

**EFFECT OF PROJECT RESOURCE PLANNING ON THE PROJECT PERFORMANCE: A  
CASE OF FEED THE FUTURE RWANDA HINGA WEZE PROJECT IN KAYONZA  
DISTRICT, RWANDA**

**JANE MIREMBE**

Email: [mirembe@africanewlife.org](mailto:mirembe@africanewlife.org)

Reg no. 2201011434

Postgraduate Studies in Partial Fulfilment of the Requirements for the Award of Master of Business Administration in  
PROJECT MANAGEMENT (MBA in PM) of University of Kigali

**ABSTRACT**

*This study entitled "Effect of project resource planning on the project performance , a case of Feed The Future Rwanda Hinga Weze Project in Kayonza District, Rwanda". The aim of this study is to investigate the the effect of project resource planning on the performance of project in Rwanda basically on Feed the Future Rwanda Hinga Weze Project . The specific objectives of this study are set as follow: to establish the effect of project financial resource planning on the performance of Feed the Future Rwanda Hinga Weze Project; to find out the effect of project human resource planning on the performance of Feed the Future Rwanda Hinga Weze Project; to examine the effect of project material resource planning on the performance of Feed the Future Rwanda Hinga Weze Project and to assess the effect of project time /scheduling planning on the performance of Feed the Future Rwanda Hinga Weze Project. The study used both descriptive research design and correlational research design. The population of the study is 344 stakeholders of Feed the Future Rwanda Hinga Weze Project while the sample size was 185 stakeholders of Feed the Future Rwanda Hinga Weze Project. Questionnaire, interview and documentary review were used to collect data and finally the study used descriptive statistics and inferential statistics as method of data analysis. The findings revealed that human resource planning; material resource planning and time resource planning have significance positive effect on performance of FFRHW project in Kayonza District as indicated by ( $\beta_1= 0.322$ ,  $p\text{-value}=0.000<0.05$ ); ( $\beta_3= 0.135$ ,  $p\text{-value}=0.000<0.05$ ); and ( $\beta_4= 0.301$ ,  $p\text{-value}=0.000<0.05$ ) while financial resource planning have insignificance positive effect on performance of FFRHW project in Kayonza District as indicated by  $\beta_2= 0.055$ ,  $p\text{-value}=0.280<0.05$ . The researcher concluded that performance of FFRHW project has resource plans that include strategic plans, short term plans, intermediate plans, implementation and evaluation plans. The study concluded that the combination of time resource planning, material resource planning, financial resource planning, and human resource planning contribute to 0.657(65.7%) on performance of projects as represented by the adjusted  $R^2$  at 95% confidence interval. The management of FFRHW project should be a focus to ensure that projects are within time and budget.*

**Key words: Project resource planning, project performance , Rwanda**

## **1. INTRODUCTION**

Globally project planning is widely thought to be an important contributor to project success. Project planning entails scheduling of the various activities comprising the project activities and how they interrelate (Murphy & Ledwith, 2016). The activities comprise the legal or regulatory requirements, procurement processes that include seeking for development projects and funding institution approvals, activities of the funding institutions leading to credit award and the actual site works. The planning aims at optimizing time, cost and procurement of human capacity for development projects within the legal, regulatory and policy framework existing for each specific project (Jabareen ,2016).

Globally, project failures have often been reported more than project success. Standish Group (2009) published that in the USA, only 32% of projects succeed, 44% were challenged and 24% of projects failed. Stewart (2013) further claimed that only 25% of projects remain successful. In Kenya, about 30% of organizations experience failure in their projects (Mathew, 2011). Kerzner (2013) observed that projects may fail to achieve targets and objectives due to low morale, demotivation, poorly managed project team relations and commitment. Thus, transformational top management support and behaviors is a very critical factor for better performance of various projects(Alaghbari et al., 2017).

Niazi and Painting (2017) acknowledge the challenge of effective project resource scheduling that leads to time delays and cost overruns in construction projects in Afghanistan, highlighting corruption, payments, and financing, among others, as the key factors. Shah (2016) noted that in Australia, project management practices are among the key factors, while in Ghana, payments and complexity are the key factors, and in Malaysia, contractor and management factors lead to time delays and cost overruns( Salunkhe & Patil., 2014).

In Africa, the challenge has been extensively studied, but it is yet to be fully addressed. Ineffective project resource scheduling practices have led to time delays and cost overruns that have continued to affect the performance of public projects, as is evidenced by the). Projects in Botswana, Egypt, Zambia, and South Africa face the persistent challenge of effective project resource scheduling (Mukuka *et al.*, 2015).

In Eastern African countries like Kenya, Crivelli and Gupta (2013) show that project resource scheduling involves the identification of technical, physical, human, and most importantly, financial resources and organizing the resources in a manner that ensures successful project completion. Besides the physical and financial resources, human resources are another critical component of the project resources and should be properly managed and scheduled for the success of the projects (Crivelli and Gupta, 2013).

Many government projects in Rwanda fail to meet or achieve their obligations due to many challenges such as: poor planning, lack of experts, lack of skilled labour, lack of schedule; unavailability of funds due to uncertain circumstances and lack of proper project management process. A lot of projects under construction don't conform to anti-seismic rules, and may endanger lives in case earthquakes happen. The overall quality of the buildings has to improve to be sustainable as they should be. A building should be expected to last long enough up to even centuries, but most of the ones under construction won't last very long (MINECOFIN, 2015).

United States Agency for International Development (USAID) launched a new 28 Billion Frw project to support agricultural growth and resiliency across Rwanda one of them is Feed the Future Rwanda Hinga

Weze project. Feed the Future Rwanda Hinga Weze project are implemented over five years in 10 districts across Rwanda. Hinga Weze partners with other organizations like Plan International, the Imbaraga Farmers' Federation, and the Rwanda Development Organization. Hinga Weze operates in districts like Rutsiro, Ngororero, Nyamagabe, Karongi, and Ngoma. In all these districts, they implement projects aligned with District Action Plans, USAID contractual target, and Minagri (the ministry of agriculture) because it subsidizes half of the irrigation equipment cost (USAID, 2017). Hinga weze project aimed to increase sustainable agricultural productivity, to expand farmers' access to markets and to improve nutritional outcome of agriculture interventions. Hence, this study intended to investigate the effect of project resource planning on the performance of project in Rwanda basically on Feed the Future Rwanda Hinga Weze Project

## **2 Statement of the Problem**

In Rwanda, despite the growing realization of the role project resource planning played in order to improve the performance of project but many project still facing the challenges like costly labor delays experienced due to the required quantity and quality of resources not being available could lead to increased price show scamper and overall delay in agriculture project and could also affect the quality delivered by project and end results. In Rwanda, however, some NGO sponsored projected did not realize their intended outcomes and eventually failed. For example, according to OAG(2021) reported that 5 agricultural projects out of 10, which is equal to 50% of ongoing projects implemented by MINAGRI and its partners in the domain of agriculture sector, did not generate the expected outcome, the time and cost performance of projects in Rwanda escalated to the extent that over 70% of the projects initiated were likely to extend in time with a magnitude of over 50%, while over 50% of the projects were likely to increase in cost with a magnitude of over 20%; 35% of projects not respecting project scope of work due to different factors (MINAGRI, 2021).

The failure was due to poor planning such as unqualified human manpower and disrespect of projects timeframes, deviation of resources in NGOs like USA has financed many projects in Rwanda such as agricultural project, educational project and health project than they can promote the socio-economic development of Rwandan citizen in all districts and the overall effect of poor resources attributes could. At worst, for the contracted projects, it could also lead to protracted legal battles and arbitration due to price and period over shots, and inferior class of project. According to evaluation reports of MINAGRI (2020), Feed the Future Rwanda Hinga Weze project is one of the projects that are struggling with the challenges of full participation of stakeholders, failing to realize its objectives. Only 56.1% of hub farmers were trained compared to a target of 62.4%. The number of formed agriculture cooperative remained small compared to the number of farmers involved implementation process (FFRHW Project Report, 2019).

. Not many of the studies have been carried out on the effect of project resource planning on project performance both from private and public intuitions from a Rwandan perspective. The few that have been carried out have not focused into project resource planning as a key project performance factor like study done by Baraka and Jaya Shukla (2021) did the study on project resource management practices; Umulisa *et al.*, (2015) done on project resource planning but did not ignored to incorporate time planning variable in their study. These studies have primarily focused on public sector projects and do not offer insights into the private and agricultural projects. The gaps show that there is little scant literature on project resource planning component on the performance of Feed the Future Rwanda Hinga Weze Project

with the available literature cannot be reciprocated with the Rwandan context. The main objective of this study is to assess the effect of project resource planning on the performance of project

### **3.2. Objectives of the Study**

1. To find out the effect of project human resource planning on the performance of Feed the Future Rwanda Hinga Weze Project in Kayonza District
2. To establish the effect of project financial resource planning on the performance of Feed the Future Rwanda Hinga Weze Project in Kayonza District
3. To examine the effect of project material resource planning on the performance of Feed the Future Rwanda Hinga Weze Project in Kayonza District
4. To assess the effect of project time /scheduling planning on the performance of Feed the Future Rwanda Hinga Weze Project in Kayonza District

## **4. LITERATURE REVIEW**

This study is underpinned on the following theories such as Agency Theory, theory of constraints and theory of resource based view. The main premises of the theories are highlighted and their relevance to the study outlined.

### **4.1.1. Theory of Constraints**

This is a theory by Goldratt (1984), which maintains that a system is faced by constraints that limit it from achieving its objectives. Some of these limiting factors emanate from production, planning, production control, managing a project, logistics, accounting, and measurement of performance and other paths of business which might impact on performance. In this theory, constraints define the output of a given system whether or not they are recognized. The aim of the top management is finding appropriate ways to minimize the constraints of a system in the organization. This way the organization can effectively be able to realize its goals and maximize profits

### **4.1.2. Theory of Triple Constraint**

The theory of constraints is a set of management tools created by Eliyahu Goldratt in 1984. The theory is applicable in many areas including project management and performance measurement among many others (Blackstone, 2010). It encompasses the three most critical constraint of project execution, monitoring and management. The agreed triple constraints variables are cost, scope and time. This theory provides the criterion that has been used for a long time to measure the implementation, performance and success of projects by assessing whether a project has been executed and delivered within the desired budget, agreed time and scope (Pinto, 2010).

In order the Feed the Future Rwanda Hinga Weze Project to perform well, it is necessary to lessen the constraints that can otherwise diminish the project outcomes such as the quality of roads constructed. These constraints may pertain to how the project resources are managed in terms of their planning and allocation among others. Hence, this theory help the manager for proper project scope and project cost as critical elements to ensure the activities of project are running smoothly in order to achieve performance of FFRHW project

### **4.1.3. Agency Theory**

According to the theory, project managers of asset left on their own are expected to act on the best interest of those who have appointed or elected them. This implies that the entire project ought to be carried out in a manner to benefit owners (Lan, 2010). In agency theory terms, the project beneficiaries

are principals and project managers are the agents. Therefore, the agents, since they hold power on behalf of the principal, are expected to exercise control for the benefit of the principal by ensuring sufficient returns. Agency theory is applicable to the study in that it supports the works of project managers in ensuring that resources such as time, finance, human and materials are utilized to the best interest of the citizens/beneficiaries.

#### **4.1.4.Resource Based View Theory**

This study was guided by Barney's (1991) Resource-Based View (RBV) theory that posits that a firm is defined as a set of resources. Barney (1991) suggested that a firm's competitive advantage is its value-creating strategy, one that is significantly distinct from the current or future strategy of the competitors. Therefore, in this view, the firm's resources are its source of sustained competitive advantage. That is, the resources that a firm has are their primary source of competitive advantage, and the resources can either be strength or a weakness, including both the intangible and tangible resources available to the company. The RBV theory is applicable to the current study since one of the critical aspects of project management includes project resource planning/scheduling/management. Identified resources by the project managers of the residential construction projects should meet the VRIN criteria as it ensures that the resources are properly utilized and as much as there might be no competitors, the resources should be used to obtain the advantage. This theory is thus fundamental as it stresses on the correct form of planning, scheduling, towards ensuring that projects are successful.

#### **4.2. Empirical review**

Abdi (2020), did the study on the resource planning practices and the performance of road infrastructure projects in Wajir County, Kenya. The aim of this study was the assessment of how practices of managing resources are affecting performance of road infrastructural projects in Wajir County. Analysis of quantitative data was done using descriptive and inferential statistics with use of Statistical Package for Social Sciences. Resource planning, resource scheduling, resource allocation and resource monitoring were found to have a positive and significant effect on project performance. The study concluded that a key benefit to resource planning is that it helps organizations to fulfill task specifications efficiently. Successful resource scheduling allows in different ways to solve problems related to resource availability and job efficiency. Reporting requires daily tracking of key elements of project performance in terms of inputs, actions and outcomes.

Umulisa, Mbabazize & Shukla (2015) did a study to determine the effect of Project Resource Planning Practices on Project Performance of Agaseke Project in Kigali. The specific objectives of the research were to determine the effects of human resources planning practices on Agaseke project service quality, to analyze the effects of financial resource planning practices on the Agaseke project and to analyze the effects of Material and time resource planning practices for timely implementation of Agaseke. The study revealed that Human resource planning practices, financial resource planning practices and Material and Time resource planning practices had an influence on Agaseke project performance.

##### **4.2.1 Human Resource Planning and Project Performance**

Huang (2010) studied the influence of human resource management practices on employees' performance (job satisfaction levels, intention to leave, and organizational commitment). The study targeted employees in the construction industry. The study found that a company's human resource management practices contribute to increased performance and therefore help it to grow as well as gain sustainable competitive advantage. These researches bade to explain the relationship between human

resource management practices and financial performance and sustenance of a competitive advantage in a dynamic environment but did consider the project performance aspects.

**4.2.2 Financial Resource Planning and Project Performance**

Karlsson (2011) studied the effects of financial planning on project performance. Descriptive survey design was used and the study targeted projects in Sweden. The study found that ducation, culture and financial status are the background factors affecting methods and approaches in the management of projects. However, many middle level managers lack authority assigned. This is because managers have responsibility of a certain area within which they can make decisions over and this is a problem since it was not considered in this study. Many of the construction companies are more flat and power is extensively given to middle management. This is as well connected to the higher level of authority in the organization and may affect how finances are utilized.

**4.2.3 Material Usage Planning and Project Performance**

Plenert and Best (2012) studied the influence of material level on project performance. The study was a survey of construction companies. Descriptive analysis was utilized, and the study found that most of the JIT cost benefits took place when inflation increases bringing about great increases in the cost of carrying inventory. The study recommended that firms must be capable of only focusing our planning on materials needed, and when they are needed. The study failed to indicate clearly the relationship between material usage and project performance.

**4.2.4. Project time planning and project performance**

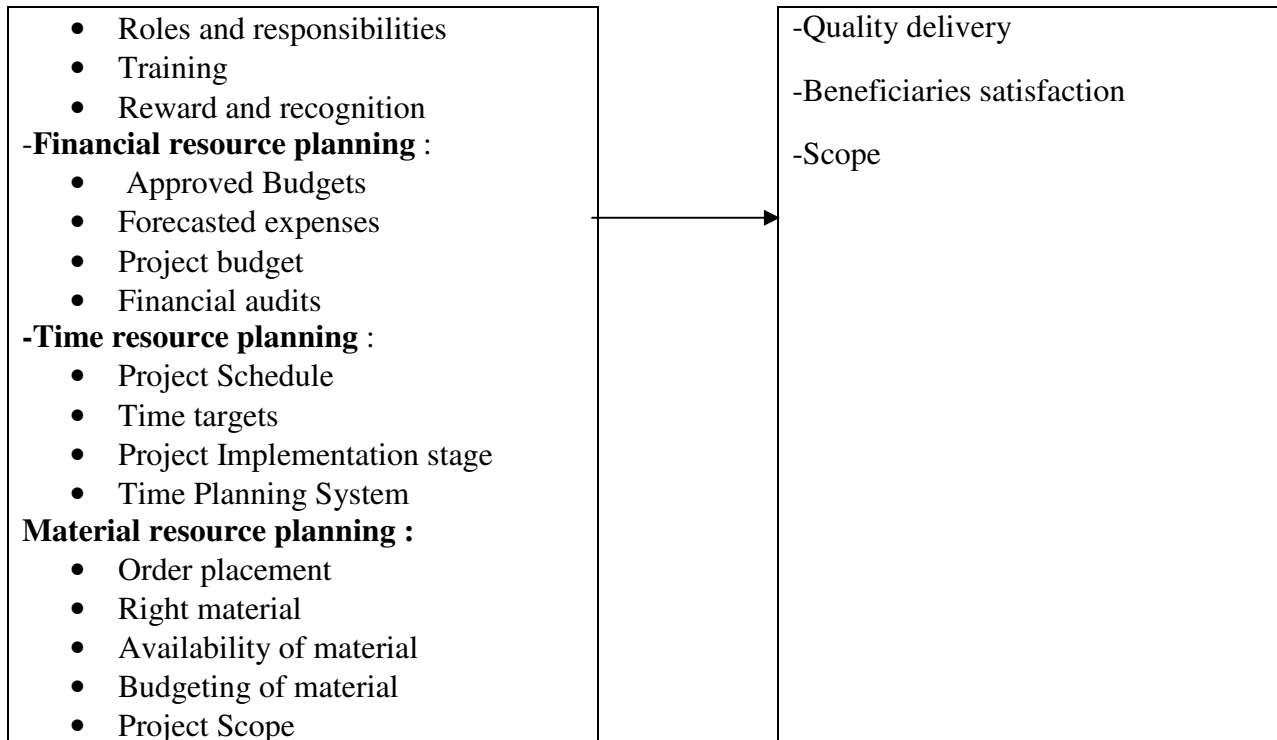
Dong *et al.*, (2018) conducted an assessment of resource scheduling in multisoftware projects. The study utilized a comparative study design. The assessment revealed that resource scheduling was fundamental in providing project schedules that were effective besides enhancing efficiency in using project resources. It was emphasized that failure to perform resource scheduling would result to inefficiency in utilizing project resources and heightened costs. According to the research, resource scheduling provided a better view of how the project ought to be implemented which was attained through the placement of schedules within activities of the project, for instance the date for commencement and completion of the tasks and resources required to perform them. However, the contextual setting of this study varies from the one being focused. Also this study utilized comparative design of study, which varies from the descriptive one being relied upon.

**4.3. The conceptual framework**

A conceptual framework is a written or visual presentation that explains the relationship and effect between independent variable and dependent variable in this study, human resource planning practices, financial resource planning practices, time resource planning practices and Material resource planning are considered as indicators of independent variable while project performance within project time, cost, quality delivery and client satisfaction as indicators of dependent variable that is affected by the independent variable.

<b>Independent variable</b>
<b>Project resource planning</b>
<b>-Human resource planning :</b>
<ul style="list-style-type: none"> <li>• Skills</li> </ul>

<b>Dependent variable</b>
<b>Project performance:</b>
- Timelines
- Cost



Source: Researcher compilation, (2022)

Figure 2.1: Conceptual framework

#### 4.4. Summary and research gap

From the foregoing review of relevant literature, it is evident that research in the area of Project resource planning has been done but not in a comprehensive approach. All the literature reviewed indicates that previous researchers only concentrated on a few variables of Project resource planning while this study covers additional important variable that were omitted by previous studies like time resource planning practices and material resource planning practices. This makes the study more comprehensive. From survey of relevant literature, it has been found that there are few studies specific to Rwanda on the link of Project resource planning and project performance.

From the above empirical analysis, Obegi & Kimutai (2017) shows that extensive empirical studies on role of scheduling management strategies on improving organizational performance in Kenya have been done generally on organizations without specifying on which country. The studies are closely related to the topic which the researcher has chosen. Apart from close relationship, the studies have not yet been conducted in in Rwanda in Rwanda specifically at FFRHW project. Therefore, it is on the light of these studies that the researcher seeks to conduct a study on the role of project resource planning practices on performance of FFRHW project

Ndayisaba and Mulyungi (2018) study investigated the effect of resources management on project success implementation and revealed that resources management has an influence of on project success implementation of strengthening livelihoods in rural Rwanda project Muhanga district. However, the study used cross-sectional research design that uses a small sample size and hence not representative of

whole population. Therefore, this study investigated the effect of project resource planning practices on the performance of FFRHW project in Rwanda by taking the large sample which is representative to the whole population.

There is also a methodological gap in the previous study where some study used the wrong research design such as Cheluget and Morogo (2017) used Ex post facto research design which is not possible to collect information from respondents on the variable of interest and also other used one research instruments but current study will use descriptive research design and correctional research design to current some mistake done by past studies in order to understand how Project resource planning is influencing project performance in Rwandan context. This study therefore intends to fill these pertinent gaps in literature by studying on the Influence of resource planning on project performance in Rwanda, a case of FFRHW project

## **5. RESEARCH METHODOLOGY**

The research methodology in this study deals with the research design, the population of the study, the sampling design, data collection measurement of variables, reliability and validity of the measurement instruments, data processing and presentation, data analysis, limitations of the study and ethical considerations.

### **5.1. Research Design**

The study used descriptive survey and correlational research design The study used descriptive research design for description of the various project resource planning practices such as human resource planning practices, financial resource planning practices, time resource planning practices and material resource planning as independent variable and also descriptive research design was used to describe the performance of FFRHW project by using both quantitative and qualitative approach.

The study also used correlational research design to find out the effect of each predictors such as human resource planning practices, financial resource planning practices, time resource planning practices and Material resource planning as independent variable on performance of performance of FFRHW project. In this study, the researcher undertaken inferential analysis using quantitative techniques such as Pearson correlation and multiple regression analyses

### **5.2. Population of the study**

Based on the nature of research objectives, the study used 344 stakeholders of Feed for Future Rwanda Hinga Weze project which include 84 employees of Feed for Future Rwanda Hinga Weze project, 238 hub farmers of Feed for Future Rwanda Hinga Weze project and 22 sector agronomist from 8 district in Rwanda.

#### **5.2.1 Sample size**

Since, total population is 344 stakeholders of Hinga Weze project which is great than 100, the researcher used Yamane (1967) provides a simplified formula to calculate sample sizes. This formula was used to calculate the sample size to be questionable in the research.

$$n = \frac{N}{1 + N(e)^2}$$

Where: n= the sample size,



N= the sample frame and

e= the margin of error (10%).

$$n = \frac{344}{1 + 344 (0.1)^2} = \frac{344}{1.86} = 184.94 \approx 185$$

This study collected data on 185 stakeholders of stakeholders of Hinga Weze project

**Table 1: sample size**

Categories of population	Population size	Sample size	Techniques of selection
Employee of Hinga Weze project	84	45	Simple random sampling
Hub farmers	238	128	Simple random sampling
Sectors agronomists	22	12	Simple random sampling
Total stakeholders	344	185	simple sampling technique

Source:FFRHW project , 2022

**5.2.2. Sampling procedures**

Sampling techniques according to Saunders (2007), provide a variety of different methods that allow the researcher to lessen the total quantity of data desired to be collected by taking into account only data from a sub-group rather than all possible cases. Sampling is that part of a statistical practice concerned with selecting individual items intended to yield some knowledge about the population of concern, especially to make statistical inferences (Cooper and Schindler, 2009). The researcher used stratified sampling techniques for selecting 185 stakeholders of FFRHW Project, including 45 employees of project staff, 128 Hub farmers and 12 sector agronomists

**5.4. Data collection instruments**

The researcher therefore compounds the use of questionnaire and documentary analysis in the process of collecting primary data. There are three basic types of questionnaires; closed ended, open-ended or a combination of both. It includes close-ended of pre-determined answers and a few open-ended questions. Likert scales are good in measuring perception, attitude, values and behaviour. The Likert scale has scales that assist in converting the qualitative responses into quantitative values (Mugenda & Mugenda, 2011). Open ended questions was also useful because it helped the respondents to provide their perception and opinion regarding the influence of resource scheduling on the performance of Feed the Future Rwanda Hinga Weze Project , Rwanda. The questionnaire was used to collect information from 185 employees of FFRHW project

**5.5. Reliability and validity of the measurement instruments**

In different words, validity is that the degree to which ends up obtained from the analysis of the information really represents the phenomena beneath the study. The study used content validity as a live of the degree to that knowledge obtained from the analysis instruments meaningfully and accurately mirrored the theoretical construct. The researcher used Connelly’s (2008) suggestion and used

10% of the sample for the study. Hence, the researcher administered questionnaires to 18 employees of FFRHW project in Bugesera District. This aided in taking corrective action with wording, questions, structure and instruction that could be discovered in the questionnaire. The following formula was used to test validity index. According to Sekaran (2006) content validity index should not be less than 0.7.

$$CVI = \frac{\text{No. of items regarded relevant by judges}}{\text{Total No. of items}} = \frac{50}{55} = 0.909.$$

This implies that research instruments has internal validity because CVI computed is great than 0.7.

Reliability was increased by including many similar items on a measure, by testing a diverse sample of individuals and by using uniform testing procedures. The researcher was selected a pilot group of 18 employees of FFRHW project in Bugesera District to see giving consistent results, and it was done before actual data collection to remove bias and subjectivity on the side of researcher. The answers were submitted to a reliability analysis (with SPSS) for computation of the Cronbach’s Alpha. According to Sekaran (2015) Alpha values for each variable under study should not be less than 0.7 for the statements in the Instruments to be deemed reliable.

**Table 2: Reliability Statistics**

Cronbach's Alpha	N of Items
.743	50

**Source:** Primary data, 2022

The computed Cronbach’s Alpha for research instruments is 0.743 which is greater than 0.7. This being greater than 0.7, it indicates that there is greater internal consistency of the items in the scale, and that the research instrument used was very reliable.

**5.5. Data analysis**

This study used descriptive statistical method and inferential statistics such as correlation analysis and multiple linear regression model was used to analyze the data. The data in this study was computed and analyzed using Statistical package for Social sciences (SPSS) which is software for data analysis.

**Descriptive statistics:** Descriptive statistics was used to describe the basic features of the data in the study in the tendencies and then replicated in tabular manner. It involved the use of percentages, frequencies, mean and standard deviation.

**Correlation analysis:** The correlation analysis was used to find out the relationship between project resource schedule such as resource planning; project resource scheduling; resource allocation and resourcing monitoring as independent variable and performance of FFRHW project as dependent variable

**Multiple regression models:** Multiple regression analysis was used to find out the effect of each predictor of stakeholder mapping and analysis, project budgeting, project scheduling and project risk planning as independent variable on performance of FFRHW project as dependent variable

**Model specification**

The following statistics model was used as follow:

$$Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + e$$

Where  $B_o$  = constant

{ $\beta_1, \beta_2$  and  $\beta_3$  }= coefficients of independent variables and  $\mu$  = error term

Y= performance of FFRHW project

X<sub>1</sub>= Human resource planning

X<sub>2</sub>= Financial resource planning

X<sub>3</sub>= Time resource planning

X<sub>4</sub>=Material resource planning

In order to assess whether the regression model fits the population and whether the independent variables are satisfactory predictors of the performance of FFRHW project, the F statistic and its associated p value was examined. Furthermore, the researcher evaluated the regression coefficients, their associated t statistics and p values in order to test if the independent variables have individual significant effect on product innovation at this firm. The presentation of the results was in tabular and chart form.

**6. FINDINGS**

The study sought to assess the effect of project financial resource planning; project human resource planning; project material resource planning and project time /scheduling planning as independent variable on the performance of Feed the Future Rwanda Hinga Weze Project in Kayonza District as dependent variables by using correlation analysis and multiple linear regression analysis involved in model summary, analysis of variance and the coefficients of the independent variables.

**Table 3: Correlation coefficients**

		X1	X2	X3	X4	Y
X1= Human resource planning	Pearson Correlation	1				
X2= Financial resource planning	Pearson Correlation	.555*	1			
X3= Material resource planning	Pearson Correlation	.390*	.189**	1		
X4= Time resource planning	Pearson Correlation	.074	.215**	.051	1	
Y= performance of FFRHW project	Pearson Correlation	.504*	.302**	.385**	.469**	1
	Sig. (2-tailed)	.000	.000	.000	.000	

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

\* . Correlation is significant at the 0.05 level (2-tailed).

The results from the table 3, indicated that there is significant moderate positive correlation between human resource planning and performance of FFRHW project as shown by correlation (r= 0.504\*\*; p=0.000<0.05) which implies that an improve in human resource planning would lead to increase of

performance of FFRHW project. The results proved a positive correlation between performance of construction projects and human resource planning, financial resource planning, material usage planning and time management. The study findings agree with Belout and Gauvreau (2004) findings there is a positive correlation between planning of HR, time planning, material resource planning, financial planning and project performance. Wright (2009) findings confirm and agree with the current study that there is a direct connection between selection of human resources, material planning, financial planning and time management with project performance.

The results from the table 3, indicated that there is significant weak positive correlation between financial resource planning and performance of FFRHW project as shown by correlation ( $r= 0.302^{**}$ ;  $p=0.000<0.05$ ) which implies that an improve in financial resource planning would lead to increase of performance of FFRHW project. productivity. Furthermore, the findings show that improving financial resource planning will greatly improve project performance. This study backs up Antvik and Sjöholm's (2013) findings on the impact of financial planning on project performance. According to the findings of the study, cost estimation should be based on the scope of the project, and financial planning has a significant and positive impact on project performance.

The results from the table 3, indicated that there is significant weak positive correlation between material resource planning and performance of FFRHW project as shown by correlation ( $r= 0.385^{**}$ ;  $p=0.000<0.05$ ) which implies that an improve in material resource planning would lead to increase of performance of FFRHW project. The findings of Sivakumar(2019).) on the impact of material level on project performance are consistent with those of this study.

The results from the table 3, indicated that there is significant weak positive correlation between time resource planning and performance of FFRHW project as shown by correlation ( $r= 0.469^{**}$ ;  $p=0.000<0.05$ ) which implies that an improve in time resource planning would lead to increase of performance of FFRHW project.

**Multiple linear regression analysis**

In addition, the researcher conducted a multiple regression analysis so as to test the effect of project resource planning practices such as project financial resource planning; project human resource planning; project material resource planning and project time /scheduling planning as independent variable and performance of Feed the Future Rwanda Hinga Weze Project in Kayonza District. The study performed model summary, ANOVA and multiple regression models to estimate the relationships between the study variables. Further, the study ran the procedure of obtaining the regression coefficients, and the results. In this study the unstandardized coefficients and standardized coefficients are given for the multiple regression equations.

**Table 4: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.825	.680	.657	.22266

a. Predictors: (Constant), X4= Time resource planning, X3= Material resource planning, X2= Financial resource planning, X1= Human resource planning

The four independent variables (time resource planning, material resource planning, financial resource planning, and human resource planning) contribute to 0.657(65.7%) on performance of construction projects as represented by the adjusted R<sup>2</sup>. Consequently, the other factors not considered in this research contribute to 34.3% on performance of projects. The coefficient of correlation value of 0.825 indicates that there was a positive strong correlation between independent and dependent variables.

**Table 5: ANOVA**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.332	4	2.083	42.016	.000 <sup>b</sup>
	Residual	8.924	180	.050		
	Total	17.256	184			

a. Dependent Variable: Y= performance of FFRHW project

b. Predictors: (Constant), X4= Time resource planning, X3= Material resource planning, X2= Financial resource planning, X1= Human resource planning

Further, the analysis of variance was used to examine whether the regression model was a good fit for the data. It also gives the F-test statistics; the linear regression's F-test has the null hypothesis that there is no linear relationship between the two variables. The F-critical (4, 180) was 2.42 while the F-calculated was 42.016 as shown in Table5. This shows that F-calculated was greater than the F-critical and hence linear relationship between the project resource planning and performance of FFRHW project. In addition, the p-value was 0.000, which was less than the significance level (0.05). Therefore, the model can be considered to be a good fit for the data and hence it is appropriate in predicting the influence of the four independent variables (project resource planning) on the dependent variable (performance of FFRHW project ).The findings indicated that the variables: human resource planning, financial resource planning, material usage planning and project time resource are good predictors of performance of FFRHW project

**Table 6: Regression coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
1 (Constant)	1.285	.260		4.941	.000
X1= Human resource planning	.322	.052	.430	6.238	.000
X2= Financial resource planning	.055	.051	.071	1.083	.280
X3= Material resource planning	.135	.038	.208	3.577	.000
X4= Time resource planning	.301	.037	.442	8.042	.000

a. Dependent Variable: Y= performance of FFRHW project

As per the SPSS generated table 6, the equation  $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$  becomes:

$$Y=1.285+ 0.322X_1+ 0.055X_2+ 0.135X_3+0.301X_4$$

Using the regression equation above and holding all factors constant (human resource planning, financial resource planning, material usage planning and project time resource) performance of FFRHW project in Kayonza District was 1.285.

The findings in table 6, revealed that human resource planning have significance positive effect on performance of FFRHW project in Kayonza District as indicated by  $\beta_1= 0.322$ ,  $p\text{-value}=0.000<0.05$ ,  $t= 6.238$ . This shows that taking all other independent variables at zero, a unit increase in human resource planning will lead to increase in performance of FFRHW project in Kayonza District by 0.322units. This means that indicate an increase in human resource planning will significantly increase project performance. The study findings with Farman et al. (2103), found that strategies of reward are a significant and positively form part of the organizational performance. However, the findings disagreed with Bratton and Gold (2007), found that human resource planning does not significantly determine performance but through a good reward system might bring about a proliferation in the employees' productivity.

The findings in table 6, revealed that financial resource planning have insignificance positive effect on performance of FFRHW project in Kayonza District as indicated by  $\beta_2= 0.055$ ,  $p\text{-value}=0.280<0.05$ ,  $t= 1.083$ . This shows that taking all other independent variables at zero, a unit increase in financial resource planning will lead to increase in performance of FFRHW project in Kayonza District by 0.055units but not significant. These findings are in disagreement with Agyei(2015) study findings on the impact of financial planning on project performance.

The findings in table 6, revealed that material resource planning have significance positive effect on performance of FFRHW project in Kayonza District as indicated by  $\beta_3= 0.135$ ,  $p\text{-value}=0.000<0.05$ ,  $t= 3.577$ . This shows that taking all other independent variables at zero, a unit increase in material resource planning will lead to increase in performance of FFRHW project in Kayonza District by 0.135 units. The study findings agree with Plenert and Best (2012) study findings on the influence of material level on project performance.

The findings in table 6, revealed that time resource planning have significance positive effect on performance of FFRHW project in Kayonza District as indicated by  $\beta_4= 0.301$ ,  $p\text{-value}=0.000<0.05$ ,  $t= 8.042$ . This shows that taking all other independent variables at zero, a unit increase in time resource planning will lead to increase in performance of FFRHW project in Kayonza District by 0.301 units. Lloyd (2013) agrees with this study that time planning ought to be sufficiently detailed to make control possible and this significantly increases the performance of the projects.

## **7. CONCLUSION AND RECOMMENDATIONS**

This section presented conclusions, and recommendations of the research. The chapter also contains suggestions of related studies that are carried out in the future.

### **7.1. Conclusion**

The researcher concluded that performance of FFRHW project has resource plans that include strategic plans, short term plans, intermediate plans, implementation and evaluation plans. The study concluded that the combination of time resource planning, material resource planning, financial resource planning,

and human resource planning contribute to 0.657(65.7%) on performance of projects as represented by the adjusted R<sup>2</sup> at 95% confidence interval. The management of FFRHW project should be a focus to ensure that projects are within time and budget. The study recommended development of time schedules based on the formerly developed WBS.

## **7.2. Recommendations**

Based on the objectives of the study, the following recommendations were made.

The management of FFRHW project should improve on recruitment and selection besides other human resource planning practices to achieve high performance

Concerning financial resource planning, the study notes that project budget is a critical part of the budget and it has a major influence on both the planning and execution parts of a project.

The study recommended that for a successful project planning, material usage planning should be a focus. This is because accurate material scheduling improves productivity by decreasing the necessary lead-time, giving the agricultural project a higher quality of production and service.

The management of FFRHW project should always put more emphasis on ensuring that project resource are effectively planned for so as to realize improved performance.

The projects should employ human resource with capacity to effectively manage and use resource so as to produce the required performance.

## **REFERENCES**

- Abdi, A.A.(2020).Resource planning practices and the performance of road infrastructure projects in Wajir County, Kenya. *International Journal of Economics, Commerce and Management United Kingdom*, 5(8), 221-245.
- Agyei, W. (2015). Project planning and scheduling using PERT and CPM techniques with linear programming: case study. *International journal of scientific & technology research*, 4(8), 222-227. 51
- Baraka, A. and Shukla, J.(2021).Resource management practices and construction projects performance In Rwanda Case Of Land Survey Engineering Consultancy Limited. *International Journal of Scientific and Research Publications*, 11( 5),797-805
- Farman, A., Mahmood, K. Sherazi, S. M.R., Muhammad,S. & Muhammad,H.(2103). Effect of Human Resource Planning on Organizational Performance of Telecom Sector. *Information and Knowledge Management*, 3(2),172-182.
- Gashuga, D., Kule, J. W., &Ndabaga, E. (2016). Effect of funds management on project performance in Rwanda; Case study of Dairy Community Processing Center ProjectBurera District.*International Journal of Scientific and Research Publications*, 6(10), 628-649.
- Gordon, J., & Tulip, A. (2017). Resource scheduling. *International Journal of Project Management*, 15(6), 359-370.
- Guest, G. (2013). Describing mixed methods research: An alternative to typologies. *Journal of Mixed Methods Research*, 7(2), 141-151.

- Joshi, R., &Patil, V. Z. (2013). Resource scheduling of construction project: Case study. *International Journal of Science and Research*, 4(5), 563-568.
- Harikrishnakumar, R. (2013). *A practical approach to project scheduling: considering multiple critical path scenarios in project network*. Thesis, Anna University, India. Retrieved from: [https://soar.wichita.edu/bitstream/handle/10057/14528/t17037\\_Harikrishnakumar.pdf?sequence=1&isAllowed=y](https://soar.wichita.edu/bitstream/handle/10057/14528/t17037_Harikrishnakumar.pdf?sequence=1&isAllowed=y)
- Kamwana, W. C. & Muturi, W. (2014). Effects of financial management on performance of World Bank funded projects in Kenya: A case of KPLC Projects. *EuropeanJournal of Business Management*, 2(1), 370-384.
- Kimutai, R. D.& Cheruiyot, K.C.(2020). Influence of Resource Scheduling On the Performance of Residential Construction Projects in Nairobi City County, Kenya. *International Journal of Research and Innovation in Social Science (IJRISS)*, 4(11), 409-414
- Kumari, K. S., & Vikranth, J. (2012). A study on resource planning in highway construction projects. *International Journal of Engineering Research and Applications*, 2(4), 1960- 1967.
- Memon, A. H., & Zin, R. M. (2011). Resource-driven scheduling implementation in Malaysian construction industry. *International Journal of Sustainable Construction Engineering and Technology*, 1(2), 77-90.
- Naeem, S., Khanzada, B., Mubashir, T., & Sohail, H. (2018). Impact of project planning on project success with mediating role of risk management and moderating role of organizational culture. *International Journal of Business and Social Science*, 9(1), 88- 98.
- Obegi, D. O. & Kimutai, G. J. (2017). Resource scheduling and project performance of international not-for-profit organizations in Nairobi City County, Kenya. *International Academic Journal of Information Sciences and Project Management*, 2(2), 199-217
- Ochieng, E. A. (2014). *Influence of resource planning on implementation of projects in global system of mobile communications companies in Kenya*. Unpublished MA Project, University of Nairobi.
- Ogotu, B. O., & Muturi, W. (2017). Factors influencing successful completion of road construction projects in Kenya: The case of Kisumu County. *International Journal of Economics, Commerce and Management*, 5(6), 728-771.
- Pellerin, R., & Perrier, N. (2019). A review of methods, techniques and tools for project planning and control. *International Journal of Production Research*, 57(7), 2160- 2178.
- Pinha, D. C., & Ahluwalia, R. S. (2019). Flexible resource planning and its effect on project cost and duration. *Journal of Industrial Engineering International*, 15(1), 119- 133.
- Schwindt, C. (2016). *Resource allocation in project management*. Springer Science & Business Media.



- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*. John Wiley & Sons.
- Sivakumar, S. A. (2019). Impact of Schedule Management Plan on Project Management Effectiveness. *International Journal of Engineering and Advanced Technology (IJEAT)*,9(1), 3350-3355.
- Sushma, H., Bhavya, S., Rajeeva, S. J.,& Narayan, G. (2017). Planning, scheduling and resource optimization for road construction using primavera. *International Journal of Innovative Research in Technology*, 4(3), 73-84
- Tao, S., & Dong, Z. S. (2018). Multi-mode resource-constrained project scheduling problem with alternative project structures. *Computers & Industrial Engineering*, 6(12), 333- 347.
- Vatne, M. E., & Drevland, F. (2016). Practical Benefits of Using Takt time planning: A case study. *Int. Gr. Lean Constr*, (173), 173-182
- Umulisa, A., Mbabazize, M., & Shukla, J. (2015). Effects of project resource planning practices on project performance of Agaseke Project in Kigali, Rwanda. *International Journal of Business and Management Review*, 3(5), 29-51.
- Vishnuraj, R. G., & Vishak, M. S. (2017). Optimization of resources in highway construction. *International Journal of Engineering and Management Research (IJEMR)*, 7(2), 106- 110.
- Wambua, M.M.(2013),effects of human resource factors on project performance in Nairobi county in Kenya: a case of selected organizations in Westlands. *European Management Journal*, 19(3), 254-267.