

Journal of Entrepreneurship & Project Management

ISSN Online: 2616-8464



Project Financing and Success of Agricultural Development Projects in Rwanda, Case of Business Development Fund

Kirima Richard & Dr. Gachiri Wilson

ISSN: 2616-8464

Project Financing and Success of Agricultural Development Projects in Rwanda, Case of Business Development Fund

Kirima Richard¹ & Dr. Gachiri Wilson²

¹ Master of Project Management, University of Kigali, Rwanda

² Senior Lecturer, University of Kigali, Rwanda

How to cite this article: Kirima R. & Gachiri W. (2024). Project Financing and Success of Agricultural Development Projects in Rwanda, Case of Business Development Fund. *Journal of Entrepreneurship & Project Management*. Vol 8(1) pp. 113-123
<https://doi.org/10.53819/81018102t2327>

Abstract

This research assessed the influence of project financing on success of agricultural development projects in Rwanda, with reference of BDF's agricultural projects. The specific research objectives are including to investigate the influence of financing plan; financing teamworking and internal and external financing on success of agricultural development projects in BDF. Low levels of financial intermediation, relatively high interest rates, wide intermediation spreads and substantial bank profitability persist. The causes include currency and macroeconomic uncertainties, high government demand for loan funds, lack of competition, relatively small bank sizes and contractual problems including weak creditor rights, compromised courts, a deficient insolvency framework and a general disrespect for contracts. The lack of policy meant that the majority of success of agricultural development projects was unplanned, but has been practiced mostly as informal sector operations beyond the government framework, therefore unable to mobilize the financial supports. The agent theory on project financing and project management theory of change were reviewed. The sample size is 150 respondents. The study used descriptive research design and applying questionnaire during collection of data. The findings of R-squared equal to 0.878 means up to 87.8% of long-run appreciation in success of agricultural development projects in BDF is influenced by changes in financing plan; financing teamworking and internal and external financing. The reliability of a test is indicated by the reliability coefficient of Cronbach's Alpha which is 80.7% and the number of items is 150, this represents the higher values indicating that the distributed questionnaires are more reliable, therefore it is indicating perfect reliability. This leads to confirm that there is significant relationship between project financing and success of agricultural development projects.

1. Introduction

1.1. Background to the study

According to Daniel (2015), project financing all over the world including for example in USA, European countries like UK, France, German, Spain, etc, is taken as project finance manager's style of providing direction, implementing plans, and staff motivation. There are many different project financing proposed by various authors that can be exhibited by project finance managers in business management or other fields. The project finance manager's intellectual

<https://doi.org/10.53819/81018102t2327>

capacity helps to conceptualize solutions and acquire knowledge to do the job. Project finance manager's conceptual abilities apply agility, judgment, innovation, interpersonal tact, and domain knowledge. Domain knowledge encompasses tactical and technical knowledge as well as cultural and geopolitical awareness.

The 3.1 billion people live in rural areas, developing countries have large populations engaged in agriculture 41% in total with regional variability, agriculture employs 1.3 billion people globally of which 97% are in developing countries 450 million are smallholder households demand for finance globally exceeds \$400 billion annually just for working capital (Panos, Juan & Ono, 2018).

Project financing is one of the most important activities and decisions that organization faces for project finance managers to manage their activities and services effectively to remain competitive in the market today by improving performance at a considerable level. The Asian States like Japan, China, Indonesia and India, etc; the project financing aided by a range of skills, tools, and techniques used to manage time when accomplishing specific goals of projects. Initially, Project financing referred to just projects aims or work activities, but eventually the term broadened to include personal activities as well. A project financing system is a designed combination of processes, tools, techniques, and methods. Project financing is usually a necessity in any project development as it determines the project completion time and scope. Project financing deals primarily with the oversight and management of materials and services inputs, management of the projects who provide inputs and support of the process of acquiring those inputs (Prahinski, 2017).

Initiated by the African Union, the 2014 Year of Agriculture and Food Security shines a global spotlight on the current role and future potential of agriculture in Africa. It underscores how improved agricultural performance can enhance food security, promote better nutrition, create jobs and strengthen community resilience. And it emphasizes the vital contributions made by small farms, which make up 80 per cent of all farms in sub-Saharan Africa alone (IFAD, 2015).

In Africa, the institutions and group of companies in different countries including Tunisia, Kenya, Nigeria, Maroc, South Africa and Rwanda, can add project financing step to their financing framework; project financing is about a continuous relationship maintained and strengthened over a period longer than a project, program or year. It is often about a relationship that continues until a definite decision brings it to an end. When institutions prepare their annual financing plan, review all the key individuals and groups of stakeholders who institutions believe are likely to remain important to institutions over the longer term regardless of their relevance in the forthcoming year. It is harder for them to publicly criticize institutions when have gone to the effort of maintaining a direct dialogue with them, which is in effect a continuing relationship with them (Weber, 2016).

Financial sector development programs designed to reduce these problems have produced disappointingly limited results in Africa. Low levels of financial intermediation, relatively high interest rates, wide intermediation spreads and substantial bank profitability persist. The causes include currency and macroeconomic uncertainties, high government demand for loan funds, lack of competition, relatively small bank sizes and contractual problems including weak creditor rights, compromised courts, a deficient insolvency framework and a general disrespect for contracts (Honohan and Beck, 2007).

In Rwanda, the project financing for example in BDF's projects includes the creating an environment conducive to success of agricultural development projects; setting of priorities;

<https://doi.org/10.53819/81018102t2327>

carrying out activities around prioritization. The BDF's projects financing in relation to different concepts such as projects management where project financing can be considered to be projects controllers' subset and is more commonly known as project planning and project scheduling for creating sustainable success of agricultural development projects. The success of agricultural development projects has also been identified as one of the core functions identified in project management and attention management that relates to the management of cognitive resources, and in particular the time that humans allocate their mind to conduct some activities. BDF's project financing helps in the planning of identifying, for reaching long run success of agricultural development projects (BDF, 2019).

The Government also consolidated the different funds provisioned for SME financial support that had been spread across various ministries and agencies under BDF. These included the SME Guarantee Fund, the Agricultural Guarantee Fund, the Rural Investment Facility, the Women's Guarantee Fund and the Retrenched Civil Servants Guarantee Fund. BDF has since harmonized the management of these funds and delivered through comprehensive agreements with the financing institutions. As part of the financial infrastructure to promote SMEs, BDF was established with the objective of assisting SMEs to access finance including agriculture projects, particularly those without sufficient collateral to obtain credit from traditional financial institutions at reasonable rates. BDF's role was to promote alternative financing avenues at reasonable costs to help small businesses access credit by providing credit guarantees, Quasi-Equity support to start-up, managing matching grants, SACCO Refinancing, and business development advisory services (BDF, 2019).

In BDF, project financing involves showing workers how to effectively perform their responsibilities and regularly supervising the completion of their tasks. In BDF, project financing is also about setting a positive example for staff to follow by being excited about the work, being motivated to learn new things and helping out as needed in both individual and team activities. Project financing includes strong character of employees' productivity, where project finance managers exhibit honesty, integrity, trustworthiness and ethics. Project finance managers act in line with how they speak and earn the right to be responsible for projects' success in BDF. Strong project financing involves clear skills and knowledge. Project finance managers speak with and listen to staff members, respond to questions and concerns and are empathetic. Project finance managers use project financing skills for moving the BDF forward and achieving new levels of success. True project financing sees where the BDF is headed and plans the steps needed to get there. Productive project financing shows optimism and provides positive energy for staff. Project finance managers are helpful by nature and truly concerned about others' well-being (BDF, 2019).

1.2. Statement of the problem

Financial control is applied in such organizations in order to prevent the mismanagement of resources in business cycle. Poor risk management and financing are some of the problems impact on project success. The primary problem of project financing is to achieve all goals within the given constraints. These information issues are usually described in institutions documentation, created at the beginning of the development process; the primary constraints are scope, time, quality and prepared budget. Stakeholders are no longer solely interested in organizational activities and outputs, but than ever interested in actual institutions results (outcomes and impacts).

Lack of policy meant that the majority of success of agricultural development projects was unplanned, but has been practiced mostly as informal sector operations beyond the government

framework, therefore unable to mobilize the financial supports. The success of agricultural development projects is responsible for organizing all renewable projects operations. The projects are not successful because of lack of sufficiency resources, this problem is large extent to blame for the usually inadequate rules and regulations of project plans. Provided that there is inadequate technical knowledge in the formal performance sector. Most important economic and financial barriers in the context of success of agricultural development projects (BDF, 2019).

The insufficient reliable and relevant project financing reports have caused institutions to collapse; they fall into failure because of their liabilities far outweigh their assets they even fail to repay their stakeholders (Weber, 2016).

1.3. Objectives of the study

The general purpose of the study is to assess the influence of project financing on success of agricultural development projects in Rwanda, with reference of BDF's agricultural projects.

Specific objectives:

- 1) To investigate the influence of financing plan on success of agricultural development projects in BDF.
- 2) To determine the influence of financing teamworking on success of agricultural development projects in BDF.
- 3) To establish the influence of internal and external financing on success of agricultural development projects in BDF.

2. Literature review

2.1. Theoretical framework

The theoretical framework review help establish what theories already exist, the relationships between them, to what degree the existing theories have been investigated, and to develop new hypotheses to be tested. This section reviews theories of agent theory on project financing; project management theory of change and theory of administrative collaboration.

2.1.1. Agent theory on project financing

One among theories related to leadership styles is the agent theory on project financing that is a specific type of methodology for organizational controlling, participation and evaluation that is used in the organizations in governance of financial budgets to promote social change. Agent Theory on project financing defines long-term goals and then organizations' maps control backward to identify necessary preconditions. Agent Theory on project financing explains the process of change by outlining causal linkages in an initiative, i.e., its shorter-term, intermediate, and longer-term of organizations' outcomes. The identified changes are mapped as the "outcomes pathway" showing each outcome in logical leadership relationship to all the others, as well as chronological flow. The links between outcomes are explained by "rationales" or statements of why one outcome is thought to be a prerequisite for another (Egan, 2015).

The innovation of agent theory on project financing lies (1) in making the distinction between desired and actual outcomes and (2) in requiring stakeholders to model their desired outcomes before they decide on forms of intervention to achieve those outcomes. A common error in describing agent theory on project financing is the belief that it is simply a methodology for planning and evaluation (Merchant, 2017). Agent theory on project financing is instead a form

of critical theory that ensures a transparent distribution of power dynamics. Further, the process is necessarily inclusive of many perspectives and participants in achieving solutions. Agent theory on project financing can begin at any stage of an initiative, depending on the intended use. A theory developed at the outset is best at informing the planning of an initiative. Having worked out a change model, practitioners can make more informed decisions about strategy and tactics. As monitoring and evaluation of data become available, stakeholders can periodically refine the agent theory on project financing as the evidence indicates. An agent theory on project financing can be developed by reading leadership documents, talking to stakeholders, and analyzing data in general (Merchant, 2017).

As the origins of agent theory on project financing lie in the field of control in organizations, developments over the years have ensured that agent theory on project financing continues to be an invaluable method to conduct evaluations of many different types of leadership management projects and organizations. Posing theory-based evaluation questions helps to focus evaluation efforts on key concerns. As well, there may be a need to pick the right indicators from among the many available, and one can use “monitoring questions” to select the indicators that will be most helpful (Otley, 2014).

The monitoring questions take the form of “What do we really need to know in order to manage grant-making directed to the achievement of this outcome? It is important to understand success beyond just knowing “what works”. Experience has shown that blindly copying or scaling an intervention hardly ever works. An important task for financial monitoring and evaluation is to gather enough knowledge and understanding so as to be able to predict with some degree of confidence how an initiative and set of activities might work in a different situation, or how it needs to be adjusted to get similar or better results (Egan, 2015).

Just as development agent theory on project financing is a participatory process, a theory of based monitoring and evaluation system can be designed in a participatory way of organizations. For example, grant managers can be involved in choosing the outcomes of greatest interest to them in their decision-making. Similarly, people on the ground can have input into which indicators to use and how to operationalize them, choices of instruments and methods of data collection, and which existing sources of data may be used in tracking indicators (Egan, 2015).

2.1.2. Project management theory of change

The project management theory of change is part of the program theory that emerged in the 1990s as an improvement to the evaluation theory. The project management theory of change is a tool used for developing solutions to complex financial problems. It provides a comprehensive management picture of early and intermediate term changes that are needed to reach a long term set goal (Anderson, 2015).

It therefore provides a model of how organization should work, which can be tested and refined through leadership management. The project management theory of change is also a specific and measurable description of change that forms the basis for financial planning, financial implementation and financial evaluation in institution. Most entities use the project management theory of change although they are usually assumed. The project management theory of changes helps in developing comprehensible frameworks for internal and external leadership. Therefore, it is based on the program theory advanced by Suchman in the 1960’s (Valters, 2018).

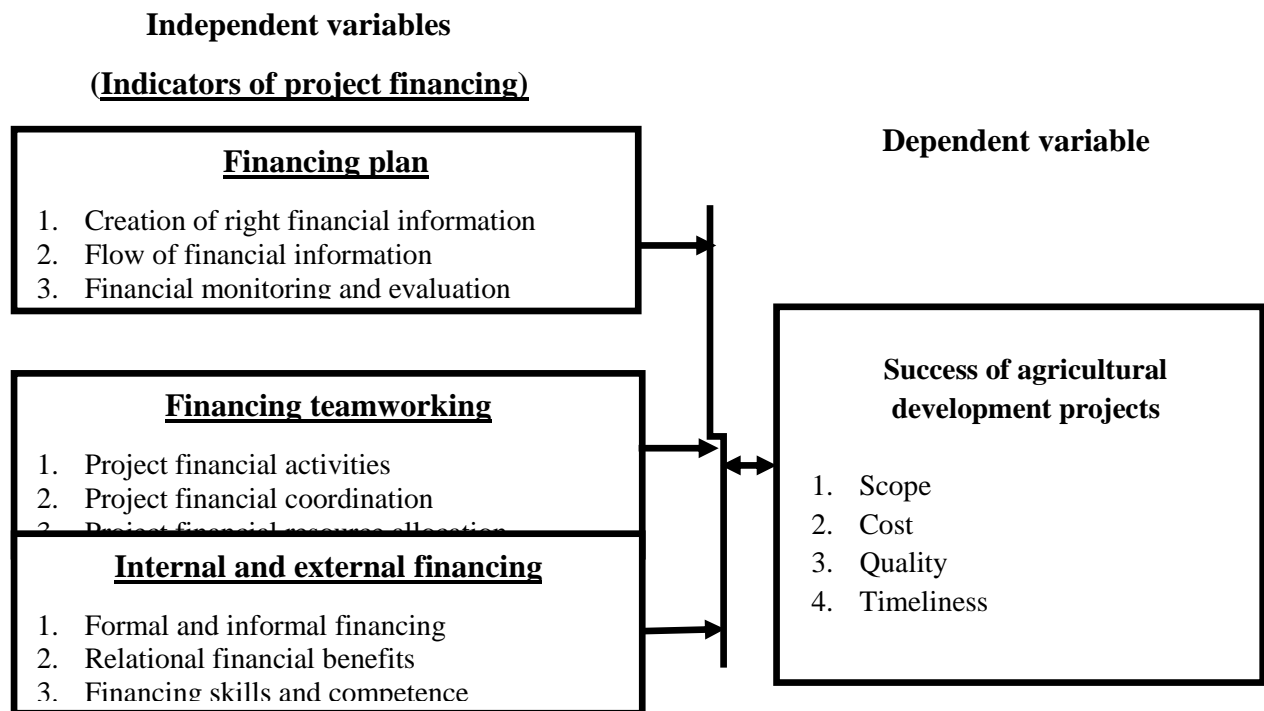
2.1.3. Projects stakeholder theory

Projects stakeholder theory was developed by Freeman (2006) it was created to help organizations to manage their business principles. This was done with the belief that the project was ultimately created for the purpose of the so called projects stakeholders and that they should be consulted in order to help theorize how organizational management and business ethics can address morals and values in managing an organization. It states that the organization in itself is thought of as a group of projects stakeholders and the purpose of the organization should be to manage their interests, needs, and viewpoints. It identifies and models the groups which are projects stakeholders of a project, and both describes and recommends methods by which management can give due regard to the interests of those groups.

This theory is appropriate to this study as it shows the involvement of different persons in project management to try and create a good project performance. The theory helps to point out that a project runs based on the projects stakeholders' investment in the project cause there is no part of the project management phase that will be able to function without projects stakeholders' investment in it (Jergeas et al., 2020).

2.2. Conceptual framework

This section the conceptual framework composed by variables of the study with their indicators, as follows:



Source: Researcher; Documentation, June 2023

3. Research methodology

3.1. Research design

The study employed a descriptive research design through statistical analysis while presenting the results from the field. This research design offered to the researcher a profile of described relevant aspects of the phenomena of interest from an individual, organizational oriented perspective. Therefore, this research design enabled the researcher to gather data from a wide

range of respondents on the influence of project financing on success of agricultural development projects in BDF.

3.2. Study population

Study population is composed by the participants in a research study who are referred to provide information in such domain of asked questions (Daren, 2013). Therefore, the entire population who are supposed to provide the information are around 241 employees of BDF in Rwanda.

3.3. Sample size

Before identifying the respondents to this research, it is necessary to indicate how the sample size is determined. The sample size of the study is calculated by using the formula invented by

Taro Yamen formula, in 1967; the used formula to calculate the sample size, is: $n = \frac{N}{1 + N(e)^2}$

; where n is the sample size, N is the population size, and e is the marginal error of 5% through level of confidence of 95%. Thus, this formula is applied to the above sample.

$$n = \frac{241}{1 + 241 (0.05)^2} = \frac{241}{1.6025} = 150.3 \cong 150$$

Therefore, for the case of this study, the sample size is 150 respondents as employees of BDF, then, current researcher chose the sample size of population to be questioned through simple random sampling technique.

3.4. Data collection tools

The study used quantitative research of data gathered from the respondents. Therefore, questionnaire research technique was used, as follows:

The questionnaires were filled and they provided free and fair responses from the respondents. The questionnaires that were used are closed questions were distributed among 150 respondents as employees of BDF.

3.5. Data analysis

Statistics analysis is a set of mathematical methods which, from the collection and analysis of real data. Therefore, after data collection, researcher analyzed and interpret them by using SPSS. Data analysis was used to determine the relationship between the variables, the indicators that were used to measure are including statistical, analytical, descriptive and synthetical research methods for data analysis offered the opportunity to measure and quantifies the results of research; therefore, these research analyses facilitate in quantifying and numbering the results of the research and presenting information in the tables. Therefore, after data collection, researcher analyzed and interpreted them by using SPSS.

In order to make effective measurement of variables; it is required to present the regression analysis model that researcher used by calculating; analyzing and interpreting the relationship among variables through the collected data, as follows:

The Financing Plan (or FP); the Financing Teamworking (or FT) and the Internal and External Financing (or IEF), are independent variables.

The Success of Agricultural Development Projects (or SADP) as dependent variable

β_0 is constant and β_1 ; β_2 and β_3 are parameters of equation model

ϵ_t is the error term of equation model

These are specifically stated as simple regression model that is evaluated and is represented as follows:

$$SADP = \beta_0 + \beta_1 FP + \beta_2 FT + \beta_3 IEF + \epsilon_t;$$

Then the above equation is constructed from generated model set as well as the following:

$$Y = \beta_0 + \beta_1 X_i + \beta_2 X_{ii} + \beta_3 X_{iii} + \epsilon_t$$

Therefore, the above equation model provided the findings in figures as statistical results which were interpreted by basing on the regression analysis and ANOVA.

4. Research findings

This chapter shows analysis of the findings and linked data that were collected in relation with research questions. In addition, this chapter presents statistical analyses by testing research objectives using statistical regression analysis.

4.1. Regression analysis

The purpose of this section is to find the relationship between project financing and success of agricultural development projects in BDF during the period from 2012 up to 2022, where the statistical (numerical) data allow researcher to highlight the direct relationship between variables, as follows:

4.1.1. Hypotheses testing (presentation of regression summary)

Estimated research hypotheses

H_0 : There is no relationship between project financing and success of agricultural development projects in BDF.

H_1 : There is significant relationship between project financing and success of agricultural development projects in BDF.

Thus, the accepted research hypothesis (H_1) is composed by the following assumptions:

H_{1-1} : Financing plan has significant relationship with the success of agricultural development projects in BDF.

H_{1-2} : Financing teamworking has significant relationship with the success of agricultural development projects in BDF.

H_{1-3} : Internal and external financing have significant relationship with the success of agricultural development projects in BDF.

Table 1: Presentation of regression summary Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.050	.110		-.456	.64901
	Financing plan	.334	.044	.338	7.612	.00101
	Financing teamworking	.352	.046	.336	7.620	.00013
	Internal and external financing	.361	.054	.338	6.682	.00068

a. Dependent Variable: Success of agricultural development projects in BDF

Based on the model coefficient result the model becomes:

$$SADP = -0.05 + 0.334FP + 0.352FT + 0.361IEF + \epsilon;$$

Considering other variables stay constant, the independents variables have following influences on dependent variable, as well as:

The change of one percent of financing plan leads to 33.4% change in success of agricultural development projects in BDF.

The change of one percent of financing teamworking leads to 35.2% change in success of agricultural development projects in BDF.

The change of one percent of Internal and external financing leads to 36.1% change in success of agricultural development projects in BDF.

From the findings, while holding other factors constant, an increase in financing plan; financing teamworking and internal and external financing causes an improvement in success of agricultural development projects in BDF. Therefore, the p-values are less than 0.05 and there is significant determinant of success of agricultural development projects in BDF means the study findings conclude that good success of agricultural development projects in BDF score is directly related to effective independent variables.

Table 2: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.937 ^a	.878	.876	.2829780002

Predictors: (Constant), Financing plan; financing teamworking and internal and external financing.

R-squared (R^2) equals to 0.878 (or 87.8%) and adjusted R-squared equals to 0.876 (or 87.6%); the results show the goodness of fit of the estimated model. Up to 87.8% of long-run appreciation in success of agricultural development projects in BDF is influenced by changes in financing plan; financing teamworking and internal and external financing as implemented by BDF. The other remaining 12.2% can be explained by other factors not examined in this study.

Table 3: ANOVA table results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	110.192	3	36.731	458.693	.000 ^b
	Residual	15.375	147	.080		
	Total	125.567	150			

a. Dependent Variable: Success of agricultural development projects in BDF

b. Predictors: (Constant), Predictors: (Constant), financing plan; financing teamworking and internal and external financing.

The results of ANOVA as p-value is less than 5%, this specifies that the success of agricultural development projects in BDF was significantly driven by at least one or all independent variables under this study. Therefore, the statistical analyses show that the ANOVA table presents the sum of squares of the residual error is attributed to the presented error. The sum of squares of 125.567 and the degrees of freedom compare the ratios and determine the significant difference due to detergent among variables.

5. Conclusion

Considering other variables stay constant, the independent variables have following influences on dependent variable, through this model as $SADP = -0.05 + 0.334FP + 0.352FT + 0.361IEF + \epsilon$; means that the change of one percent of financing plan leads to 33.4% change in success of agricultural development projects in BDF. The change of one percent of financing teamworking leads to 35.2% change in success of agricultural development projects in BDF. The change of one percent of Internal and external financing leads to 36.1% change in success of agricultural development projects in BDF.

From the findings, while holding other factors constant, an increase in financing plan; financing teamworking and internal and external financing causes an improvement in success of agricultural development projects in BDF. Therefore, the p-values are less than 0.05 and there is significant determinant of success of agricultural development projects in BDF means the study findings conclude that good success of agricultural development projects in BDF score is directly related to effective independent variables. R-squared (R^2) equals to 0.878 (or 87.8%) and adjusted R-squared equals to 0.876 (or 87.6%); the results show the goodness of fit of the estimated model. Up to 87.8% of long-run appreciation in success of agricultural development projects in BDF is influenced by changes in financing plan; financing teamworking and internal and external financing as implemented by BDF. The other remaining 12.2% can be explained by other factors not examined in this study.

The results of ANOVA as p-value is less than 5%, this specifies that the success of agricultural development projects in BDF was significantly driven by at least one or all independent variables under this study. The reliability of a test is indicated by the reliability coefficient of Cronbach's Alpha which is 80.7% and the number of items is 150, this represents the higher values indicating that the distributed questionnaires are more reliable, therefore it is indicating perfect reliability.

6. Recommendations

In order to implement a durable project financing that lead to success of agricultural development projects in BDF, the researcher suggests employees of BDF to work with the professional finance offers constantly in order to make their project duties achievable and to provide the project outputs; therefore, the study recommends that the boards and finance officers of BDF should be responsible for managing and preserving the charitable assets that benefit all stakeholders.

The study recommends the following guidelines to assist board members and others in carrying out their oversight of BDF projects. Whatever the mission or size, BDF should have policies and procedures established so that; boards and officers understand their fiduciary responsibilities, projects are managed properly and the charitable purposes of the organization are carried out. A failure to meet these obligations is a breach of fiduciary duty and can result in project and other liability for the board of directors and the officers.

Effective financing teamworking should be encouraged to protect an organization's projects and assist in their proper management. The study also recommends that it is the primary responsibility of directors and finance officers to ensure that the BDF is accountable for their programs and finances to the contributors, members, and the public and government regulators.

References

- Anderson, (2015). *Financing towards projects development*. American Management Association, Philadelphia.
- BDF, (2019). *How to plan a baseline of project financing in developing countries*. Journal of Project financing guidelines. Kigali-Rwanda.
- Daren, S., (2013). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks, California: Sage Publications.
- Egan, C., (2015). *Efficient Diversification of Projects*. Journal of investment. New Haven: Yale University Press. Journal of public projects.
- Fraser, D., (2016). *Critical-Path for project Planning and Scheduling*. *Proceedings of the Eastern Joint Conference*: New Jersey.
- Freeman (2006). *Project management theory: deriving a project's cost and schedule for its network structure*. Paper presented at Project Management Institute Research and Development.
- Jeffrey, N., (2016). *The project planning-question and answer book*. American Management Association, Philadelphia.
- Merchant, T., (2017). *Introduction to Management Accounting and Measuring progress of project indicators of companies*. Journal of project management. New Jersey, Pearson.
- Otley, G., (2014). *The implementation based on project financing and M&E in investment*. Journal of identifying likely adopters via project financing and M&E process networks.
- Prahinski, T., (2017). *How to plan a baseline study of project and project success guidelines*. New Delhi-India.
- Reed, J., (2018). *Measuring progress towards a more project financing Europe, project financing indicators*. Luxembourg.
- Richard, K., (2014). *The contribution of the developmental assets framework to positive project development theory and practice*. *Advances in Child Development*.
- Shivani, N., (2017). *Project Development Program Framework*. Davis, CA: University of California Agriculture and Natural Resources.
- Twigg, J., (2019). *Project Performance and International institutions, project planning Reports*. Is the Firm's "John Hancock" Enough, Forbes Town.
- Ueng, S., (2016). *Dimensions of project financing, International development, department partnership study program*. The University of Birmingham City.
- Valters, L., (2018). *Introduction to Management Accounting and Measuring progress of project indicators of companies*. Journal of accounting. New Jersey, Pearson.
- Weber, F., (2016). *Best Practices in project success and their management: Strategies for Optimizing Business Relationships*. Aberdeen Group.