Effect of Stakeholders' Engagement on Sustainability of Home-Grown School Feeding Project

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Abstract: **This study explored how stakeholders' engagement affects the sustainability of Rwanda's Home-Grown School Feeding Project. It focused on three main aspects: stakeholders' performance measurement, management, and overall engagement, guided by the theory of change and resource-based theory. Using a descriptive survey and correlation design, the research collected data from 118 participants (certified educators and parents) selected through stratified random sampling. Data was analyzed with SPSS and thematic analysis for qualitative insights. Findings showed that stakeholders' communication, management, and risk management significantly influence project sustainability. Statistical analysis revealed that communication (P = 0.0115), management (P = 0.000), and risk management (P = 0.007) all had significant positive effects, leading to the rejection of all null hypotheses. The study recommends that the Ministry of Education and partners strengthen stakeholder communication through regular meetings and feedback systems. It also suggests investing in training programs to build stakeholders' skills in management and risk assessment, enabling them to handle challenges effectively. These actions aim to secure the sustainability of the Home-Grown School Feeding Project, ensuring it continues to meet children's nutritional needs while supporting local agriculture and community participation.**

Keywords: **Stakeholders, Sustainability, Home –Grown School Feeding Project.**

I. INTRODUCTION

The World Food Programme is the main provider of school feeding programmes in underdeveloped nations. In 2013, WFP supplied food to nearly 15 million students in schools across 69 countries. By working together with national and local governments, funders, and international and local relief organisations, WFP uses food as a way to attract and keep children in education (World Bank, 2016). Research shows that the idea of school feeding first emerged in the 1930s, with programmes being implemented in the USA and the UK with the explicit aim of promoting children's development (Keelan *et al.,* 2017).

A scheme to subsidize milk for schoolchildren was started in the UK in 1934, and starting in 1944, milk was given away for free (Keelan et al., 2017). In the late 1960s and early 1970s, this benefit was withdrawn from all individuals except children who were deemed to be particularly disadvantaged (an early exemplification of the targeting approach in school feeding). Their capacity to establish a self-sufficient community in terms of finance, technology, and management (FAO, 2019) characterize sustainable food projects. Financial autonomy entails the community's ability to formulate its own budgets for food security initiatives, acquire adequate financial resources, record income generated from food-related activities within their communities, and produce financial reports for such projects.

Individuals in the community who experience food insecurity and need sustenance have the ability to identify their own food security needs, develop and implement initiatives to meet those needs, and effectively manage these projects without

relying on external experts (FAO, 2019). In Mali, the World Bank became a stakeholder in 2016 and launched a school feeding programme (Kremer & Vermeersch, 2017). Smith (2020) contends that there are two methodologies for assessing the sustainability of a food project: the enduring of project output or outcomes, and the facilitation of local actions within the research area through project-generated initiatives. The researcher further asserts that ensuring the ongoing provision of project outputs and outcomes involves modifications made to the project's output and outcome three years after the beneficiary handover, the current project outputs, as well as an increase in the quantity of food that is both accessible and affordable throughout the year in the region.

Kenya's government has consistently provided funds to support the school feeding programme in partnership with the World Food Programme (WFP). This initiative benefits from the active involvement of community members, including teachers, parents, and small-scale farmers. Despite facing challenges in securing funding for the programme, community participation has helped bridge the gap. However, there is a need to improve data analysis and reporting, as well as create opportunities for further development. While the School Feeding Programme in Kenya has received support from various international organizations such as the WFP, UNESCO, UNICEF, and the World Bank, there are still noticeable deficiencies, particularly in schools located in arid and semi-arid regions (WFP, 2014).

Rwandan agriculture has undergone significant changes in the past few decades, playing a crucial role in the country's economic growth. In 2015, agriculture accounted for 32.7 percent of GDP and contributed to a 7.6 percent increase in overall economic growth. These changes have also had a positive Effect on poverty rates, with a remarkable 35 percent reduction over the previous decade. Despite these encouraging advances, Rwanda has yet to realize its full potential in terms of output. Although important crop yields, such as grain and cassava yields, have quadrupled since 2000 and sweet potato yields have increased, they have reached a plateau in 2011. As a result; cat the productivity has remained poor for a long period. The main objective of this study was to to examine the effect of stakeholders' engagement on project sustainability in Home Grown School Feeding Project in Rwanda. It was guided by the following specific objectives:

i. To assess the effect of stakeholders' communication on the sustainability of the Home-Grown School Feeding Project in Rwanda.

ii. To evaluate the effect of stakeholders 'management on project sustainability in Home Grown School Feeding Project in Rwanda.

iii. To determine the relationship between stakeholders' engagement and sustainability of home-grown school feeding project in Rwanda.

II. THEORETICAL FRAMEWORK

To determine what important elements, contribute to poor project sustainability and how it can be done to improve the sustainability of home-grown school feeding project in Rwanda. This theoretical framework will be based on the theory of change as well as resource-based theory.

Theory of Change

The term theory of change was firstly introduced in 1990 where this theory was aimed at addressing some of the difficulties shown by evaluators when assessing the effect of developing social programs. Planning and evaluation were progressively being reflected as an essential practice of social development Vogel; (2012). In addition to this; the project team and stakeholders should be explained so that they can bring change in their daily business by working with partners like project financial institution Vogel ;(2012).

This approach is taken as process that involves discussion; analyzing as well as learning that producers as fruitful perception to support that design; strategy; implementation and evaluation as well as Effect assessment of programmers (Davies *et.al*,.2012). Although this theory has many strengths; some weaknesses have been highlighted as it does not clarify how change processes make attention in order to support home grown school feeding project and how project can be sustained by Stakeholders (Davies *et.al*,.2012). This theory is employed in this study for supporting that once stakeholders engaged in sustaining project, better performance of home-grown school feeding project can be experienced.

Resource Based Theory

This theory employed in this study as its main target is to show the competitive success of any organization or project. Since the 1980s, a long discussion has raged about resource-based theory (RBT), highlighting the theory's new premises.

Some these assumptions, according to resource- based theory researchers, are primarily linked to sustained superior project performance, and they focus on how to measure economic performance of the project in order to evaluate project competition. This research will look into how involvement from stakeholders may affect the long-term viability of economic initiatives, particularly locally produced school meal programs. It is proposed that stakeholder engagement may have an Effect on these projects' success.

III. CONCEPTUAL FRAMEWORK

Conceptual Framework is a model, which connects independent variables to dependent variable
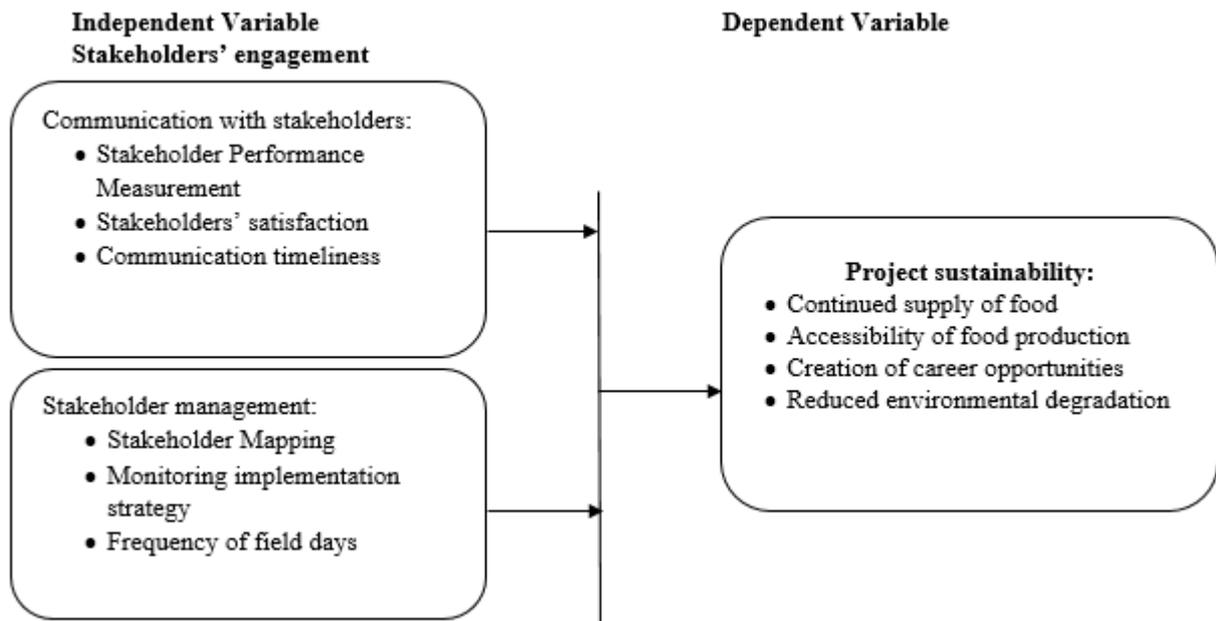

Figure 1 Conceptual Framework (2024)

The conceptual framework in the figure 1 shows how stakeholders' engagement affects sustainability in home grown school feeding project where stakeholders' engagement which is independent variable indicated by communication with stakeholders and stakeholders' management considered while sustainability of home grown school feeding project which is considered as dependent variable indicated by these indicators: Continued supply of food, accessibility of food production , creation of career opportunities and reduced environmental degradation. When stakeholders are successfully engaged in sustainability of home-grown school feeding project, this shows high project productivity.

IV. RESEARCH METHODOLOGY

Research Design

Research design shows all possible ways which should be used to collect and analyze data (Creswell, 2014). Thus, this study was carried by using two research designs like descriptive research design and correlation research design. The descriptive survey will assist the researcher in analyzing the effects of stakeholders' performance measurement on project sustainability in the Home-Grown School Feeding Project in Rwanda. It will also evaluate the impact of stakeholders' management and stakeholders' risk management on project sustainability in the same context. By utilizing this approach, the researcher aims to gain a comprehensive understanding of how these factors affect the sustainability of the project, ultimately contributing to its success in Rwanda.

Target Population

The study's target population refers to the entire group of variables from which results are expected (Fricker, 2006). It includes all study participants who meet specific criteria for scientific inquiry (Alvi, 2016). The target population of this study will be 168 respondents including teachers and parents that will be participating in the study. The target population of this study is composed into different categories including 70 trained teachers and 98 parents working with home grown school feeding project in Burera district.

Sample Size Determination

Sampling refers to the process of selecting the participants of the study (Bless *et al.,* 2013). Sample is the portion of population involved in the research work. This research will consist of 168 people in the study population, and the sample size was determined using Solvin's formula (Yamane, 1967). The simplified formula assumes a 95% confidence level and a maximum variance of -value = 0.05. The formula that was used in $n = \frac{N}{1+N(e^2)}$, where n: sample size; N: Target population and e: Margin of error. E specifies the desired level of precision in such way that precision e=1-precision

ρ-value =0.95   N=168   e=1-0.95=0.5

Therefore, $n = \frac{N}{1+N(e^2)}$ so, $n = \frac{168}{1+168(0.05)^2} = 118$

N.B Total population under the study was 168 and n: sample was 118.

Proportionate method was used for getting each stratum respondents.

Table 1: Shows Population Size and Proportioned Sample Size

NO	Participants	Target Population	Sample Size
1	Teachers	70	49
2	Parents	98	69
	Total	**168**	**118**

Source: Research (2024)

Based on the study's objectives, the researcher chose the study's population so that, in order to obtain accurate and useful research data, 98 parents and 70 teachers were regrouped into strata.

Sampling Technique

This study employed the probability sampling technique, whereby the researcher grouped the selected population into strata using the stratified random sample technique. Additionally, the researcher to obtain a representative sample from each strata used the proportional approach. The purposive technique was employed by the researcher to choose a homegrown school feeding initiative from among many currently operating in Rwanda. There was two strata used to group this study population.

Data Collection Instruments

The tool that was used in this study as a research instrument is one that can be created (Oso & Onen, 2016). Questionnaires and an interview guide constituted the study's instruments. Section A and Section B will be the names given to these instruments. Teachers was given the questionnaire in section B to gather the necessary data regarding the Effect of stakeholders' engagement on project sustainability in the homegrown school feeding project. Section A of the questionnaires contains background information about respondents, while section B contains closed-ended questions. Parents of students residing in the Burera district who were actively engaged in the homegrown school feeding project was extended invitations to partake in focus groups. The primary objective of these deliberations is to amass qualitative data, which served as a supplementary source of information to the quantitative data gathered from questionnaires. This comprehensive approach facilitated a more profound comprehension of how the participation of stakeholders Effects the long-term viability of the project.

V. RESEARCH FINDINGS AND INTERPRETATION

Demographic Characteristics of Respondents

In this study, demographic characteristics were collected effectively including gender, ages and educational level of defendants. The sample size of this study was 118 respondents including 49 teachers as well as 69 parents and all the selected respondents had access on sustainability of home-grown school feeding project located in Burera district, Northern province.

The data was gathered and presented in the form of tables, as well as analyzed using frequencies and percentages.

Demographic Characteristics of Teachers

i. Gender

Table 2: Demographic Information Basing On Contract Teachers' Gender

Gender	Frequency	Valid Percent
Male	28	59.6
Female	21	40.4
Total	49	100.0

Source: Primary data (2025)

The table 2, the demographic characteristics of contract workers basing on their gender where 59.6 percent were male while the remaining 40.4 percent were female.

Presentation of Findings

Considering the research objectives, the presentation of findings was done due to specific research objectives of this study such as the effect of stakeholders' communication on the sustainability of the Home-Grown School Feeding Project in Rwanda, the effect of stakeholders 'management on project sustainability in Home Grown School Feeding Project in Rwanda and the relationship between stakeholders' engagement and sustainability of home-grown school feeding project in Rwanda. By testing the research hypothesis of this study, which was developed, the questionnaires were distributed to get the findings from teachers and guided focus group was given to the parents.

The effect of Stakeholders' Communication on the Sustainability Of the home-Grown School feeding Project

Effective communication among stakeholders is crucial for the success and sustainability of the Home-Grown School Feeding Project (HGSF). This project aims to enhance students' nutrition while promoting local food production and education. Understanding teachers' perceptions of stakeholder communication is vital, as it influences resource management skills, food supply continuity, and overall project satisfaction. This analysis will explore how communication impacts these factors, as evidenced by the data in Table 3, highlighting key insights into stakeholder dynamics and their effects on the project's sustainability.

Tables 3: Perception of teachers On Stakeholders' Communication

Statements	SD		D		N		A		SA		Mean	std
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%		
This project help educationists to gain resource management skills.	9	23.1	10	21.2	19	34.7	9	17.3	2	3.8	2.51	1.01
Students are satisfied	12	28.8	11	21.2	10	19.2	12	23.1	4	7.7	2.28	1.19
Stakeholders 'communication leads to the continued supply of food in schools	6	16.2	20	38.5	10	22.2	11	21.2	2	1.9	2.48	1.09
Stakeholders' satisfaction contribute to the accessibility of food production	16	36.5	9	17.3	10	19.3	13	25	1	1.9	2.34	1.21
Communication timeliness reduced environmental degradation	10	21.2	11	23.1	17	34.6	1	1.9	10	19.2	2.75	1.35
Feedback session is fruitful to this project	1	1.9	8	15.4	3	5.7	20	40.4	17	36.3	4.05	1.10

Source: Primary data (2025). SD: Strongly disagree, D: disagree, N: Neutral, A: Agree and SA: Strongly Agree.

The data presented in Table 3 captures the perceptions of teachers regarding various aspects of stakeholders' communication in an educational project. It brings together various statements and the corresponding responses along with their mean scores and standard deviations. The general sentiment among teachers regarding "This project helps educationists to gain resource management skills" yields a mean score of 2.51 (SD = 1.01), indicating a mild agreement with this statement. A significant portion of the respondents expressed neutral or negative perceptions (combined 44.3% responding SD or D). This suggests a mixed outlook on the effectiveness of the project in enhancing resource management skills among educationists. Moving to the statement "Students are satisfied," a mean score of 2.28 (SD = 1.19) suggests a generally lower level of satisfaction reported by the teachers.

The results show that nearly half (approximately 50%) of the respondents disagreed or had neutral views about student satisfaction. This might indicate underlying issues regarding student contentment within the educational framework that necessitates further exploration. The aspect of stakeholders' communication leading to the continued supply of food in schools carries a mean score of 2.48 (SD = 1.09), again demonstrating a moderate level of agreement but reflecting significant skepticism among the respondents. As 54.7% expressed disagreement or neutrality, it emphasizes the need for improved stakeholder engagement and communication in ensuring supply chain effectiveness.

When considering the statement about stakeholders' satisfaction contributing to food accessibility, the mean score of 2.34 (SD = 1.21) reveals even lower confidence levels, with 53.8% either disagreeing or remaining neutral. This indicates that teachers may feel that the current engagement and satisfaction of stakeholders do not adequately support food production accessibility. Interestingly, the statement about "Communication timeliness reducing environmental degradation" has a relatively higher mean score of 2.75 (SD = 1.35), indicating a more favorable perception among respondents. Here, roughly 55.9% either agree or strongly agree; highlighting a perception, that effective communication plays a critical role in environmental protection.

Lastly, the statement on feedback sessions being fruitful shows the most positive outlook from respondents with a mean of 4.05 (SD = 1.10), as a substantial 76.7% agreed or strongly agreed. This exemplifies the perceived value of feedback in the project, indicating areas where communication and stakeholder engagement are functioning effectively.

The findings from the focus group discussions with parents highlighted several key insights about the Home Grown School Feeding Project's impact on education and agriculture. Parents generally observed that the project significantly contributed to schools' retention rates by providing nutritious meals, making students more eager to attend school regularly. Many parents indicated a moderate to high extent of utilizing their agricultural products to support this educational initiative, reflecting a growing connection between local farming and schooling. Moreover, parents noted that technological advancements facilitated improvements in project quality, allowing schools to enhance their food preparation and management processes. Effective communication among stakeholders was emphasized as crucial for the project's sustainability, with parents identifying that consistent information sharing and collaboration encouraged greater involvement and commitment from all parties. This underscores the importance of engaged communication in reinforcing the project's objectives and fostering community support.

Table 4: The R Square of Stakeholders' Communication on the Sustainability of the Home Grown School-Feeding Project

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.805[a]	.649	.639	.97173	.649	64.355	4	139	.000

Source: Primary data ,(2025), a. Predictors: (Constant), stakeholders' communication

Table 4 presents the statistical analysis of the relationship between stakeholders' communication and the sustainability of the Home-Grown School Feeding Project (HGSFP). The model shows a strong correlation, indicated by an R value of 0.805, suggesting that effective communication among stakeholders significantly influences the project's sustainability. The R Square value of 0.649 means that approximately 65% of the variance in sustainability can be explained by stakeholder communication. The Adjusted R Square of 0.639 accounts for the number of predictors in the model, reaffirming the robustness of the findings while adjusting for potential overfitting. The Standard Error of the Estimate (0.97173) indicates a moderate level of accuracy in the predictions derived from the model. Furthermore, the model exhibits a significant R

Square change of 0.649, which, alongside an F Change of 64.355 with degrees of freedom of 4 and 139, resulted in a p-value of 0.000. This indicates a highly significant relationship between the variables, suggesting that the communication strategies employed by stakeholders are crucial for the HGSFP's sustainability.

Table 5: Analysis of variance (ANOVA) of stakeholders' communication among teachers

ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	31.308	3	15.654	21.664	.000b
	Residual	18.999	45	.423		
	Total	50.307	48			

a. Dependent Variable: students are satisfied

b. Predictors: (constant), this project provides food in schools, Home Grown School Feeding Project help educationists via working hand in hand day to day in feeding their students, table 5 shows the significance level, which is less than 0.05, with a ρ-value 0f .000<.05, which is less than 0.05.

The results presented emphases on the communication among teachers concerning the satisfaction of students. It emphasizes the impact of specific interventions on student satisfaction, particularly highlighting the role of programs such as providing food in schools and the Home Grown School Feeding Project. The findings illustrate a significant relationship between the predictors and student satisfaction. The significance level indicates that the intervention has a meaningful effect on the outcome, suggesting that teachers' communication about these initiatives effectively influences how students perceive their educational environment. The results denote that the factors considered are not only interrelated but also crucial in enhancing students' experiences within the educational setting.

Furthermore, the model showcases a robust variance in communication strategies employed by teachers, shedding light on how engagement in these feeding programs may foster a positive and supportive atmosphere for students. Such an analysis underlines the importance of collaborative efforts in education and the need for continuous interaction among stakeholders to optimize student satisfaction and overall learning experiences.

Table 6: Coefficients Of Stakeholders' Communication And Sustainability Of The Home Grown School Feeding Project

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.623	1.011		5.562	0.000
	Stakeholders' communication	-0.4685	0.174	-0.3445	-2.775	0.0115

Source: Primary data (2025)

The results from Table 6 indicate a significant negative relationship between stakeholders' communication and the sustainability of the Home-Grown School Feeding Project. The simple regression analysis yielded p-values below the 5% significance level, confirming the relationship's robustness. and the multiple regression model,

$Y = \beta_0 + \beta_2 x_2 + \beta_3 x_3 + \alpha$ which turns into multiple regression model with

$Y = 5.623 + (-0.4685)$ Stakeholders' communication $+ \alpha$.

Illustrates that for every unit increase in stakeholders' communication, the sustainability index decreases by 0.4685 units, highlighting a statistically significant impact ($p = 0.0115$). The constant term of 5.623 suggests that when stakeholders' communication is absent, the project's sustainability score is expected to be 5.623. This negative coefficient implies that improved stakeholders' communication may not contribute favorably to the project's sustainability, warranting further investigation into the nature of this relationship.

Table 7: Correlation between Stakeholders' Communication and Sustainability of the Home-Grown School Feeding Project

Correlations		Project sustainability	Stakeholders' communication
Project sustainability	Pearson Correlation	1	.780**
	Sig. (2-tailed)		.000
	N	49	49
Stakeholders' communication	Pearson Correlation	.780**	1
	Sig. (2-tailed)	.000	
	N	49	49
**. Correlation is substantial at the 0.01 level (2-tailed).			

Table 7 presents the correlation between stakeholders' communication and the sustainability of the Home-Grown School Feeding Project. The Pearson correlation coefficient of 0.780 indicates a strong positive relationship between the two variables, suggesting that as the effectiveness of stakeholders' communication increases, the sustainability of the project also tends to improve. The correlation is statistically significant, with a p-value of 0.000, meaning there is a high level of confidence that this relationship is not due to random chance. The analysis was conducted with a sample size of 49, providing a robust basis for the findings. A correlation coefficient close to 1 typically indicates a strong positive relationship, while values closer to 0 suggest weak or no relationship.

In this case, the substantial coefficient underscores the importance of effective communication among stakeholders in achieving and maintaining the project's sustainability. This suggests that enhancing communication strategies could lead to better outcomes for the Home-Grown School Feeding Project, emphasizing the need for ongoing engagement and collaboration among all parties involved. Thus, fostering strong communication channels could be vital for sustaining the project in the long term.

The Effect of Stakeholders' Management on Project Sustainability In Home Grown School Feeding Project

The Home-Grown School Feeding Project (HGSFP) aims to enhance food security, improve nutritional status, and promote educational outcomes in participating schools through locally sourced food. Effective stakeholders' management plays a critical role in the sustainability and success of this initiative. By understanding the perceptions of teachers regarding various aspects of stakeholders' management, we can gain insights into its effectiveness and identify areas for improvement. The following table presents teachers' views on several statements related to stakeholders' management in the context of the HGSFP, highlighting key themes that influence project sustainability.

Table 8: Perception of Teachers on Stakeholders' Management

Statements	SD		D		N		A		SD		Mean	Std
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%		
Monitoring implementation strategy is effectively done in this project	7	13.5	12	23.1	17	38.5	9	17.3	4	7.7	2.51	1.01
Frequency of field days leads to good production among members	2	3.8	10	21.2	9	19.2	11	23.1	17	32.7	2.28	1.19
Schools in which this project is working with, show high level of improvement in their working.	9	19.2	19	38.5	9	19.2	11	21.2	1	1.9	2.48	1.09
Stakeholders 'mapping is fruitful to this project.	2	3.8	7	13.7	10	21.2	11	25	18	36.5	2.34	1.21
Creation of career opportunities is Effected by Stakeholders'mapping	11	21.2	12	23.1	15	34.6	1	1.9	10	19.2	2.75	1.35

Source: Primary data (2025). SD: Strongly disagree, D: disagree, N: Neutral, A: Agree and SA: Strongly Agree.

Table 8 presents teachers' perceptions regarding the management of stakeholders in a particular project. The data is organized based on various statements related to stakeholders' roles and the effectiveness of project strategies. Each statement is rated on a Likert scale. The first statement addresses the effectiveness of monitoring implementation strategies within the project. The mean score of 2.51, along with a standard deviation of 1.01, indicates a moderately positive perception. The distribution of responses shows that a significant portion of teachers (55.6%) agrees or strongly agrees with the statement, suggesting a general acknowledgment of the monitoring processes, though there is a notable percentage (36.6%) of respondents who disagree or feel neutral. Next, the statement regarding the frequency of field days and their contribution to increased production among participants received a mean score of 2.28 and a standard deviation of 1.19. Here, responses are more mixed, with only 55.8% of teachers either agreeing or strongly agreeing, suggesting that while some perceive benefits, a substantial number remain neutral or disagree.

The improvement observed in schools involved with the project yielded an average score of 2.48 (SD = 1.09), reflecting a positive but cautious perception among teachers. With 40.1% indicating agreement, there seems to be ambivalence, suggesting that while some perceive benefits, others may question the extent of improvement. Regarding the efficacy of stakeholder mapping, a mean score of 2.34 (SD = 1.21) implies a generally favorable view, though not overwhelmingly so. Approximately 61.2% of respondents hold a neutral or positive stance on stakeholder mapping is contributions, indicating potential latent benefits yet to be fully recognized. Finally, the statement on the creation of career opportunities due to stakeholder mapping scored the highest mean of 2.75 (SD = 1.35). Here, the response distribution indicates a stronger agreement, with 53.1% of teachers affirming the impact of stakeholder mapping on career opportunities.

The focus group discussions with parents revealed valuable insights into the management of stakeholders in the Home-Grown School Feeding Project. Parents generally reported a high extent of support derived from the project in utilizing their agricultural products to bolster the education sector. Many emphasized that the initiative not only created a direct link between local farming and school nutrition but also encouraged them to produce more, knowing their efforts would benefit their children's education.

This sentiment aligns with the data gathered from teachers, where a significant portion acknowledged the importance of monitoring implementation strategies to ensure effective project outcomes. The parents also expressed a moderate appreciation for field days organized by the project, as they recognized the benefits but noted that interactions that are more frequent and training sessions could enhance their understanding and participation.

Furthermore, parents highlighted those technological transformations within the schools significantly improved project quality. They observed that modern methods and tools facilitated better management of resources, leading to enhanced meal preparation and agricultural practices. As schools adopted innovative practices, parents realized that their involvement became more critical to sustain these advancements. This mirrors the cautious optimism among teachers regarding improvements observed within the project, where about 40.1% acknowledged benefits but remained unsure about the overall impact.

Table 9: The R Square of Stakeholders' Management and Project Sustainability in Home Grown School Feeding Project

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.789ᵃ	.673	.632	.63269	.673	42.952	3	47	.000

Source: Field data (2025), a. Predictors: (Constant), stakeholders' management

Table 9 presents the results of a regression analysis examining the relationship between stakeholders' management and project sustainability in the Home Grown School Feeding Project. The model shows a strong correlation, indicated by an R-value of 0.789, suggesting that effective stakeholders' management plays a crucial role in fostering sustainability within the project. The R Square value of 0.673 implies that approximately 67.3% of the variability in project sustainability can be explained by stakeholders' management practices. The Adjusted R Square of 0.632 accounts for the number of predictors in the model, reinforcing the robustness of the findings. The standard error of the estimate (0.63269) indicates the model's prediction accuracy. Additionally, the significant F Change value (.000) implies that the inclusion of stakeholders' management significantly improves the model, highlighting its importance in achieving sustainability in school feeding initiatives.

Table 10: Analysis of variance (ANOVA) of stakeholders' management

ANOVAᵃ

Model		Summation of Squares	DF	Mean Square	F	Sig.
1	Regression	31.208	2	15.604	22.952	.000ᵇ
	Residual	16.879	46	.366		
	Total	48.087	48			

a. Dependent Variable: Improvement of accessing food production due to stakeholders' management

b. Predictors:(constant), Quality and sustainability is influenced by monitoring implementation strategy, schools working with Home Grown School Feeding Project show high level of improvement in their working. The significance level is shown in table 10 with a ρ-value of .000<.05, which is less than 0.05. As a result, monitoring and evaluation have a considerable impact on project sustainability in Home Grown School Feeding Project.

Regarding the impact of stakeholders' management on improving access to food production in the context of the Home-Grown School Feeding Project, the model reveals a total sum of squares of 48.087, with a regression sum of squares of 31.208 and a residual sum of squares of 16.879. This indicates a significant portion of variation in the dependent variable improvement in food access can be attributed to the predictors analysed.

The Degrees of Freedom (DF) for the regression model is 2, and for the residual, it is 46, leading to a mean square for the regression of 15.604. The F-value of 22.952 indicates a strong model fit; higher F-values imply that the independent variables explain a significant amount of variance in the dependent variable. Importantly, the significance level (Sig.) of .000 indicates that the results are statistically significant, with a p-value well below the conventional threshold of 0.05. This strong significance suggests that the effectiveness of monitoring implementation strategies within stakeholders' management has a profound impact on project sustainability. Furthermore, the analysis indicates that initiatives collaborating with the Home-Grown School Feeding Project not only exhibit improved outcomes but also highlight the importance of stakeholder collaboration in enhancing food production accessibility.

Table 11: Coefficients of Stakeholders' Management and Project Sustainability in Home Grown School Feeding Project

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sign.
		B	Std. Error	Beta		
1	(Constant)	6.854	.403		17.005	0.000
	Stakeholders' management	0.352	.0715	-.807	-7.8145	0.000

Source: Primary data (2025)

Table 11 presents the coefficients indicating the relationship between stakeholders' management and project sustainability in the Home Grown School Feeding Project. The constant term is 6.854, highlighting the baseline level of project sustainability when stakeholder management is absent.

The coefficient for stakeholders' management is 0.352, which signifies a positive contribution to project sustainability, suggesting that effective management of stakeholders enhances the project's longevity. The standardized coefficient (Beta) of -0.807 indicates a strong negative relationship, implying that higher levels of stakeholders' management can inversely influence some aspects of the project, potentially due to increased complexity or resource demands. The T-statistic of -7.8145, with a p-value of 0.000, indicates that the relationship is statistically significant. Overall, this analysis emphasizes the crucial role of effective stakeholder management in fostering project sustainability, while also highlighting the complex dynamics that may arise.

Table 12: Correlation between stakeholders' management and project sustainability in Home Grown School Feeding Project

Correlations		Stakeholders' management	Project sustainability
Stakeholders' management	Pearson Correlation	1	.374**
	Sign. (2-tailed)		.005
	N	49	49
Project sustainability	Pearson Correlation	.374**	1
	Sign. (2-tailed)	.005	
	N	49	49

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

Table 12 presents the correlation between stakeholders' management and project sustainability in the Home-Grown School Feeding Project. The Pearson correlation coefficient of 0.374 indicates a moderate positive relationship between effective stakeholder management and the sustainability of the project. This suggests that as the management of stakeholders improves, project sustainability tends to increase as well.

The significance value (p-value) of 0.005 is below the conventional threshold of 0.05, indicating that the correlation is statistically significant. This reinforces the idea that stakeholder management plays a vital role in sustaining project outcomes, highlighting the importance of engaging stakeholders effectively to ensure long-term project success. With a sample size (N) of 49, the results underscore the need for project managers to prioritize stakeholder involvement and communication strategies. These findings can inform best practices for future initiatives, suggesting that investment in stakeholder relationships may lead to enhanced sustainability of project impacts.

The Relationship between Stakeholders' Engagement And Sustainability in Home Grown School Feeding Project

The perceptions of teachers regarding the influence of stakeholders' engagement on the sustainability of the Home Grown School Feeding (HGSF) project were explored through a survey. The results revealed that teachers generally believe stakeholder participation is crucial for project success, with a moderate agreement on decision-making involvement. However, there were mixed opinions on the effectiveness of stakeholder analysis and contribution rates, highlighting potential areas for improvement.

Table 13: Perception of Teachers on Influence of Stakeholders' Engagement

Statement	SD		D		N		A		SA		Mean	Std
	F	%	F	%	F	%	F	%	F	%		
Most projects like HGSF help stakeholders participating in decision making	5	9.6	17	38.5	10	19.2	10	19.2	7	13.5	2.88	1.23
The increase of stakeholders' participation rate leads to project sustainability	8	17.3	4	7.7	14	28.8	16	32.7	7	13.5	3.17	1.27
Stakeholders analysis in project execution help customers to be satisfied.	12	23.1	22	48.1	10	19.2	4	7.7	1	1.9	2.17	0.94
Stakeholders' contribution rate increased in this project	6	11.5	20	40.4	3	5.8	18	38.5	2	3.8	2.82	1.18
This project avail food in schools timely	4	7.7	4	7.7	2	3.8	19	38.5	20	43.3	4.34	0.83
Stakeholders' innovation rate is at high level	1	1.9	2	3.8	4	7.7	20	43.3	22	44.3	4.42	0.69

Source: Primary data (2025). SD: Strongly disagree, D: disagree, N: Neutral, A: Agree and SA: Strongly Agree.

The data presented provides insights into the perceptions of teachers regarding the influence of stakeholder engagement on the sustainability of the Home Grown School Feeding (HGSF) project. The findings reveal that teachers generally perceive stakeholder participation as critical to the project's success. For instance, the statement regarding projects like HGSF facilitating stakeholder involvement in decision-making received a moderate mean score of 2.88, indicating a divided opinion among teachers, with 38.5% agreeing and 38.1% expressing uncertainty.

A more positive outlook is evident in the statement linking increased stakeholder participation to project sustainability, which garnered a mean score of 3.17. Here, 46.2% of teachers acknowledged the importance of stakeholder engagement for maintaining the project's longevity. The data suggests that teachers believe fostering an inclusive environment for stakeholders enhances the likelihood of achieving sustainable outcomes.

However, perceptions concerning stakeholder analysis for customer satisfaction highlight some concerns, as the mean score of 2.17 indicates a significant number of teachers (71.2%) disagreeing or remaining neutral about its effectiveness. This may reflect a gap in understanding how stakeholder input translates into tangible benefits for beneficiaries. Interestingly, the perception of timely food availability in schools received a high mean score of 4.34, suggesting that teachers feel robustly supported in this area. Similarly, the perception of high levels of stakeholder innovation, with a mean score of 4.42, underscores that engagement fosters creative solutions, potentially leading to enhanced operational efficiencies within the HGSF project.

The focus group discussions with parents provided valuable insights into their perceptions of the relationship between stakeholders' engagement and the sustainability of the Home Grown School Feeding (HGSF) project. Parents overwhelmingly recognized the importance of active engagement from various stakeholders, including teachers, local farmers, and community leaders. Many parents expressed that when stakeholders collaborated effectively, it significantly contributed to the project's success in delivering nutritious meals to their children. A notable sentiment was that increased communication among stakeholders could foster transparency and trust, which are vital for ensuring that the program meets the community's needs. This emphasis on collaboration indicates that parents see stakeholder engagement as a cornerstone of sustained support for the HGSF project.

Conversely, some parents conveyed concerns about a perceived lack of direct involvement in decision-making processes related to the HGSF project. While they acknowledged the importance of stakeholders, a few parents felt that their input was not sufficiently considered, which raised doubts about the overall responsiveness of the project. This skepticism was echoed in discussions about the effectiveness of parental feedback mechanisms, with many parents revealing a desire for more structured opportunities to express their views. Nevertheless, parents remained hopeful, with several expressing optimism that enhanced stakeholder engagement could lead to improved outcomes, better nutrition, and sustained commitment to the HGSF initiatives in their schools. These findings underscore a collective aspiration for a more inclusive approach to stakeholder engagement, suggesting that such involvement could be key to the long-term success of the project.

Table 14: Coefficients of Stakeholders' Engagement and Sustainability in Home Grown School Feeding Project

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Persistent)	1.825	.642		2.841	0.007
	Stakeholders' engagement	.152	.1155	.1685	1.4565	0.0145

Source: Primary data (2025)

Table 16 presents the statistical analysis of the relationship between stakeholders' engagement and sustainability in the Home Grown School Feeding Project. The model reveals key coefficients guiding this relationship. The unstandardized coefficient for stakeholders' engagement is 0.152, indicating a positive effect on sustainability, while the standard error is 0.1155, reflecting variability in the estimate. The standardized coefficient (Beta) of 0.1685 suggests that for every unit increase in stakeholders' engagement, there is a corresponding increase in sustainability. The t-value of 1.4565 signifies the strength of this relationship, and the significance level (Sig.) of 0.0145 implies that the findings are statistically significant, supporting the hypothesis that enhanced engagement among stakeholders positively impacts the project's sustainability.

Table 15: Correlation between Stakeholders' Engagement and Sustainability in Home Grown School Feeding Project

Correlations		Stakeholders' engagement	Project Sustainability
Stakeholders' engagement	Pearson Correlation	1	.662[**]
	Sig. (2-tailed)		.000
	N	49	49
Project Sustainability	Pearson Correlation	.662[**]	1
	Sig. (2-tailed)	.000	
	N	49	49

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

Table 17 presents the correlation between stakeholders' engagement and sustainability in the Home Grown School Feeding Project. The analysis reveals a strong positive correlation, with a Pearson correlation coefficient of 0.662. This indicates a substantial relationship between the level of stakeholder participation and the project's ability to sustain itself over time. The statistical significance of this correlation is confirmed by a p-value of 0.000, which is well below the 0.01 threshold, demonstrating that the likelihood of this correlation occurring by chance is extremely low.

Hypothesis testing

H0: Stakeholders' engagement has no significant effect on project sustainability in the Home Grown School Feeding project in Rwanda. The results reveal a p-value of .000, which is less than the alpha level of .05, leading us to reject the null hypothesis. This proves that stakeholder engagement significantly influences project sustainability. The implications of these findings indicate that active, continuous engagement of various stakeholders contributes to the long-term success and adaptability of the project in addressing challenges within the educational environment.

H01: Stakeholders' communication has no significant effect on project sustainability in the Home Grown School Feeding project. The analysis indicates a p-value of .000, which falls below the .05 threshold. Consequently, we reject the null hypothesis, concluding that effective communication among stakeholders plays a crucial role in enhancing sustainability. This highlights the importance of clear, consistent communication processes that facilitate collaboration and coordination among participants, ultimately leading to improved program outcomes in the context of school feeding.

H02: Stakeholders' management has no significant effect on project sustainability in the Home-Grown School Feeding project. The analysis indicates a p-value of .000, confirming that the null hypothesis should be rejected. This implies that effective management practices, such as monitoring and evaluation, significantly enhance the sustainability and quality of the project. Through systematic management approaches, stakeholders can adapt strategies that ensure consistent support for food provisioning in schools, as well as addressing challenges as they arise.

H03: There is no significant link between stakeholders' risk management and project sustainability in the Home-Grown School Feeding project. The findings collectively provide a comprehensive approach to stakeholder involvement including engagement, communication, and management implicitly addresses risk factors. Thus, we reject the null hypothesis, inferring that a focus on stakeholder collaboration in risk management enhances project sustainability. This reinforces the value of proactive risk strategies in securing long-term project success.

VI. CONCLUSION

To answer the indicated research hypotheses, which were mentioned basing on the three specific research objectives, the conclusion was drawn regarding to the analysis of the findings presented in chapter four. The first research hypothesis of this research that was presented, was "Stakeholders' communication has no significant effect on project sustainability in the home school feeding project of food" P-value of 0.0115 is less than 0.05 hence we reject null hypothesis and conclude that there is significant effect on project sustainability in the home school feeding project of food.

The conclusion was also drawn basing on the second research hypothesis of this study which was "Stakeholders' management has no significant effect on project sustainability in the home school feeding project of food" P-value =0.000 is less than 0.05 hence we reject null hypothesis and conclude that there is significant effect of Stakeholders' management on project sustainability in the home school feeding project of food.

Basing on the third research hypothesis of this study, which was "There is no significant link between stakeholders' risk management and project sustainability in the home school feeding project of food." P-value =0.007 is less than 0.05 hence we reject null hypothesis and conclude there is significant link between stakeholders' risk management and project sustainability in the home school feeding project of food.

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