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Stakeholders' Engagement Levels and Performance of Agricultural Projects: A Case of One Acre Fund in Muhanga District, Rwanda

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Abstract: *Agriculture remains a key pillar of Rwanda's economy, contributing significantly to Gross Domestic Product and providing employment for a large proportion of the population. One Acre Fund supports smallholder farmers in Muhanga District through structured stakeholder engagement; however, the extent to which such engagement influences agricultural project performance remains insufficiently established. This study examined the influence of stakeholder engagement on the performance of agricultural projects implemented by One Acre Fund in Muhanga District, Rwanda. Guided by Stakeholder Theory, the study adopted a mixed-methods descriptive research design. The target population comprised 171 stakeholders, including project managers, coordinators, field officers, agronomists, and farmers. A sample of 120 respondents was selected using Slovin's formula and proportionate stratified random sampling. Data were collected through questionnaires, interviews, and document reviews and analysed using descriptive statistics, Pearson correlation, regression analysis, and thematic analysis. Findings revealed a high level of stakeholder engagement, with an overall mean score of 4.41, while representation in decision-making recorded the highest rating ($M = 4.54$). Stakeholder engagement was significantly and positively correlated with farmers' resilience ($r = .786, p < .001$), crop yields ($r = .743, p < .001$), beneficiaries' satisfaction ($r = .676, p < .001$), and profitability ($r = .579, p < .001$). Regression analysis further demonstrated that stakeholder engagement significantly predicted agricultural project performance ($\beta = .591, p < .001$). The study concludes that stakeholder engagement is a critical determinant of agricultural project success. It recommends strengthening inclusive participation, continuous feedback mechanisms, and stakeholder consultation frameworks to enhance agricultural project implementation and outcomes.*

Keywords: *Stakeholder engagement, Agricultural projects, Project performance, Farmers' resilience, Rwanda*

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1. Introduction

Stakeholder identification and engagement have gained prominence as essential components of effective project management across sectors, including agriculture, infrastructure and public administration. The Project Management Institute (2021) notes that project success is highly contingent upon systematically identifying and addressing stakeholder needs through inclusive participation, accountability and collaborative decision-making, principles reflected in globally recognized frameworks such as the PMBOK Guide.

In the United States and Europe, stakeholder-informed agricultural programmes have demonstrated measurable performance gains. The United States Department of Agriculture (2023) reports that integrating stakeholders in agricultural projects has led to a 30% increase in project efficiency and sustainability, while the European Union's Common Agricultural Policy has prioritized stakeholder participation in project design (European Commission, 2022). Within Sub-Saharan Africa, the Comprehensive Africa Agriculture

Development Programme and the African Union's Agenda 2063 emphasize stakeholder integration to ensure transparency and effective resource allocation (African Union, 2023). Empirical evidence from Tanzania indicates that agricultural investments with structured stakeholder collaboration report higher sustainability and profitability (Brüntrup et al., 2024), while in Kenya, structured stakeholder engagement frameworks have been linked to a 25% increase in agricultural productivity and profitability (Nyaga, Ngugi, & Kinoti, 2022). In Uganda, early community engagement during needs identification has been shown to produce better-designed, higher- adoption interventions (Agaba, Bosco, & David, 2021).

Rwanda's agricultural sector contributes approximately 29.1% of national GDP and employs
over 65% of the workforce (NISR, 2021). The Ministry of Agriculture and Animal Resources has emphasized participatory stakeholder approaches in rural agricultural development, with reports linking strong stakeholder engagement mechanisms to higher yields and improved farmer satisfaction. One Acre Fund, operating in Muhanga District, has become a hallmark of stakeholder engagement in Rwandan agricultural development by actively involving smallholder farmers to enhance productivity, profitability and resilience against climate shocks (One Acre Fund, 2021). Despite these achievements, systematic evaluations of the specific relationship between stakeholder engagement levels and project performance indicators remain limited.

Recent evaluations in Muhanga District indicate that only 55% of targeted beneficiaries reported improved agricultural productivity, against an 80% target set by implementing agencies (MINAGRI, 2021), while the Rwanda Agricultural Board (2023) reports that 40% of One Acre Fund-supported farmers faced difficulties accessing timely agricultural inputs due to gaps in stakeholder collaboration. Studies on related Rwandan projects reinforce the importance of stakeholder participation. Uwineza and Gitahi (2023) found that inadequate stakeholder involvement in the PSDAG project at Sarura Commodities Ltd. limited sustainability and efficiency, while Ndayizeye and Munene (2022) observed that the absence of structured participatory frameworks in the Aveh Umurerwa Project led to suboptimal resource utilisation. However, these studies do not comprehensively isolate how stakeholder engagement levels specifically, as distinct from other participatory constructs, influence the performance of One Acre Fund projects in Muhanga District. This gap justifies a focused empirical investigation of the relationship between stakeholder engagement levels and agricultural project performance.

The purpose of this study was, therefore, to assess the influence of stakeholders' engagement levels on the performance of agricultural projects implemented by One Acre Fund in Muhanga District, Rwanda. Specifically, the study was guided by the following research question: To what extent do stakeholders' engagement levels influence the performance of agricultural projects implemented by One Acre Fund in Muhanga District? Correspondingly, the study tested the following hypothesis:
H0: Stakeholder engagement levels do not significantly influence the performance of agricultural projects implemented by One Acre Fund in Muhanga District, Rwanda.

2. Literature Review

2.1 Empirical Review

Several studies have examined the influence of stakeholder engagement levels on project performance across sectors and regions. Uwineza and Gitahi (2023) analysed stakeholder participation and agricultural project performance in Rwanda using the PSDAG project at Sarura Commodities Ltd. as a case study and found that active stakeholder involvement improved resource allocation, risk management and productivity, though gaps remained in ensuring long-term sustainability strategies. Uwayezu, Mulyungi and Rurangwa (2023), examining the Crop Intensification Programme in Ngoma District, found that early stakeholder identification and consistent communication significantly enhanced project sustainability and adoption of agricultural practices. Similarly, Umugwaneza, Nyabera and Njenga (2021), studying Kamonyi District, found that regular stakeholder meetings held at least quarterly significantly enhanced crop yields by aligning project activities with farmers' seasonal needs.

Beyond Rwanda, researchers have emphasised that the frequency and breadth of stakeholder engagement contribute to project success. Mwangoka (2021), examining rural projects in Tanzania, found that consistent engagement with at least five stakeholder groups resulted in higher adoption rates of improved farming techniques, while in Kenya, Wanjala and Nyaberi (2022) found that structured stakeholder identification and engagement strategies improved transparency and reduced conflict in donor-funded projects. Broader consultation has also been associated with efficiency gains: Binam, Bayoko, Zemadin and Dembele (2017), studying agricultural projects in Mali, found that frequent stakeholder forums increased project.

ownership among farmers, translating into a 25% rise in crop yields, while Brajer-Marczak, Marciszewska and Nadolny (2024) reported that inclusive multi-stakeholder involvement in agricultural projects improved both profitability and farmer satisfaction. In the Netherlands, Nygaard, Graversgaard, Dalgaard, Jacobsen and Schaper (2021) found that bi-annual stakeholder feedback sessions in rural farming projects enhanced accountability and increased community satisfaction by 20%, a pattern corroborated by Beauchampet (2023), who linked frequent stakeholder forums to more resilient farming communities.

Collectively, this literature indicates that stakeholder engagement, whether measured through the breadth of consultation, the frequency of meetings, the quality of representation, or the responsiveness of feedback mechanisms, is consistently associated with improved agricultural project outcomes such as yields, profitability, resilience and beneficiary satisfaction. However, most of the reviewed studies were conducted outside Rwanda or examined stakeholder engagement as one undifferentiated element within broader participatory frameworks, leaving a gap in context-specific evidence on how engagement levels alone shape the performance of One Acre Fund's agricultural projects in Muhanga District. This study addresses that gap.

2.1 Theoretical Review

This study is anchored on Stakeholder Theory, developed by Freeman (1984) in Strategic Management: A Stakeholder Approach. The theory holds that organisations and projects should consider the interests of all stakeholders, beneficiaries, funders, implementing agencies and community members, rather than focusing solely on project sponsors. In project management, the theory highlights the importance of identifying, analysing and managing stakeholder expectations throughout the project lifecycle, a view reinforced by the PMBOK Guide (PMI, 2021), which frames stakeholder engagement as a dynamic process that enhances ownership and alignment with project objectives. The theory is particularly relevant to agricultural projects, where multiple actors, farmers, local authorities, non-governmental organisations and donors, shape project success. Stakeholder Theory underpins the present study by explaining how stakeholder-informed engagement ensures that agricultural interventions address real community needs, reduce resistance and improve sustainability, thereby linking stakeholder engagement levels (the independent variable) to agricultural project performance (the dependent variable).

3. Methodology

The study employed a mixed-methods research approach within a descriptive research design, integrating quantitative and qualitative techniques to achieve a comprehensive understanding of the research problem. The quantitative component facilitated the collection of measurable data on stakeholder engagement and project performance, while the qualitative component provided contextual insight into stakeholders' experiences and perceptions. The study was conducted in Muhanga District, Southern Province of Rwanda, where One Acre Fund implements agricultural projects across all 12 sectors and 63 cells.

The target population comprised 171 stakeholders involved in the implementation and management of One Acre Fund agricultural projects, including project managers, support staff, project coordinators, field officers, agronomists and smallholder farmers (One Acre Fund Rwanda Reports, 2024). Using Slovin's formula with a 5% margin of error, a sample of 120 respondents was determined and drawn through proportionate stratified random sampling, complemented by purposive sampling of key informants such as senior project managers and field officers directly involved in project design. A total of 117 valid responses were obtained, representing a 97.5% response rate.

Data were collected using a structured questionnaire administered on a five-point Likert scale to measure stakeholder engagement levels and project performance, an interview guide used with purposively selected key informants, and a document review guide used to extract secondary data from One Acre Fund project reports and policy documents. Content and construct validity were established through expert review by the research supervisor and field specialists, while reliability was assessed using Cronbach's alpha; the stakeholder engagement construct returned a coefficient of 0.775, and the overall instrument returned 0.805, both above the acceptable threshold of 0.70.

Quantitative data were analysed using the Statistical Package for Social Sciences (SPSS) Version 30. Descriptive statistics (means and standard deviations) summarised respondents' perceptions of stakeholder engagement, while Pearson correlation and regression analysis tested the relationship and influence of stakeholder engagement levels on agricultural project performance, measured through crop yields, profitability and returns, farmers' resilience and beneficiaries' satisfaction. A one-sample t-test was used to test the study hypothesis. Qualitative data from interviews were analysed thematically to complement and explain the quantitative results. Ethical considerations, including informed consent, confidentiality and voluntary participation, were observed throughout the study, with approval sought from Mount Kigali University and local authorities in Muhanga District.

4. Results and Discussion

This section presents findings on the influence of stakeholders' engagement levels on the performance of agricultural projects implemented by One Acre Fund in Muhanga District, guided by the research question and hypothesis stated in section 1.

4.1 Respondents' Perceptions of Stakeholder Engagement Levels

Table 1: Descriptive Statistics on Stakeholder Engagement Levels (N = 117)

Statements on Stakeholder Engagement Levels	Mean	SD
The number of stakeholders consulted in the project is adequate for informed decision-making.	4.37	0.970
Stakeholder meetings are held frequently and regularly.	4.30	0.647
A significant proportion of relevant stakeholders are involved in project meetings and consultations.	4.36	0.793
I am regularly informed about the project's progress through updates and meetings.	4.40	0.799
Stakeholder meetings allow for meaningful input from various stakeholder groups.	4.47	0.783
I feel that the stakeholders involved are well represented in decision-making processes.	4.54	0.714
Overall Mean	**4.41**	**—**

Response scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. *SD* = Standard Deviation.

The descriptive statistics presented in Table 1 indicate a high level of stakeholder engagement in agricultural projects implemented by One Acre Fund in Muhanga District. The overall mean score of 4.41 demonstrates that respondents generally agreed to strongly agreed that stakeholder engagement practices were effectively implemented throughout the project cycle. Item mean scores ranged from 4.30 to 4.54, indicating consistently positive perceptions across all dimensions of stakeholder engagement.

Among the assessed statements, respondents expressed the highest level of agreement with the statement that stakeholders are well represented in decision-making processes (*M* = 4.54, *SD* = 0.714), suggesting that participants perceive decision-making as inclusive and representative. This was followed by the statement that stakeholder meetings allow for meaningful input from various stakeholder groups (*M* = 4.47, *SD* = 0.783), highlighting the effectiveness of stakeholder consultations in promoting participation. Respondents also agreed that they were regularly informed about project progress through updates and meetings (*M* = 4.40, *SD* = 0.799), reflecting effective communication between project implementers and beneficiaries.

Similarly, respondents agreed that the number of stakeholders consulted was adequate for informed decision-making (*M* = 4.37, *SD* = 0.970) and that a significant proportion of relevant stakeholders participated in project meetings and consultations (*M* = 4.36, *SD* = 0.793). The statement "Stakeholder meetings are held frequently and regularly" recorded the lowest mean score (*M* = 4.30, *SD* = 0.647). Although this remained within the "Agree" category, it suggests comparatively lower perceptions regarding the frequency of stakeholder meetings.

The relatively higher standard deviation for the adequacy of stakeholder consultation (*SD* = 0.970) indicates greater variation in respondents' opinions compared with the other items. This suggests that although most participants perceived stakeholder consultation to be adequate, some respondents believed that additional stakeholder groups could be included to strengthen project decision-making.

4.2 Relationship between Stakeholder Engagement Levels and Project Performance

Table 2: Correlation between Stakeholder Engagement Levels and Agricultural Project performance

Variable	Crop Yields	Profitability and Returns	Farmers' Resilience	Beneficiaries' Satisfaction
Stakeholder Engagement Levels (Pearson's r)	.743**	.579**	.786**	.676**
Sig. (2-tailed)	< .001	< .001	< .001	< .001
N	117	117	117	117

The correlation results in Table 2 reveal very strong and statistically significant relationships between stakeholder engagement levels and all four dimensions of agricultural project performance. Farmers' resilience recorded the strongest association ($r = .786$, $p < .001$), followed by crop yields ($r = .743$, $p < .001$), beneficiaries' satisfaction ($r = .676$, $p < .001$) and profitability and returns ($r = .579$, $p < .001$). These results suggest that engaging stakeholders meaningfully throughout the project cycle is most strongly linked to farmers' capacity to withstand agricultural shocks, followed closely by productivity gains, with financial returns showing a comparatively more moderate, though still strong, association.

Table 3: Regression Coefficient of Stakeholder Engagement Levels on Agricultural Project Performance

Predictor	**B**	**SE**	**β**	***t***	***p***
(Constant)	.092	.202	—	.456	.649
Stakeholder Engagement Levels	.654	.118	.591	5.540	< .001

The regression results in Table 3 indicate that stakeholder engagement levels significantly and positively predict the performance of agricultural projects implemented by One Acre Fund in Muhanga District ($B = 0.654$, $\beta = 0.591$, $p < .001$). This finding suggests that increased stakeholder engagement contributes to improved agricultural project performance. The regression model explained 82.0% of the variation in project performance ($R^2 = 0.820$) and was statistically significant ($p < .001$), demonstrating that stakeholder engagement is an important predictor of agricultural project performance.

Table 4: Hypothesis Testing Using Regression Analysis

Hypothesis	**Statistical Test**	**B**	**β**	**p-value**	**Decision**
H_0: Stakeholder engagement levels do not significantly influence the performance of agricultural projects implemented by One Acre Fund in Muhanga District, Rwanda.	Simple Linear Regression	0.654	0.591	< .001	Reject H_0

As shown in Table 4, regression analysis revealed that stakeholder engagement levels significantly predict the performance of agricultural projects ($B = 0.654$, $\beta = 0.591$, $p < .001$). Since the p-value was less than 0.05, the null hypothesis was rejected. Therefore, stakeholder engagement levels have a statistically significant positive influence on the performance of agricultural projects implemented by One Acre Fund in Muhanga District.

4.3 Discussion of Findings

The findings demonstrate that stakeholder engagement levels significantly influence the performance of agricultural projects implemented by One Acre Fund in Muhanga District. Higher levels of stakeholder engagement were associated with improved crop yields, farmer resilience, beneficiary satisfaction, and profitability. These findings indicate that involving stakeholders throughout project planning, implementation, monitoring, and evaluation enhances project effectiveness and sustainability.

The findings resonate with prior Rwandan and regional evidence. Uwineza and Gitahi (2023) reported a positive relationship between stakeholder involvement and resource allocation ($r = .63$, $p < .05$) in a Rwandan agricultural project, a pattern consistent with the present study's finding that engagement correlates strongly with resilience and yields. Similarly, Umugwaneza, Nyabera and Njenga (2021) found that regular quarterly stakeholder meetings in Kamonyi District enhanced crop yields by aligning activities with farmers' seasonal needs, corroborating the present study's finding that regular meetings and information flow were rated highly by respondents. The strength of the present relationship between engagement and farmers' resilience ($r = .786$, $p < .001$) further echoes Beauchampet (2023), who linked frequent stakeholder forums in the Netherlands to more resilient farming communities.

Nonetheless, the relatively higher dispersion of responses on the adequacy of the number of stakeholders consulted suggests that, while engagement mechanisms are functioning well overall, the breadth of inclusion could still be strengthened, particularly for marginal or under- represented groups. This nuance is consistent with Nyaga, Ngugi and Kinoti (2022), who cautioned that even well-performing engagement frameworks in Kenya required deliberate effort to reach less visible stakeholder categories. Overall, the results affirm that stakeholder engagement is not merely a procedural formality but a substantive driver of agricultural project performance in the Muhanga District context.

5. Conclusion and Recommendations

5.1 Conclusion

The study concludes that stakeholders' engagement levels significantly and positively influence the performance of agricultural projects implemented by One Acre Fund in Muhanga District, Rwanda. Projects that incorporate stakeholders through structured, regular and representative engagement frameworks are more likely to achieve improved crop yields, profitability, farmer resilience and beneficiary satisfaction. Engaging beneficiaries early and consistently ensures that project goals are well understood and that resources are aligned with actual community needs. The null hypothesis that stakeholder engagement levels do not significantly influence project performance is therefore rejected.

5.2 Recommendations

Based on the findings of the study, the following recommendations are proposed:

1. **Institutionalization of structured stakeholder engagement frameworks:**One Acre Fund management should establish and institutionalize structured stakeholder engagement frameworks that ensure the active involvement of farmers and other stakeholders throughout all stages of the project cycle, including planning, implementation, monitoring, and evaluation. The organization should also develop multi-channel communication platforms and participatory feedback mechanisms to broaden consultation and ensure the inclusion of under-represented groups, particularly women and youth farmers.
2. **Development of standardized participatory engagement tools:**The Muhanga District Agriculture Department, in collaboration with One Acre Fund, should develop standardized stakeholder engagement tools and guidelines that can be consistently applied across sectors and cells. These tools should promote effective consultation, enhance accountability, and facilitate systematic monitoring of stakeholder participation in agricultural projects.
3. **Establishment of national stakeholder engagement guidelines:**The Ministry of Agriculture and Animal Resources (MINAGRI) should develop national guidelines that make structured stakeholder engagement a mandatory component of agricultural project design, implementation, and approval processes. Such guidelines should include measurable indicators for assessing the frequency, inclusiveness, and quality of stakeholder engagement.
4. **Promotion of further research on stakeholder engagement and project sustainability:** Future studies should adopt longitudinal research designs to assess the long-term effects of stakeholder engagement on agricultural project sustainability. Additional research should also compare stakeholder engagement practices across different districts and implementing organizations and examine the potential of digital and mobile-based feedback platforms in strengthening stakeholder participation within Rwanda’s agricultural sector.

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