



STAKEHOLDER PARTICIPATION AND SUSTAINABILITY OF GOVERNMENT PROJECTS IN RWANDA: A CASE OF KIREHE COMMUNITY BASED WATERSHED MANAGEMENT PROJECT

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Received: 05 August, 2022; Accepted: 4th Sept. 2022; Published: 5th September 2022

DOI: <https://doi.org/10.53236/26>

ABSTRACT

The study focused on stakeholder participation and sustainability of government projects after closeout, a case of Kirehe Community Based Watershed Management Project (KWAMP). The research objectives were to determine the influence of passive participation among stakeholders on sustainability of KWAMP project implemented in Kirehe District; to examine the influence of interactive participation among stakeholders on sustainability of KWAMP project implemented in Kirehe District; to establish the influence of functional participation among stakeholders on sustainability of KWAMP project implemented in Kirehe District; to investigate the influence of optimum participation among stakeholders on sustainability of KWAMP project implemented in Kirehe District; and to identify the relationship between stakeholder's participation and sustainability of KWAMP project in Kirehe District. The study was guided by a descriptive research design whereby it was a plan to give a proper picture describing the situation qualitatively. This study used a correlative analysis style to explain information and characteristics of what were studied. Target population was 340,431 people from different sectors involved and benefited directly to KWAMP Project in Kirehe District. This study used stratified and simple randomly sampling technique to select 100 respondents as sample size. Data collection instruments were questionnaire, interview guide, and document review. Descriptive statistics scores were used to reach on objective one, two, three and until five. Correlation matrix test was used to show the relationship between stakeholder's participation and sustainability of KWAMP project in Kirehe District. Findings on

correlation matrix test confirmed that there is a very strong correlation between project sustainability and passive participation as Pearson correlation is .935** with the p-value of 0.000, which is less than standard significance levels of 0.01. The results also showed that there is strong correlation between Project Sustainability and Interactive participation as Pearson correlation is .782**. The p-value is 0.000, which is less than standard significance level of 0.01. There is strong correlation between Functional participation and Project Sustainability as Pearson correlation is .715**. The p-value is 0.000, which is less than standard significance levels of 0.01. There is also strong correlation between Optimal participation and Project Sustainability as Pearson correlation is .682**. The p-value is 0.000, which is less than standard significance level of 0.01. However, according to analysis done above confirmed that there is correlation between the variables representing stakeholder's participation with sustainability of KWAMP project in Kirehe District. Based to the outcomes of this research which shown on the results indicated that effective stakeholder's participation led to project succession, and the lack of part of beneficiary can contribute to project failure for attaining its goals. Effective stakeholder's participation attains both interactive and spontaneous mobilization. In donor funded water projects the case of KWAMP Project the management framework should comprise several actors on various institutional levels.

Key Words: Stakeholder Participation; Sustainability; Government Project, Rwanda

1. INTRODUCTION

The community is capable to work as a team for achieving project goals, and continuing to produce the results for a good number of community issues, and based on this, the element having a sustainable future is left in limbo and any other investment if projects become wasteful (Batchelor, 2005). In developed countries like USA, China, Japan and

others, the designing of good projects relies also in judging at which extent are the project's benefits important in terms of ways the success is determined and getting to understand the factors influencing the durability (Carl, 2006). Elsewhere in Europe and other developing economies, they earlier reported a high percentage of

negative outcome rate for their projects to achieve the stated objectives (Chikati, 2015).

However, the projects in question have utilized resources but unsustainable while some were prematurely terminated. The lack of financial accountability, stakeholders' implication, community participation, lack of adequate skills, community capacity building and weak monitoring and evaluation mechanisms constitute the main cause of the failure of those projects (Anup, 2012). Effective stakeholders' engagement leads to a mobilization which is not only interactive but also spontaneous. Participation is described as interactive when project beneficiaries and externals proceed jointly to the analysis of the situation, develop, implement and monitor action plans together.

Mobilization is said to be spontaneous when people can independently take their own decisions regarding the change of living situation free from any external influence. Water projects in rural Nigeria have been affected by inconsistent coordination, inadequate taking care behavior, indifferent beneficiaries, unstructured institutions and outdated technical skills (Nwankwoala, 2011).

The fact that water affects all the nature in all its sectors and livelihood makes that the well-being of people directly relate to that natural resource, water. However, an inadequate access to clean water increases the prevalence rates of waterborne diseases and increases the costs of accessing healthcare for citizens. This prompts the citizens themselves to initiate self-sustaining initiatives to keep up with the increasing demand for basic needs. The government and other agencies on the other hand initiates some community-based projects to improve the lives of those who are in dire need. However, in the end, results can be reflected in the living standards of the people (Elizabeth, 2006).

In Africa for instance, the failure rate for most development projects lies anywhere from 31 to 61% approximately. Parry et al., (2001) argues that more than 50% of all development projects in East Africa are either partially or fully not operational. There are various factors that have been attributed to the failure of water development projects in Africa such as the lack of beneficiaries' participation in demanding accountability, the recurrent costs which is high, negligence of the water infrastructures, especially in maintenance and operations, the use of inadequate technology, water points being installed far from the beneficiaries and lack of proper training.

Nyaguthii and Oyugi (2013) revealed that in Mwea Sub County most of the community members do not take part

in the initiation phase of community water projects which result into failure even before implementation. Similarly, Joseph (2013) established the same where he indicated that the most part of community development funded water project in the Sub County of Molo suffer from operational inefficiency in fund management practices. Faith (2010) in her study consents that was little involvement of the beneficiaries in the project's sustainability but on its implementation.

In Rwanda, MINECOFIN (2015) reported that for the sustainability of a project to be achieved, there must be full involvement of all beneficiaries' right from its initiation through completion unlike when it is forced to them. A community's thirst for projects with or without funding by any agency or government should be put to test. Nevertheless, full involvement of not only the beneficiaries but the community in general brings value for money. It makes sure that the project is carried out to completion and thus setting ground for its sustainability. In a clear look at Rwanda's Vision 2020, its main aim to transform fully the economy not only from the current low income but to a middle level income category.

Some of the strategies in place to solidify the vision Strategic Plan for Agricultural Transformation Agency (PSTA) whose objective is aid agriculture where Kirehe community-based Watershed Management Project (KWAMP) is one of such projects. To achieve this, such projects supplement the government's initiative in agricultural investment for long term and sustainable development agenda in partnership with donor partners (KWAMP, 2016).

Kirehe District poverty profile, Kirehe District has a land surface of 1,266 km² and is divided into twelve sectors (imirenge) Gahara, Gatore, Kigarama, Kigina, Kirehe, Mahama, Mpanga, Musaza, Mushikiri, Nasho, Nyamugari and Nyarubuye and includes 60 cells and 610 villages (or imidugudu). At project design, the district had a population 292,000 people, consisting of approximately 55,000 households. Just over 86% of households owned less than 1 ha of land; 46% owned less than 0.5 ha and nearly 13% had no land at all.

Accordingly, the majority of the district population consisted of the rural poor. Poverty was widespread, with some 51% of the people living below the poverty threshold and extreme poverty affected about 29% of the population of the district. The goal of KWAMP was to reduce rural poverty in Kirehe District, primarily through an improvement in household food and nutrition security, asset ownership and quality of life indicators, particularly amongst vulnerable groups including women-headed households, orphans and those living with HIV/AIDs (KWAMP, 2016)

2. PROBLEM STATEMENT

KWAMP was implemented through four investment components namely local institutional development like building the capacity of Government and community institutions in Kirehe, agricultural intensification, focus on the investments required to intensify agriculture as a business for smallholders; feeder roads addressed the ongoing and increasing need for fully functional feeder roads to provide physical access for farmers and enable trade in both inputs and produce; and project coordination component that provide the managerial and administrative support services needed to implement the substantive components in Kirehe District.

Despite the importance of KWAMP project implementation in Kirehe, there are still different challenges of poverty and malnutrition in this area; low level of agriculture production and productivity (crop and livestock) for farmers; lack of sustainable management of the watersheds established in KWAMP program; poor

rural transport and market infrastructure; poor management structures and lack of farmers coordination and institutional stakeholders; poor community mobilization mechanisms; lack or poor extension services and information on market opportunities; resistance to change of some farmers; insufficient post-harvest storage capacity; and deforestation as a result of agricultural expansion, that generated environmental degradation and land erosion (MINECOFIN, 2017).

In addition to this information mentioned above, there are still scarcity or shortage of the studies talking about stakeholder's participation and sustainability of Government projects after closeout in Rwanda. It is therefore in this case that motivation to undertake this study emerged, to cover existing gap by establishing on how stakeholders' involvement in KWAMP Project of Kirehe District influence its sustainability in this District.

3. OBJECTIVES OF THE STUDY

This study paper has a general objective and specific objectives.

General objective

The main purpose of this study was to evaluate the extent to how stakeholder's participation contributes to sustainability of owned government projects after close-out in Rwanda.

Specific Objectives

This study had five specific objectives as follows:

- [1.] To determine the influence of passive participation among stakeholders on sustainability

of KWAMP project implemented in Kirehe District;

- [2.] To examine the influence of interactive participation on sustainability of KWAMP project implemented in Kirehe District;
- [3.] To establish the influence of functional participation on sustainability of KWAMP project implemented in Kirehe District;
- [4.] To investigate the influence of optimum participation on sustainability of KWAMP project implemented in Kirehe District;
- [5.] To identify the relationship between stakeholder's participation and sustainability of KWAMP project in Kirehe District;

4. HYPOTHESES

This study verified null and alternative hypotheses as follows.

- [1.] **H₀**: There is no significant and positive relationship between stakeholder's participation and sustainability of owned government projects after close-out in Rwanda;

- [2.] **H₁**: There is a significant and positive relationship between stakeholder's participation and sustainability of owned government projects after close-out in Rwanda;

5. REVIEW OF LITERATURE

This study shows briefly a general review on stakeholder participation and sustainability of project.

5.1 Stakeholder Participation

Participation is a multidimensional and complex concept (Vos, 2005). It has many forms and can take place in different stages of a project cycle and at different levels of society along a continuum from: contribution of inputs to a predetermined project; to information sharing; consultation; decision-making; partnership; and empowerment (Karl, 2000). The meaning of participation can also differ from one area to another based on cultural

norms, amongst institutions based on the institutions' particular interests (Khanye, 2005), and the way observers perceive and evaluate it in practice (Brett, 2003). Participation exists in different forms depending on the level of participation, and Pretty (1994) assert that participation can be passive, interactive, functional, optimum among others.

5.2 Project Sustainability

In the context of donor-funded projects, sustainability can be defined as; the continuation of benefits after major assistance from a donor has been withdrawn. Key points to note in this definition are; the focus is on sustaining the flow of benefits into the future rather than sustainable programs or operations. Projects are by definition not sustainable as they have a definite start and finish date.

The concept of sustainable benefits does not necessarily mean continuation of aid funded activities to sustain the project but rather the adoption of new structures, ownership by communities and support by locally available resources to ensure the continuous inflow of benefits. The nature of project management has taken a

According to IFAD strategic Framework 2007-2010 (IFAD, 2007), project sustainability ensures that institutions supported through projects and the benefits realized are maintained and continue after the end of the project. Also, according to IFAD's office of evaluation, sustainability entails determining whether the results of a

5.3 Empirical Literature Review

Olivié and Pérez (2016) examined why donor countries fail to coordinate their aid in projects taking European donors in Morocco as the case study. Findings from the survey suggested that coordination of the project may have thrived but does not necessarily trigger the results. Some of the barriers that hindered coordination included different procedures on administration, counters received from the local authorities as well as leading donors. Popescu, Mitu, Uta, and Ion, (2010) examined human resource management practices as the key point for

Financial resource planning practices influenced the project performance. Practices such as budget elaboration, projecting and coming up with strategies for money generation existed in the project. A considerable and positive relationship between financial resource planning practices including; budget elaboration, budget projections

5.4 Critical Review and Gaps Identification

The reviewed literature suggested the existence of paucity in research; both international and local linking resource coordination practices to project implementation. For instance, Moroccan studies by Olivié and Pérez (2016) examined the reasons why donor countries failed to coordinate but did not go further to establish the resource coordination practices and how the implementation of their funding activities to projects was implemented. Thus, rather than addressing the relationship between resource coordination practices and donor funding, the scholars identified challenges that hindered project coordination

paradigm shift from the earlier one in the sense that it has ceased to be dominated by the construction industry but now is applicable in all organizations (Tembo, 2003).

The sustainability was first employed in relation to natural resources and how they should be used. Many theorists feel that natural resources are finite and cannot support the world's projected population at current levels of resource utilization and growth. There are those theorists who argue, however, that resources should be defined more broadly to include stocks of technology and know-how. As knowledge and human capability have increased over time, resources have actually increased (Taylor, 1993).

project is sustained in the medium or even long term without continued external assistance. Within the development community, the notion of sustainability came to be applied to financial resources, including project funds, indicating that projects and donor support are not limitless and must be used efficiently in ways that local actors support so that benefit flows are sustained.

success of projects in Europe taking CIVITAS projects as the case study. Findings from the study suggested that the success of CIVITAS projects in Europe was due to the application of human resource management theory in the organization of their human resources. The success of CIVITAS human resources activities was implemented less based on existing theories but more on the experience of previous projects implemented within the European community.

and setting strategies for money generation and project performance existed. Planning practices of time and materials like money and other related had influence on Agaseke project functioning. The order chain including placing orders and monitor them and the practices of procurement plans exist within the project and they are highly correlated.

initiatives in general. Popescu, and Mitu, (2010) link human resource management practices with effective implementation of CIVITAS projects within the European community but failed to provide evidence detailing the relationship between the two variables and expanding further on the nature of human resources coordination practices employed and how they influenced the implementation of the projects. A number of regional studies tried to link project coordination practices with projects. For instance, Mogaka, Atambo, and Mogwambo's (2016) findings in Kenya established that financing decisions practices were important for the

county governments. However, the study was not anchored the influence of financial resource coordination on the implementation of projects, but was rather directed towards the performance of projects.

Nyanje and Wanyoike's (2016) analysis on the factors influencing the implementation of non-governmental organizations Kenya cited adequate project resource scheduling as a determining factor of project implementation success. While the study identifies the quality of project resource coordination, worker motivation, operating environment, inadequacy of resources, and organization of the project team as factors affecting the implementation of projects, the study had inadequacies as it did not mention the statistical relationship between project resource coordination practices and project implementation. In addition, though the study cited inadequacy of resources as a determinant,

5.5 Theoretical Framework

The Theory of Sustainability

The theory of sustainability is the principal theory in which the study was pegged on. It advocates for utilization of resources in a manner that is likely to preserve its gains in the present through to the future while preserving the environment in a sustainable manner. It seeks to contextualize the concept of sustainability in development projects implemented at different levels characteristic to the interest of the implementer as well as that of the recipients. In Kenya, most healthcare projects are targeted helping the populace gain financial assistance while

In terms of choice, sustainability was considered to be determined by time of project execution, the inherent importance that can be derived from the projects, the processes taken into consideration to ensure that there are pathways to ensure sustainability of the projects, and that sustainability has targets that can occasionally change. It is therefore implied that if appropriate choices are not made in the right moment in time, sustainability cannot be achieved. However, some degree of flexibility is offered by this theory in that the provision for gradual or sudden changes are offered and choices are made befitting such situations. Normativity of projects is deduced from different views as well. First, Harrington (2016) proposed

Symbolic Interaction Theory

According to this theory of Symbolic Interaction; the human beings do not act individually but interact with each other, thus reacting to each other. This perspective is centered on the notion that communication or the exchange of meaning through the language and the symbols are how people make sense of their social project (Gujt, & Hilhorst, 2006). Herman and Reynolds (1994)

the researchers did not elucidate further on the nature of the resources. The study reviewed only one local study by Umulisa, Mbabazize and Shukla (2015) that examined the effects of project resource planning practices on project performance in Rwanda. Even though the study did identify the relationships between the variables, it is essential to note that the effects of resource coordination practices were directed towards project performance as opposed to project implementation. From the above analysis, it is evident that there exists scarcity of research linking resource coordination practices and project implementation given that not a single study either locally and internationally has established effects and relationship between the two variables. It is against this background that the current study aims at bridging the existing knowledge gap by assessing the effects of project resource coordination practices on project implementation in Rwanda taking Compamia fish farming project.

alleviating poverty that is rife among them. The economic progress that Kenya has made has led to a shift in terms of donor priorities. The sustainability theory therefore offers a means to which the country should be responsive depending on the kind of change that is being experienced. There are several components that define the sustainability theory. These components include; the normativity concept, the concept of choice, and the geographical location as a determinant of where the project is being implemented (Harrington, 2016).

that the projects need to be viewed in terms of relevance. This includes considering the desirability of the projects by the targeted recipients. To achieve this modus to guide the decision to implement must be defined. One of the proposed ways is that a decision to initiate a project needs to be guided or informed by research. This way, a rational is arrived at in terms of providing relevant and selective interventions. This ensures that there are appropriate feedback mechanisms in terms of the outputs and benefits that different stakeholders derive from the project. In terms of the scale of the projects and the location in which it is implemented, there are several characteristic views that can be drawn from them based on Harrington (2016).

observed the beneficiary as active in shaping their world rather than the entities that are acted upon by society. However, this approach looks the society and people from a micro-level perspective. Therefore, this study uses the symbolic interaction theory by analyzing the beneficiaries' participation as active for sustaining the projects especially KWAMP Project in Kirehe District

The Theory of Change

The theory of resource-based view (RBV) claim that each firm must have some resources which one subset enables them to attain competitive advantage whereas the other subgroup lets it having a long-term affiliation. Harris (2005) explains that the theory of change gives the blocks that bring long-term goals. They are interchangeably referred to like the outcomes, accomplishments, and preconditions where they are depicted on a framework of change. Eisenhardt (1989) says agency theory describes

The Planning Theory

The description of the planning theory is derived based on various fields of knowledge from the PMBOK guide. The planning scheme is designed into some core and facilitating processes (Koskela, Lauri & Gregory, 2002).

Ten core processes are present which include defining the scope, estimating cost, planning the extent, defining the activity, planning the resources, sequencing the activities, assessing the duration of the activities, schedule development, budgeting the cost as well as developing the plan of the project. The final output of this stage, which is the project plans becomes the input to the project

Production Theory

Based on Cobb, and Douglas, (1928) theory of production, the study attempts to explain the effects of cost of inputs to sustainability of fish farming. According to the theory of production, gross production is affected by the amount quality and level of labor and the size of investment involved in terms of capital together with the intermediate materials. This implies that amount of production in fish projects depends on the cost of inputs. These inputs include the capital invested to start the projects, the daily

Conceptual Framework

The central idea is that an organization's success in its project initiatives is dependent on how well it manages the relationships with key groups such as customers, employees, suppliers, communities, financiers, and others that can affect the realization of its purpose. Stakeholder participation refers to the act of getting involved in the various aspects and stages in the project or programme management cycle through material contributions and

the organization as an interconnection of contracts. There must be a bond between the employers and the employees. Each side is guided by guile and self-interest. This view has also been supported by (Michael Porter, 1980 and Ansoff, 1991). The resource-based theory here acts like a tool which the firm uses to determine the available resources. Applications of the resources are at the firm's disposal and require being part of the strategic formulation (Peteraf & Barney, 2003).

execution process. The planning process dominates the PMBOK guide. Only one is executing process as well as two methods involved in controlling.

Much focus is laid on planning with less emphasis put on execution. The general assumption is that the organization has the section for the management and effect part. Management consists of federal creation, revision, and plan implementation. The approach raises a strong connection between management's actions and the organization's outcomes (Koskela, & Gregory, 2002).

running costs and cost of labour when the costs of inputs are low; the level of production goes up. This in turn means that the projects are profit making and therefore are sustainable in the long run. The theory is significant to the study as it emphasizes the influence of inputs in the sustainability of an enterprise. Similarly, the costs of inputs are an important component of sustainability of fish farming projects.

consultation. It involves the process or activity of informing the public and inviting them to have input into the decisions that affect them. Whereas minor decisions and emergency situations are generally not appropriate for stakeholder participation, complex situations with far-reaching impacts warrant stakeholder involvement and when done proactively, rather than in response to a problem, helps to avoid problems in the future.

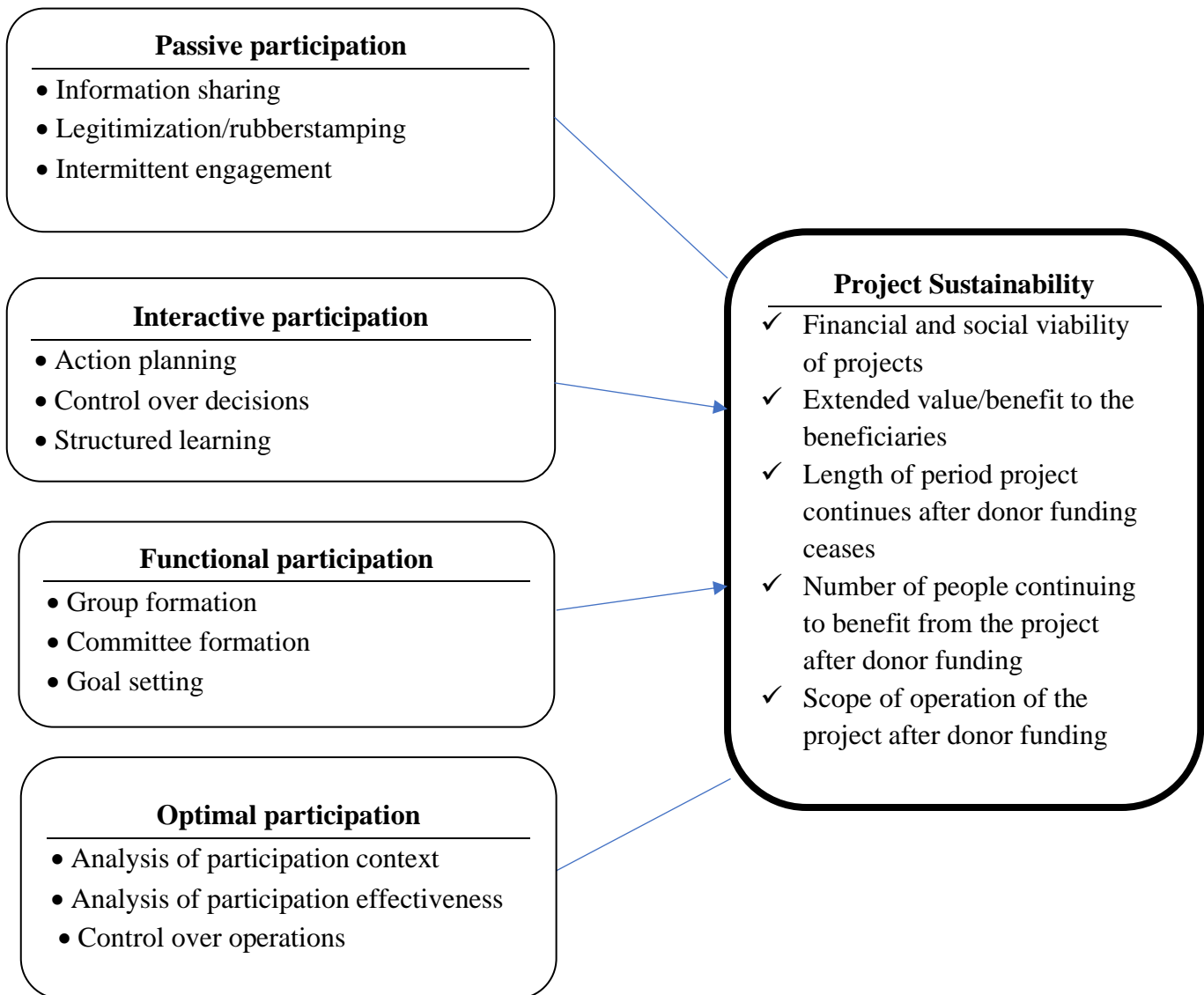


Figure 1: Conceptual framework

Source: Researcher conceptualization (2022)

The framework of the study, Figure 1 showed that an interaction between the four independent variables i.e., passive participation, interactive participation, functional participation, and optimum participation and the

6. MATERIALS AND METHODS

This study was guided by a descriptive research design and correlative approach. It is descriptive research design because describing frequencies, percentages on data collected in relation with stakeholders’ participation and KWAMP project sustainability.

The study also used a correlative analysis style to explain information and characteristics of relationship between the variables. Target population was 340,431 people from different sectors involved and benefited directly to KWAMP Project in Kirehe District. A sample is a smaller

$$n = \frac{340,431}{1 + [340,431 * (0.1)^2]} = 99.9 \cong 100$$

dependent variable sustainability of projects implemented by KWAMP Project. The independent variables independently influence the dependent variable and on the other hand have collectively influence the dependent variable.

set of values selected from the population, reflecting its characteristics. In this study, the sample size was selected from study population. This study practiced 10% of margin errors and privacy level is 90%. This study applied the formulation of Taro Yamane (1982) to control sample size of this study.

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

n = Sample Size N = Population e = Margin of error

This study used stratified and simple randomly sampling technique to select 100 respondents as sample size from target population. Various instruments used for gathering information from respondents, these are: questionnaire and document review. Methods were used to analyze the data of this research are Descriptive statistic method describing frequency, percentages for data collected from KWAMP project in Kirehe District. Correlation

7. RESULTS AND DISCUSSIONS OF FINDINGS

The researcher went to the field of the research for distributing questionnaires to 100 respondents, and they were given two weeks of responding questions. The interview was also addressed to respondents from IFAD, and top staff who were in the follow up of KWAMP

7.1. Profile of Respondents

The respondent's profile shows the socio-characteristics of respondents including gender, age, marital status,

coefficient was accepted to show the relationship between stakeholder's participation on the sustainability of owned government projects after close-out in Rwanda. Linear regression analysis was also used in this study to analysis of show variance and change in every unit affecting sustainability of owned government projects after close-out in Rwanda.

project in Kirehe district. Findings indicated 100.0% of participation rate in responding questionnaires. This helped researcher to continue with editing, coding, and tabulation in order to make statistical tables by using SPSS IBM 21.0 version.

educational level, and experiences of respondents as detailed in the following table 1.

Table 1: Socio-Demographic of Respondents

	Data	Frequencies	Percentages
Gender	Male	70	70.0
	Female	30	30.0
	Total	100	100.0
Age	21 and 30 years	53	53.0
	31 and 40 years	37	37.0
	41 and 50 years	8	8.0
	Above of 50years	2	2.0
	Total	100	100.0
Education level	PhD	7	7.0
	Master's Degree	12	12.0
	Bachelor's degree	55	55.0
	Diploma/Certificate	19	19.0
	Secondary level	7	7.0
Occupation	Total	100	100.0
	Commissioners	19	19.0
	Project Managers	24	24.0
	Financial Officers	20	20.0
	Project planning Officers	18	18.0
Experiences in KWAMP Project	Other technicians	19	19.0
	Total	100	100.0
	Less than one year	4	4.0
	1-2 years	43	43.0
	2-3years	38	38.0
More than 3 years	15	15.0	
Total	100	100.0	

Source: Primary data from Field, (September, 2021)

Gender balance influences in the achievement of the goals of the project like KWAMP Project, and its sustainability after close-out in Kirehe District. The respondents selected from KWAMP Project in Kirehe District were in both males and females. This justified by 70.0% respondents

were males, while 30.0% of respondents were females in stakeholders of KWAMP Project at Kirehe District. Maria (2003) argued the gender influences the sustainability of project development. KWAMP project's gender targeting at design was to concentrate on the following three areas which remain relevant to date: giving

women equal access to productive resources and income generating activities; incorporating the interests of women in capacity building opportunities and knowledge management under the project; and giving women equal representation in decision making and institutions under the project.

Concerning to age, KWAMP project has stakeholders who were mature enough. This justified by 53.0% respondents who are between 21 and 30 years old; 37.0% respondents were between 31 and 40 years; 8.0% respondents were between 41 and 50 years; while 2.0% respondents had ages above of 50years old.

According to education level of stakeholders of KWAMP project, 12.0% respondents have master’s degree; 55.0% respondents have bachelor’s degree; 19.0% respondents have diploma/certificate; and 7.0% respondents have secondary level. In regards to occupation of respondents in KWAMP project, 19.0% respondents were commissioners; 24.0% respondents were in project management; 20.0% respondents were in financial

Offices; 18.0% respondents were project planning Office; while 19.0% respondents were in other technical works in KWAMP project.

Experience of stakeholders in KWAMP project, 4.0% respondents have less than one year of experience; 43.0% respondents have between 1-2 years of experience; 38.0% respondents have experience between 2-3years; and 15.0% respondents have experience more than 3 years in KWAMP project.

Koroit Eunice, (2013) argued the success of projects that has improved due to people having basic knowledge of management of the affairs of the project. It is important to know that almost 100% of the people have formal and informal education that indicates that people know how to manage their own projects hence their projects can survive and can be sustained. The basic skills and knowledge of beneficiaries and stakeholders participated in the project implementation influence sustainability of project after closeout.

7.2. Correlation Matrix

A correlation matrix is simply a table, which displays the correlation coefficients for different variables. The matrix depicts the correlation between all the possible pairs of values in a table. It is a powerful tool to summarize a large dataset and to identify and visualize patterns in the given data. For instance, it may be helpful in the analysis of multiple linear regression models. Remember that the models contain several independent variables. In multiple linear regression, the correlation matrix determines the correlation coefficients between the independent variables in a model. Table 2 show correlation matrix test between the variables representing stakeholder’s participation whith sustainability of KWAMP project in Kirehe District.

Table 2: Correlations Matrix

		Passive participation	Interactive participation	Functional participation	Optimal participation	Project Sustainability
Passive participation	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	100				
Interactive participation	Pearson Correlation	.806**	1			
	Sig. (2-tailed)	.000				
	N	100	100			
Functional participation	Pearson Correlation	.655**	.953**	1		
	Sig. (2-tailed)	.000	.000			
	N	100	100	100		
Optimal participation	Pearson Correlation	.807**	.730**	.545**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	100	100	100	100	
Project Sustainability	Pearson Correlation	.935**	.782**	.715**	.682**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	100	100	100	100	100

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

From the correlation matrix table 1, the results show that there is a very strong correlation between project

sustainability and passive participation as Pearson correlation is **.935**** with the p-value of 0.000, which is

less than standard significance levels of 0.01. From the correlation Table, the results showed that there is strong correlation between project sustainability and interactive participation as Pearson correlation is **.782****. The p-value is 0.000, which is less than standard significance level of 0.01. The results also show that there is strong correlation between functional participation and project sustainability as Pearson correlation is **.715****. The p-value is 0.000, which is less than standard significance levels of

Results Discussion

KWAMP maintained satisfactory performance as noted by all previous IFAD missions. The social and economic impact of the project was a reality and its contribution to poverty reduction in Kirehe District was widely recognized by the local authorities and documented in the official statistics. Achievement of development objectives and implementation progress were on track, with most targets already being achieved. The project had already generated numerous benefits for various target groups which had been partially documented and analysed, especially through the initial KWAMP in December, 2013.

The varied scope of the project interventions required several well focused thematic and impact studies which enabled KWAMP Project in Kirehe District to evaluate those benefits, and to derive strategic implications for enhancing project implementation; sustainability strategy; inputs for scaling-up strategy in other districts; and key impact evidence for the project completion report.

Poverty targeting among the stakeholder visited was satisfactory, considering that the vast majority of the rural households in Kirehe District are classified as poor and KWAMP interventions have endeavoured to apply the project's stakeholder criteria. The project's target group at design was 48, 000 families (which is about 90% of a total population of 292,000), with 22,500 being direct and 10,000 indirect stakeholder families.

The mission noted that the project has already exceeded this target having reached 68,214 households representing 120% of the design targets (due to benefits from land tenure interventions and rural feeder roads). Of these, 38,784 households were direct stakeholder. The project sought to reach additional 10,000 direct and 15,000 indirect households. At design, the project aimed at reaching 15 different categories of groups. To date, the project was reaching 25 cooperatives; 18 CLGS; 17 water users associations; 4 Inteko y'Imihigo groups; and 54 livestock groups among others.

KWAMP Project in Kirehe District increased the level of marketed production of crops and livestock products, leading to increase in incomes derived from gains in productivity, farming efficiency and cash returns to effort; the operation and maintenance of affordable irrigation

0.01. The results show that there is strong correlation between optimal participation and project sustainability as Pearson correlation is **.682****. The p-value is 0.000, which is less than standard significance level of 0.01. however, according to analysis done above confirmed that there is correlation between the variables representing stakeholder's participation with sustainability of KWAMP project in Kirehe District

facilities made available to a large proportion of the active poor and landless farmers in the District, reducing dependence on increasingly erratic rains and permitting a shift to higher value crops in response to market demand. A steady improvement in the natural resource base in selected watersheds to enable production in the future, reversing the present negative trends of soil erosion and nutrient depletion coupled with failure to put available water to productive use.

KWAMP aimed at reaching 60,000 households receiving project services of which 40,000 were assisted as direct stakeholder via sustainable incremental income from farming and related economic activities in 18 priority watersheds. The activities of KWAMP Project in Kirehe District were to progress in participating watersheds, review the quality as well as the ownership aspects; progress with respect to community innovation centres, value chain development funds, reforestation initiatives, land tenure, livestock restocking, irrigation support activities, feeder road management plan; ownership by the district authorities and assessment of joint implementation modalities within the SPIU.

KWAMP's development goal was the reduction of rural poverty in Kirehe District, which was to be proved mainly by a step improvement in household food and nutrition security, asset ownership and quality of life among vulnerable groups, comprising woman-headed households, orphans and people living with HIV/AIDS.

The vast majority of the rural households in Kirehe District were classified as poor and KWAMP interventions have endeavored to apply the project's stakeholder criteria. Therefore, project's target group at design was 48 000 households (which is about 90% of a total population of 292,000), with 22,500 being direct and 10,000 indirect stakeholder households.

However, the project had already exceeded the target having reached 68,214 households representing 120% of the design targets (due to benefits from land tenure interventions and rural feeder roads). Of these, 38,784 households are direct stakeholder. Within the next two years, the project seeks to reach additional 10,000 direct and 15,000 indirect households. At design, the project aimed at reaching 15 different categories of groups. To date, the project is reaching 25 cooperatives; 18 CLGS; 17

water users associations; 4 Inteko y' Imihigo groups; and 54 livestock groups among others.

Consequently, the challenge was, at a minimum, to support the various entities in a systematic way, with special focus on cooperatives, to develop strategic/business plans, by-laws, and good organizational practices, adapted to their respective circumstances and operational requirements/priorities. These plans became the instruments that enabled farmers' organizations to monitor their own progress, identify problems and adapt/implement solutions. The strategic/business plans identified not only the system of production to be implemented but, of equal importance, the technical, managerial, financial and governance capacities required to implement them. Clearly, the strategic/business plan was suited to the existing capacities of each organization and evolves as members were involved in learning processes over time.

Only a few cooperatives have developed value-added activities and generated off farm employments. While the productive assets and scale of the agricultural cooperatives should allow for such advances in the future, good planning and integral support over a multi-year period are essential to realize such advances. Without acquiring the capacities needed to operate as independent enterprises, the cooperatives may remain at a relative disadvantage in the context of PPP arrangements. A key mission recommendation is thus that the present scope of activities related to capacity building of farmers' organizations needs to be substantially strengthened both within the framework of KWAMP and in alliance with the several institutions that intervene separately in such efforts.

KWAMP has supported value chain development for both established and emerging commodities in Kirehe District principally through capacity building for smallholders and facilitating access to inputs and storage. The cooperatives supported by KWAMP involve relatively large numbers of families; all of whom are nominally independent but who in fact depend on the management and technical capacities of their organization; as well as the quality of services provided in the context of land consolidation and crop and livestock intensification. Crop intensification activities are

8. CONCLUSION AND RECOMMENDATIONS

Conclusion

According to the study findings on correlation matrix indicated on table, confirmed that there is a very strong correlation between project sustainability and passive participation as Pearson correlation is .935** with the p-value of 0.000, which is less than standard significance levels of 0.01.

The results also showed that there is strong correlation between Project Sustainability and Interactive participation as Pearson correlation is .782**. The p-value

is 0.000, which is less than standard significance level of 0.01. There is strong correlation between Functional participation and Project Sustainability as Pearson correlation is .715**. The p-value is 0.000, which is less than standard significance levels of 0.01. There is also strong correlation between Optimal participation and Project Sustainability as Pearson correlation is .682**. The p-value is 0.000, which is less than standard significance level of 0.01. However, according to analysis

considered as a key priority of the district and sector performance contracts. Farmers are satisfied by extension services delivered by district/sector agronomists and the proximity service provider's extension agents supported by KWAMP. The sustainability of agricultural intensification investments is quite certain as these activities are fully owned by farmers who rely on them for their food security. Livestock intensification activities exceeded targets and contributed significantly to poverty alleviation in Kirehe District.

To date, KWAMP distributed 2,948 heifers of which 988 were provided through the pass-on gift (POG) scheme. The numbers of small stock distributed to poor farmers with less than 0.5 ha includes 1,532 pigs and 2,883 goats. The reinforcement of veterinary services by both RAB and Kirehe administration, the establishment of community veterinary pharmacies and livestock insurance scheme also plays a key role in sustaining the achievements of the project. The project also supported 151 households to obtain biogas systems (141 fixed domes systems and 10 flexi biogas) and the process for the acquisition of 100 new flexi-biogas units has been initiated.

Regarding feeder roads investments, the original objective was to bring 190 km of feeder roads in the district to a state that provides all-weather and all-year road access, and that allows regular maintenance works to be carried out on an annual basis. However, due to capacity challenges, the MTR scaled down the expected output to 64 km of roads constructed/rehabilitated. Since the last IFAD mission, 17.8 km has been completed where 7km Rusozi-Kabuye road and 10.8km Main road-Ruzosi Mahama road.

Together with the four roads (12.7km) and 7 small bridges that had been completed by the time of the last mission, total mileage of roads completed is 30.5km. Two other roads, the 7 km Rwabutazi-Curazo road and 13km Kavuzo-Nyarubuye road are under construction, estimated at 80% and 82% completion respectively, and both were completed in July 2014. These roads help citizens of Kirehe District in different activities in transport, market communication and it helps also KWAMP project to reach on its mission of poverty reduction among Kirehe's citizens and around it.

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done above confirmed that there is correlation between the variables representing stakeholder's participation with sustainability of KWAMP project in Kirehe District. It is therefore based to the outcomes of this research which shown on the results for objective one indicating that there are the effects of beneficiary skills on sustainability of community project. Effective stakeholder's participation led to project success, and also the lack of part of beneficiary involvement can lead to project failure to attain its goals. Effective stakeholder's participation attains both interactive and spontaneous mobilization.

Recommendations

The important recommendation of this study, they are be involving the institutional management framework surrounding the donor funded water projects. In donor funded water projects the case of KWAMP Project the management framework should comprise several actors on various institutional levels. The responsibilities, the level of collaboration and the organization structure of the different players showed that three institutional levels such as non-government, community and government levels are required.

The donor organization should facilitate construction tools, information and the required finance; keep costs as low as possible. During the pre-constructive stage, the community should choose a committee that is accountable for the organization of the site and for the long-term use of the water project. During construction and post-

constructive phase numerous trainings should be given. These trainings should cover subjects such as project management, natural resources management and catchment development.

The community committee has duties like, management of the site; bring together the community, and retaining the water project. The other actors should also be dynamically involved such as: the highest institutional level is the Rwandan government.

The different levels of government are not only regulatory institutions, but should also be dynamic in setting up projects in sectors of agriculture, irrigation and health. This is mostly done through visits to communities and provides advices on various subjects. For this motive, ministries could play a major influence in making the donor funded water projects successful and sustainable. The KWAMP should also offer much training to beneficiaries in order to be well integrated in projects activities.

Suggestions for Further Studies

The researcher carried out the study on the relationship between stakeholder's participation and sustainability of projects in Rwanda which is useful topic. Then, the researcher opened the door to further researchers to consider others factors like effect of funds on sustainability of project, and contribution of staff training on project sustainability in Rwanda.

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