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# INFLUENCE OF PROJECT MANAGEMENT PRACTICES ON THE SUCCESS OF AGRICULTURAL PROJECTS. A CASE OF HORTINVEST PROJECT IN MUHANGA DISTRICT, RWANDA (2017-2021)

**Mucyo Justine**

University of Kigali

**Dushimimana Jean De Dieu**

University of Kigali



**Abstract**

*The goal of this study was to investigate the influence of Project Management Practices on the success of Agricultural projects, case of HortInvest Project in Muhanga District during the period of 2017 until 2021. In conducting this research, four objectives were laid out; to investigate the influence of project risk management on the success of HortInvest project in Muhanga District, to determine the influence of project communication on the success of HortInvest project in Muhanga District, to examine the influence of project planning on the success of HortInvest project in Muhanga District, and to evaluate the influence of project stakeholder management on the success of HortInvest project in Muhanga District. Both descriptive and correlational research designs were applied. To achieve the study objectives, literature was reviewed on the subject matter, and the data were collected from 140 respondents including beneficiaries working with HortInvest project; private companies funded by HortInvest project, HortInvest project's staff and stakeholders. A questionnaire, interview, and documentation were used as instruments of data collection. Pilot test was used for determination of reliability and validity of data collection instruments. Close ended questionnaires were used for generation of quantitative data. The analysis of Quantitative data involved the usage of Stata 16. Frequency distribution, mean, standard deviation and percentages were inclusive in descriptive statistics. Inferential data analysis was done using multiple regression analysis. The findings indicated that project risk management had a significant influence on the success of HortInvest project in Muhanga district (p= 0.000) and that project communication had a significant influence on the success of HortInvest project in Muhanga district (p=0.004). Moreover, the study indicated also that project planning had a significant influence on the success of HortInvest project in Muhanga district (p=0.000). Finally, the findings indicated that project stakeholder management had a significant influence*

*on the success of HortInvest project in Muhanga district (p=0.009). From the study findings, there is a huge influence on applying correctly various practices of project management prior and during the implementation of projects, because this will eventually lead to the success of projects. Hence the study recommends project managers, particularly those working on agricultural projects, to apply various project management practices such as project risk management, project communication, project planning, and project stakeholder management to ensure project success.*

***Keywords**: Project success, Project management practices, Project risk management, Project communication, Project planning, Project stakeholder management.*

## 1. Introduction

Lately and particularly in developing countries, projects have been distinguished as a vehicle towards social and economic development of the population (Asare et al, 2017). One of the most important organizational developments in recent years has been the significant growth in project work across different sectors and industries (Maylor, 2006). Projects are utilized for decreasing issues of poverty, poor health, and unemployment which are transcendent in country set up of many emerging nations (International Development Research Center, 2004). Many developed and developing countries have invested in agricultural projects. Mrema, Baker, and Kahan (2008) uncover that in some developed countries like U.S.A the government through the ministry of agriculture puts a high accentuation on the success of agricultural projects.



As indicated by Watema and Tulirinya (as referred to by Adams and Barnd, 1997), project success is referred to as the ability of the project to achieve its goals such as time, cost, performance, quality, safety, and so on of the contractual parties established and tested. The criteria of time, budget, and deliverables have been used to define project success (Atkinson, 1999). According to Baccarini (1999), a project is only successful if it is completed on time, on budget, meets the deliverables that were originally set for it, and is acceptable and used by the clients for whom it was designed. The completion and satisfaction criteria are the primary criteria for determining project success. If the project is well accepted by the users, it is considered successful (Kumaraswamy, 2006).

Project management entails applying knowledge, skills, tools, and techniques to project activities in order to meet project objectives (Project Management Institute [PMI], 2004). It was also discovered that achieving project success necessitates a number of project management practices ranging from project initiation to project controlling and closing. Project management practices in organizations have become much more visible and important (Kwak

& Anbari, 2009; Zhai, Xin, & Cheng, 2009). Project management practices are activities that project managers engage in to ensure the success of their projects. They include initiating, planning, executing, monitoring, controlling, communication systems, and project closure to ensure project success. Project management practices are widely recognized by organizations these days. They are a part of the activities of both educational institutions and businesses. Since the 1960s, organizations have used project management.

Despite gaining experience and improving existing methods, a significant number of projects (including agricultural ones) continue to fail. According to Gartner Group's global research, the percentage of failed projects (failed and challenged) in 2012 was 61 percent. Moreover, project management is still a difficult task. According to the Standish Group International Chaos Manifesto 2013, only 39% of all projects surveyed in the information and technology (IT) sector of activity succeeded (i.e. were delivered on time, on budget, and with the required features and functions); 43% were challenged (late, over budget, and/or with fewer than the required features and functions); and 18% failed (cancelled prior to completion or delivered and never used). Nonetheless, these findings show that project success rates have increased since 2008, when the rate was only 32%, emphasizing the importance of implementing better project management practices (SGI, 2013).



As indicated by Musembi, (2017), approximately half of the world's population is employed in agriculture, with 40% being salaried employees and the remainder being self-employed independent farmers. According to Birner&Resnick (as cited by Musembi, 2017), approximately 70% of Africans work in agriculture. Most of the countries account for more than 25% of the total. Agriculture is the most important sector in most African economies south of the Sahara, accounting for 30-40% of GDP and employing more than two-thirds of the continent's population.

Rwanda's economy is primarily based on agricultural success, which serves as the foundation for the growth of other sectors. The Rwandan government views agriculture as an economic engine and aims to reduce poverty and achieve food security through commercialized and professional agriculture (Rwanda EDPRS II, 2013). According to FAO (2019), the primary economic activity in Rwanda, is agriculture, which employs roughly 72% of the working population and 70% of the total population. In addition, 33% of the country's GDP is generated by the agricultural sector.

According to Okun (as cited by Musembi, 2017), governments and non-governmental organizations (NGOs) are committed to improving the agricultural sector in order to empower small-scale farmers who are organized into groups and thereby reduce hunger and poverty. Many agricultural projects have been developed in the country over the last three decades. While the majority of the projects were not successful, they did consume a significant amount of taxpayer and donor funds (FAO, 2012).

Muhanga district has long had several non-governmental organizations (NGOs) working in food security intervention. These non-governmental organizations are working to improve food security. In 2017, the HortInvest project was launched in six targeted Rwandan districts, including Muhanga. HortInvest "Investing in horticulture in Rwanda", is a project founded and executed in Rwanda. The Embassy of the Kingdom of the Netherlands in Rwanda is funding the project. The HortInvest project aims to increase farmers' incomes, increase the horticultural sector's relative contribution to the regional economy in North-West Rwanda, and improve the food and nutrition security of the targeted households. HortInvest contributes to the realization of Rwanda's National Horticulture Policy, which aims to generate rapid economic growth while reducing poverty and malnutrition (SNV, 2017).



According to Murangwabugabo, Kwena, Mutabazi and Ndabananiye (2021), the success of agricultural projects in Rwanda is still being questioned, with some projects still being delayed and others being completed late and with little income. Many management practices are required for the project's success. NGO agricultural funded projects have not been an exception; they have not performed well, with some not being completed on time or within budget, others lacking sustainability or impact, and yet failing to meet beneficiary/stakeholder satisfaction. This has been ascribed to a number of issues, one of which is a lack of good project management, where projects do not have defined project management practices in place, which eventually leads to overall poor project management, and thus failure or poor performance.

Hence, the current study sought to determine whether project management practices were effective and whether they influenced the success of an agricultural project of HortInvest project specifically in Muhanga district. HortInvest is also in its final year of implementation, which was also an extension since it was supposed to terminate in 2021. Consequently, it was necessary to assess the extent to which various project management practices contributed to the project's success.

## 2. Research objectives

The main objective of this study is to assess the influence of project management practices on the success of Agricultural projects in Rwanda.

The Specific Objectives of the study are in four folds:

1) To investigate the influence of project risk management on the success of HortInvest project in Muhanga District.
2) To determine the influence of project communication on the success of HortInvest project in Muhanga District.
3) To examine the influence of project planning on the success of HortInvest project in Muhanga District.
4) To evaluate the influence of project stakeholder management on the success of HortInvest project in Muhanga District.

## 3. Research design



The study used both descriptive and correlational research designs. The descriptive research design was used with two mixed methods (quantitative and qualitative). Descriptive research design was utilized to conduct the study, because it was considered to be among the suitable research designs, since the study focused on collecting information and describing relating to the area of study. Correlational research design was used to investigate relationships between variables without the researcher controlling or manipulating any of them.

## 4. Target population

The target population in this study included the lead farmers that provided answers as part of the beneficiaries of HortInvest project, 5 sector agronomists for the sectors where HortInvest project has its beneficiaries: Nyamabuye, Cyeza, Shyogwe, Nyange and Rongi. In addition, there were interviewed 2 Project/Program managers as well from RAB and MINAGRI. Furthermore, there were interviewed 2 managing directors of private companies that received support both technical and financial from HortInvest project.

As part of HortInvest staff, 5 Field staff working on HortInvest project in Muhanga district and 5 project coordinators of HortInvest, were part of the research. Project coordinators to be interviewed, are members of the PMT (Project Management Team), coordinating the project ‘activities on behalf of partner organizations, implementing HortInvest project.

**Table 1: Study population**

| Categories | Population |
|---|---|
| Board members from 8 cooperatives (5 board members/cooperative) | 40 |
| Lead farmers from 8 cooperatives (10 lead farmers/cooperative) | 80 |
| Sector Agronomists | 5 |
| RAB/MINAGRI Managers | 2 |
| Managing directors/Private companies | 2 |
| Project staff in Muhanga district/HortInvest project | 6 |
| Project coordinators/HortInvest project | 5 |
| **Total** | **140** |



## 5. Findings

### 5.1 Descriptive statistics

The study analysed and discussed about the points related to the objective of the study. It is notably, the influence of project management practices on the success of agricultural projects; a case of HortInvest project in Muhanga district, Rwanda. As per the objectives of the study, in this section, it is analysed and discussed; influence of project risk management on the success of agricultural projects, influence of project communication on the success of agricultural projects, influence of project planning on the success of agricultural projects, influence of

project stakeholder management on the success of agricultural projects and the relationship between these project management practices and the success of agricultural projects in Rwanda.

**Influence of project risk management**

The first objective of this study was to investigate the Influence of project risk management on the success of agricultural projects, a case of HortInvest project in Muhanga district. The respondents were asked to indicate whether they agree that the following project risk management practices and strategies, were applied in HortInvest project. The results are presented in Table 2, where 1 symbolizes strongly disagree, 2 symbolizes disagree, 3 symbolizes neutral, 4 symbolizes agree while 5 symbolizes strongly agree.

**Table 2: Application of project risk management aspects in HortInvest project**

| Project Risk Management aspects | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Risk identification | 140 | 4.27857 | 0.75929 | 3 | 5 |
| Risk analysis | 140 | 4.31429 | 0.72057 | 3 | 5 |
| Risk response | 140 | 4.34286 | 0.70732 | 3 | 5 |
| Risk review | 140 | 4.4 | 0.68698 | 3 | 5 |
| Risk avoidance/prevention | 140 | 4.5 | 0.5017953 | 4 | 5 |
| Risk retention | 140 | 4.70714 | 0.4567075 | 4 | 5 |
| Risk control/mitigation | 140 | 4.65 | 0.6224227 | 3 | 5 |
| Risk transfer | 140 | 4.49286 | 0.8266812 | 3 | 5 |

**Source: Survey Data (2022)**

With a mean of 4.278 and a standard deviation of 0.759, the respondents agreed that risk identification has been applied in HortInvest project. The respondents also agreed that risk analysis has been practiced with a mean of 4.314 and a standard deviation of 0.720. Moreover, the respondents agreed that risk response has been practiced with a mean of 4.342 and a standard deviation of 0.707. The respondents also agreed that risk review has been practiced with a mean of 4.4 and a standard deviation of 0.686. With a mean of 4.5 and a standard

deviation of 0.501, the respondents agreed that risk avoidance has been applied in HortInvest project. The respondents also agreed that risk retention has been practiced with a mean of 4.707 and a standard deviation of 0.456. Moreover, the respondents agreed that risk control has been practiced with a mean of 4.65 and a standard deviation of 0.622. Finally, the respondents also agreed that risk transfer has been practiced with a mean of 4.492 and a standard deviation of 0.826.

**Influence of project communication**

The second objective of this study was to determine the Influence of project communication on the success of agricultural projects, a case of HortInvest project in Muhanga district. The respondents were asked to indicate whether they agree that the following Project communication aspects were applied in HortInvest project. The results are presented in Table 3, where 1 symbolizes strongly disagree, 2 symbolizes disagree, 3 symbolizes neutral, 4 symbolizes agree while 5 symbolizes strongly agree.

**Table 3: Application of project communication aspects in HortInvest project**



| Project communication aspects | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Communication Planning | 140 | 4.5 | 0.5018 | 4 | 5 |
| Communication Methods | 140 | 4.55714 | 0.6378 | 3 | 5 |
| Reporting | 140 | 4.55 | 0.57932 | 3 | 5 |

**Source: Survey Data (2022)**

With a mean of 4.5 and a standard deviation of 0.501, the respondents agreed that communication planning has been applied in HortInvest project. The respondents also agreed that communication methods have been practiced with a mean of 4.557 and a standard deviation of 0.637. Moreover, the respondents agreed that reporting has been practiced with a mean of 4.55 and a standard deviation of 0.579.

**Influence of project planning**

The third objective of this study was to examine the Influence of project planning on the success of agricultural projects, a case of HortInvest project in Muhanga district. The respondents were asked to indicate whether they agree that the following Project planning aspects were applied in HortInvest project. The results are presented in Table 4, where 1 symbolizes strongly

disagree, 2 symbolizes disagree, 3 symbolizes neutral, 4 symbolizes agree while 5 symbolizes strongly agree.

**Table 4: Application of project planning aspects in HortInvest project**

| Project planning aspects | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Resource specification | 140 | 4.44286 | 0.62641 | 3 | 5 |
| Delivery Methods | 140 | 4.43571 | 0.67013 | 3 | 5 |
| Inputs required | 140 | 4.43571 | 0.71178 | 3 | 5 |
| Resource planning | 140 | 4.47857 | 0.68349 | 3 | 5 |

**Source: Survey Data (2022)**

According to the results in Table 4, as far as planning is concerned, the respondents have agreed with a series of statements that HortInvest had a written plan, which had clear objectives and communicated to the beneficiaries and project stakeholders. Through interviews, most of the respondents have either agreed or strongly disagreed with the planning strategy of HortInvest.

With a mean of 4.442 and a standard deviation of 0.626, the respondents agreed that Resource specification has been applied in HortInvest project. The respondents also agreed that delivery methods practiced were good, with a mean of 4.435 and a standard deviation of 0.670. Furthermore, the respondents agreed that Inputs required has been well practiced in HortInvest with a mean of 4.435 and a standard deviation of 0.711. Resource planning has been practiced with a mean of 4.478 and a standard deviation of 0.683.

**Influence of project stakeholder management**

The fourth objective of this study was to evaluate the Influence of project stakeholder management on the success of agricultural projects, a case of HortInvest project in Muhanga district. The respondents were asked to indicate whether they agree that the following Project stakeholder management aspects were applied in HortInvest project. The results are presented in Table 5, where 1 symbolizes strongly disagree, 2 symbolizes disagree, 3 symbolizes neutral, 4 symbolizes agree while 5 symbolizes strongly agree.

**Table 5: Application of project stakeholder management aspects in HortInvest project**

| Project stakeholder management aspects | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Stakeholder analysis | 140 | 4.35 | 0.69866 | 3 | 5 |
| Environmental scanning | 140 | 4.43571 | 0.6483 | 3 | 5 |
| Preliminary project approval | 140 | 4.30714 | 0.66675 | 3 | 5 |
| Initiating project requests | 140 | 4.41429 | 0.63456 | 3 | 5 |

**Source: Survey Data (2022)**

With a mean of 4.35 and a standard deviation of 0.698, the respondents agreed that stakeholder analysis has been applied in HortInvest project. The respondents also agreed that Environmental scanning has been practiced with a mean of 4.435 and a standard deviation of 0.648. Furthermore, the respondents agreed that preliminary project approval has been practiced with a mean of 4.307 and a standard deviation of 0.667. Finally, Initiating Project request has been practiced with a mean of 4.414 and a standard deviation of 0.634.



**Project success**

The dependent variable in this study was success of Agricultural projects, a case of HortInvest project in Muhanga district. The respondents were requested to indicate whether they agree that HortInvest has achieved success by use of various measures of success. Table 6 presents the results, where 1 symbolizes strongly disagree, 2 symbolizes disagree, 3 symbolizes neutral, 4 symbolizes agree while 5 symbolizes strongly agree.

**Table 6: Achievement of success by measures of project success**

| Project success aspects | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Completion within schedule | 140 | 4.37857 | 0.6171163 | 3 | 5 |
| Completion within budget | 140 | 4.37857 | 0.6171163 | 3 | 5 |
| User satisfaction | 140 | 4.57143 | 0.6475505 | 3 | 5 |
| Achievement of objectives | 140 | 4.43556 | 0.6701306 | 3 | 5 |
| Intended purpose | 140 | 4.55 | 0.6605535 | 3 | 5 |
| Impact | 140 | 4.27857 | 0.7592865 | 3 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| Sustainability | 140 | 4.31429 | 0.7205685 | 3 | 5 |

**Source: Survey Data (2022)**

With a mean of 4.378 and a standard deviation of 0.617, the respondents strongly agreed that HortInvest has achieved success in terms completion within schedule. The respondents also strongly agreed that HortInvest project has achieved success in terms of completion within budget with a mean of 4.37 and a standard deviation of 0.617. Moreover, the respondents strongly agree that HortInvest gas achieved success in terms of user satisfaction with a mean of 4.571 and a standard deviation of 0.647. The respondents also agreed that HortInvest has achieved success in terms of achievement of its objectives, with a mean of 4.435 and a standard deviation of 0.670. In addition, the respondents also strongly agreed HortInvest has achieved success in terms of intended purpose, with a mean of 4.55 and a standard deviation of 0.660. The respondents also have agreed that HortInvest has achieved success in terms of Impact, with a mean of 4.278 and a standard deviation of 0.759. Finally, the respondents have agreed that HortInvest has achieved success in terms of sustainability, with a mean of 4.314 and a standard deviation of 0.720.



### 5.2 Inferential statistics

**Normality test**

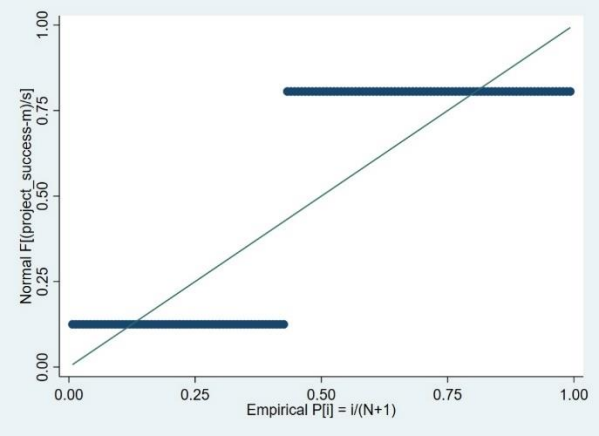


**Figure 1: P-P Plot for Normality Test**

**Source: Survey Data (2022)**

The P-P plot below shows that most of the responses in the independent variables are normally distributed along the normal probability distribution line i.e., the observed Figure 4.4.1

cumulative distribution of the standardized residual to the expected normal distribution. This is evidence of normal distribution in the regression model.

**Correlation analysis**

**Table 7: Correlation matrix**

| Variable | Project success | Project risk management | Project communication | Project planning | Project stakeholder management |
|---|---|---|---|---|---|
| Project success | 1 | | | | |
| Project risk management | 0.0291 | 1 | | | |
| Project communication | 0.5729 | 0.1421 | 1 | | |
| Project planning | 0.5201 | 0.116 | 0.9506 | 1 | |
| Project stakeholder management | 0.3952 | -0.1204 | 0.8163 | 0.8443 | 1 |

**Source: Survey Data (2022)**

From the findings in the Table 7, Project risk management showed a positive correlation with the success of HortInvest project in Muhanga district (r=0.0291), and project communication had a positive and significant correlation the success of HortInvest project in Muhanga district (r=0.5729), while project planning as well showed a positive and significant correlation with the success of HortInvest project in Muhanga district (r=0.5201) and also the stakeholder management showed a positive and significant correlation with the success of HortInvest project in Muhanga district (r=0.3952). Therefore, the results indicated that all four variables are positively correlated to the success of HortInvest project in Muhanga district at 0.05 level of significance.



**Multivariate regression**

Multivariate regression was used during this study to determine the relationship between the dependent variable and independent variables.

**Table 8: Model summary**

| Source | SS | df | MS | | | |
|---|---|---|---|---|---|---|
| | | | | Number of obs | = | 140 |
| | | | | F(4, 135) | = | 102.61 |
| Model | 26.0736415 | 4 | 6.51841037 | Prob > F | = | 0.0000 |
| Residual | 8.57635851 | 135 | .063528582 | R-squared | = | 0.7525 |
| | | | | Adj R-squared | = | 0.7452 |
| Total | 34.65 | 139 | .249280576 | Root MSE | = | .25205 |

**Source: Survey Data (2022)**

The R square value was used to show the variation between the dependent variable that could be explained by the independent variables. The R square was 0.7525 implying that 75.25 % of success of HortInvest project in Muhanga district, could be explained by the independent variables: the application of these project management practices in the project; Project risk management, Project communication, Project planning and Project stakeholder management.

**Analysis of Variance (ANOVA)**

The results for analysis of variance are presented in Table 9 below:

**Table 9: ANOVA Results**

```
      Number of obs =       140    R-squared     =  0.8237
      Root MSE      =    .21513    Adj R-squared =  0.8143

      Source | Partial SS        df        MS        F     Prob>F
-------------+----------------------------------------------------
       Model |  28.540909         7   4.0772727    88.10  0.0000
             |
  project_r~n |  .11313131         2   .05656566     1.22  0.2979
  project_c~m |  4.3589744         2   2.1794872    47.09  0.0000
  project_p~n |  9.290e-29         1   9.290e-29     0.00  1.0000
  project_s~t |  1.438e-29         2   7.189e-30     0.00  1.0000
             |
    Residual |  6.1090909       132   .04628099
-------------+----------------------------------------------------
       Total |       34.65       139   .24928058
```



**Source: Survey Data (2022)**

The results of ANOVA test in Table 9, show that the F value 88.10 with a significance of p value =0.000 which was less than 0.05, mean there is a significant relationship between project planning, project risk management, project communication, project stakeholder management and project success. F calculated (F computed) is greater than the critical (F tabulated) (88.10>2.08), this showed that the overall model was statistically significant at 5% significance level.

**Hypothesis test with multiple regression analysis**

**Table 10: Hypothesis test**

| project_success | Coef. | Std. Err. | t. | P>ItI | [95% Conf. Interval] |
|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| project_risk_man | 0.215677 | 0.036525 | 5.86 | 0.000 | 0.2885067 | 0.142828 |
| project_communication | 0.828354 | 0.109194 | 7.59 | 0.000 | 0.6124027 | 1.044305 |
| project_plan | 0.258503 | 0.888194 | 2.91 | 0.004 | 0.0828804 | 0.434126 |
| project_stak_management | 0.161458 | 0.060951 | 2.65 | 0.009 | 0.2819998 | 0.040916 |
| _cons | 2.458503 | 0.207981 | 11.82 | 0.000 | 2.047181 | 2.869825 |

**Source: Survey Data (2022)**

**$H_{o1}$:** There is no significant influence of project risk management on the success of Agricultural projects.

**$H_{1a}$:** There is a significant influence of project risk management on the success of Agricultural projects.

- From the findings in Table 10, the project risk management average coefficient is 0.215 and the P-value=0.000, the P-value found is <0.05, the null hypothesis is rejected; therefore, the alternative hypothesis is accepted, project risk management has a significant influence on the success of Agricultural projects.



**$H_{o2}$:** There is no significant influence of project communication on the success of Agricultural projects.

**$H_{1b}$:** There is a significant influence of project communication on the success of Agricultural projects.

- From the findings in Table 10, the project communication average coefficient is 0.828 and the P-value=0.000, the P-value found is <0.05, the null hypothesis is rejected; therefore, the alternative hypothesis is accepted, project communication has a significant influence on the success of Agricultural projects.

**$H_{o3}$:** There is no significant influence of project planning on the success of Agricultural projects.

**$H_{1c}$:** There is a significant influence of project planning on the success of Agricultural projects.

- From the findings in Table 10, the project planning average coefficient is 0.258 and the P-value=0.004, the P-value found is <0.05 the null hypothesis is rejected; therefore, the alternative hypothesis is accepted, project planning has a significant influence on the success of Agricultural projects.

**$H_{o4}$:** There is no significant influence of project stakeholder management on the success of Agricultural projects.

**$H_{1d}$:** There is a significant influence of project stakeholder management on the success of Agricultural projects.

- From the findings in Table 10, the project stakeholder management average coefficient is 0.161 and the P-value=0.009, the P-value found is <0.05, the null hypothesis is rejected; therefore, the alternative hypothesis is accepted, project stakeholder management has a significant influence on the success of Agricultural projects.

The regression model is derived from the formula:

$$Y = 2.458 + 0.215X_1 + 0.828X_2 + 0.258X_3 + 0.161X_4$$

The regression model provides statistical control through which the study established the effect of each predictor variable. Holding all variables at zero will result in the success of HortInvest project equal to 2.458. In a similar way, reducing all other independent variables to zero, a unit change in project risk management will result in 0.215 increments in the success of HortInvest project. The findings indicate 0.828 increments in the success of HortInvest project when all other independent variables are reduced to zero with only a unit change in project communication, while a unit change in project planning while holding the rest of independent variables constant would lead to 0.258 increments in the success of HortInvest project. Finally, a unit change in project stakeholder management will yield 0.161 increments in the success of HortInvest project when all other predictor variables are held constant at zero. The results also show that the coefficients for each variable are non-zero. This therefore means that all the independent variables affect the response variable. Lastly, project risk management, project communication, project planning and project stakeholder management are significant predictors of the success of HortInvest project since their p-values are less than 0.05.

## 6. Conclusion

The study concludes that project risk management had a significant influence on the success of HortInvest project in Muhanga district. The study concludes that various project risk management practices such as risk identification, risk analysis, risk response, risk review and Monitoring & Control have all been applied in HortInvest project, hence they had a significant influence on its success. The study also concludes that various project management strategies

such as risk avoidance, risk retention, risk control and risk transfer have been applied in HortInvest project, hence had a significant influence on its success.

This study also concludes that project communication had a significant influence on the success of HortInvest project in Muhanga district. The study concludes that communication planning, communication methods and reporting have all been applied in HortInvest project, hence they had a significant influence on the success of HortInvest project in Muhanga district.

Furthermore, this study also concludes that project planning had a significant influence on the success of HortInvest project in Muhanga district. The study concludes that resource specification, delivery Methods, inputs required, resource planning, communication have all been applied in HortInvest project, hence they had a significant influence on the success of HortInvest project in Muhanga district.

Finally, this study also concludes that project stakeholder management had a significant influence on the success of HortInvest project in Muhanga district. The study concludes that stakeholder analysis, environmental scanning, preliminary project approval, initiating project requests, have all been applied in HortInvest project, hence they had a significant influence on the success of HortInvest project in Muhanga district.



## 7. Recommendations

From the study findings, there is a huge influence on applying correctly various practices of project management prior and during the implementation of projects, because this will eventually lead to the success of projects.

The study found out that project risk management has a significant influence on the success agricultural projects. Project risk management should be applied by managers, particularly managers of agricultural projects, by applying various practices and strategies of project risk management such as risk identification, risk analysis, risk response, risk review and Monitoring & Control and various project risk management strategies such as risk avoidance, risk retention, risk control and risk transfer.

Moreover, the study found out that project communication has a significant influence on the success of agricultural projects. The study recommends that the project managers, especially in agricultural projects, should apply different aspects in project communication, such as communication planning, communication methods and reporting, for the project to be successful.

The study also established that the project planning has a significant influence on the success agricultural projects, therefore the study recommends that the project managers in agricultural projects, should apply various aspects of project planning such as resource specification, delivery methods, inputs required and resource planning.

Finally, the study found out that project stakeholder management has a significant influence on the success of agricultural projects. Hence the study recommends that project managers in agricultural projects should apply various aspects of project stakeholder management such as stakeholder analysis, environmental scanning, preliminary project approval and initiating project requests.

## 8. Suggestions for Further study

This study was on the influence of project management practices on the success of agricultural projects, a case of HortInvest project in Muhanga district. Therefore, the findings cannot be generalized to other agricultural projects implemented in Rwanda. Hence, the study recommends that more studies should be carried out on the influence of project management practices on the success of other agricultural projects in Rwanda. According to the findings, 75.25% of the success of HortInvest project could be explained by the various project management practices applied. Thus, the study recommends that further studies should be carried out to determine whether project management practices have influence on the success of other agricultural projects in Rwanda.



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