project Management Institute. (2021). *A guide to the Project Management Body of Knowledge (PMBOK guide) (7th ed.)*. Project Management Institute.
- Rastorgueva, N., Lindner, L. F., Hansen, S. R., Migliorini, P., Knöbl, C. F., & Flynn, K. M. (2023). Views of farmers and other agri-food stakeholders on generic skills for transitioning toward sustainable food systems. *Agronomy*, 13(2), 525. <https://doi.org/10.3390/agronomy13020525>
- Ufitimfura, B. A., & Amolo, A. E. J. (2025). Stakeholder engagement strategies on agricultural project performance: A case study analysis. *International Journal of Finance & Banking Studies*, 14(2), 20-28. <https://doi.org/10.20525/ijfbs.v14i2.4021>
- Yamane, T. (1967). *Statistics: An introductory analysis (2nd ed.)*. Harper & Row.