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Effect of Public Private Partnership on Financial Sustainability of Nzoia Water Services Projects in Kenya

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ABSTRACT

The study sought to determine the effect of Public Private Partnership on Financial Sustainability of Nzoia Water Services Projects in Kenya. The general objective of the study was to assess the effect of Public Private Partnership on Financial Sustainability of Nzoia Water Services Projects in Kenya. Specific objectives included to determine the effect of Leasing finance on Financial Sustainability of Nzoia Water Services Projects in Kenya and to determine the effect of Concessions finance on Financial Sustainability of Nzoia Water Services Projects in Kenya. The study employed descriptive survey research design, through the administration of semi- structured questionnaires. The target population was one finance respondent in Nzoia Water Services Company (Finance Manager, Senior Accountant, Finance Officer, Accounts Clerk and Internal Audit Manager) from each water treatment works namely Nabuyole, Matisi, Kapkateny, Chesikaki, Terem and Nzoia. The total target population for the study was 30 Finance respondents. The instrument was piloted to water projects implemented in Trans Nzoia County for the period 2016- 2021. Data collected was coded, keyed in the computer and analyzed with the aid of the Statistical Package for Social Science (SPSS version 26) computer software for Windows. Leasing Finance had a positive correlation of 0.724 The *p* value (0.000) <0.01 indicating an increase in PPP if maintained while Concessions Finance had a positive correlation of 0.527 with p value (0.000) < 0.0. The findings showed that leasing was statistically and positively significant in determining financial sustainability of Nzoia Water Service Projects in Kenya while Concession was negatively significant. The results depicted that there was no multicollinearity because the VIF values were less than 10. The researcher recommended that management of water bodies in Kenya need to adhere to policies concerning water project enactments to increase water supply in regions. The financial aspect should keenly be audited to avoid the problems of water projects failure. Further, the study recommends that the Nzoia water project boards should ensure the implementation of the PPP reforms that will help in enhancing concessions and greater cooperative arrangements among water projects in Kenya. Finally, area for further research can be conducted using the adoption of PPP in other geographical areas especially in the Northern part of Kenya

Keywords: [*Financial Sustainability, Public Private Partnership, Leasing Finance, Concession Finance*]

INTRODUCTION

Background of the Study

Increased urbanization has led to the use of public private partnerships (PPP) in the provision of quality water services (Liang & Wang, 2019). The notion of PPP initially was generated in the UK by John Major's 1992 Conservative government, in what then was termed a private finance initiative, when UK government contracted with the private sector to finance, operate and build the public services and infrastructure for long-term projects of almost 30 years. It was about partnering with the private sector to bring about the delivery of efficient, cost-effective and measurable public services within modern facilities and minimizing the financial risk to enhance financial sustainability. Soon after its inception, PPP has become the desired mechanism for governments in many countries for providing more effective and efficient public services in different fields such as transport, construction, housing, water, education and health. Following the UK example, PPP initiatives have been undertaken in many other countries such as Australia, Canada, USA, Germany, France and many other parts of the world including Kenya (Alteneiji *et al.*, 2019). PPPs are often used as a mechanism to finance "mega-projects" so, as the value of the project rises, so does the incentive to gain a competitive advantage using corruption (United Nations General Assembly, 2019).

The water sector remains highly dependent on infra- structure projects to not only improve long-term water security, but also provide positive effects on economic growth and development. Despite the urgent needs across the sector, there is a persistent gap in water infrastructure financing. The African continent alone is currently experiencing a water infrastructure financing gap of an estimated 67.6–107.5 billion USD according to the African Development Bank (2018), leading to a loss of economic, social and environmental benefits from further reductions of the water risks (OECD, 2017). In order to achieve the Sustainable Development Goals (SDGs), it is clear that not only a higher level of investment is needed but also better protection of current investments, so resources are not lost.

Globally, PPPs have emerged as the main contractual vehicle to facilitate private participation in economic development. In developed nations such as the Canada, Australia, Japan and the United Kingdom, there are dedicated and specialized PPP units that act as a policy tool to facilitate projects and attract capital for development. Canada has managed to have one of the best models having a total of 291 active projects worth USD 134.5 bn. This has been supported by the fact that Canada established a national not-for-profit non-partisan, member-based organization in 1993 with broad representation from across the public and private sectors named Canadian Council for Public-Private Partnerships (CCPPP). The agency's aim has been to facilitate the adoption of international best practices, and educates stakeholders and the community on the economic and social benefits of public-private partnerships and encourage PPPs.

The Canadian model of Public-Private Partnerships is considered one of the most successful in the world. The Canadian Council for Public-Private Partnerships (CCPPP) defines their PPPs as relating to the provision of public services or public infrastructure and necessitating the transfer of risk from the public to the private sector. There has been a clear recognition of the benefits of PPPs by the Government of Canada in recent years, and the model has been adopted for long-term infrastructure plans which have been introduced by successive governments in the country. However, it is governments at the provincial level that have assumed the leadership role in driving forward the Canadian PPP market. Some examples of PPP agreements in Canada include Operation & Maintenance Contract (O&M) where private operator, under contract, operates a publicly-owned asset (e.g. water/wastewater treatment plant) for a specified term. Ownership of the asset remains with the public entity, Build-Finance involve the private sector constructs an asset and finances the capital cost only during the construction period and gets returns depending on agreement with the government, Design-Build-Finance-

Maintain (DBFM) states the private sector designs, builds and finances an asset and provides hard facility management or maintenance services under a long-term agreement, Design-Build-Finance-Maintain-Operate (DBFMO) comprise the private sector designs, builds, finances and provides hard facility management or maintenance services under a long-term agreement. Operation of the asset is also included in projects such as bridges, roads and water treatment plants, and further Concession is a private sector concessionaire undertakes investments and operates the facility for a fixed period of time after which the ownership reverts back to the public sector. Canada so far boasts of a total of 291 active projects worth USD 134.5 bn in sectors such as Health, Transport, Water, Accommodation, Energy, among others with 68 on the pipeline.

The Gulf Cooperation Council (GCC) countries have increasingly used the concept of PPP particularly in Kuwait, the United Arab Emirates (UAE) and Qatar this is because of diminishing oil revenues which have put increased pressures on the budgets of governments since 2015 (Alteneiji et al., 2019). As a result of increased financial strain, Kuwait, UAE, and Qatar have declared their intentions to invest in PPP to attract investment in the infrastructure sector, including in housing sector projects (Deloitte, 2016; Almarri, 2019). However, to get the desired value from PPP water projects, close attention must be paid to the stakeholders of each project and their neo-institutionalism rules (Cui et al., 2018).

Globally water is considered a basic human right, a key input in the industrial and commercial sectors as well as a major contributor to economic development (Tsitsifli et al., 2017). It is also considered a source of life for all living things, it is a medium of transport, a key input in agricultural production, a solvent and a temperature regulator (Aung, Jiang, & He, 2018; Martínezfernández, Neto, Hernández-Mora, Del Mora, & La Roca, 2020). This recognition contributed towards the push for efficiency, public participation, accountability and financial stewardship in the provision of water (Langford, 2005; Means, Ospina, & Patrick, 2005). In the process, water was eventually important under the UN Millennium Development Goals (MDGs) with the objective of reducing by half the population without access to water and basic sanitation (Hering et al., 2015; Lester & Rhiney, 2018). The focus was turned towards increased investment in the sector aimed at improving access to water across the globe (UNICEF & World Health Organization, 2015).

Under the Sustainable Development Goals (SDGs), economies, sought to track the broader aspects of water service provision including access, quality, efficiency, integrated management, transboundary cooperation and public participation (Ait-Kadi, 2016). The SDGs also put more emphasis on financial sustainability in the provision of the various aspects of water (Satterthwaite, 2016). The need for sustainability, emanated from the fact that, some countries reported regressive access rates as of the end term. Review of MDGs (Satterthwaite, 2016). As a result, within the SDG, the economies under SDG 6, committed towards addressing accessibility and sustainability of water management for all by the year 2030 as provided for under the sustainable development goal number six (Satterthwaite, 2016; Alaerts, 2019). Despite the commitment to increase global access to water and sanitation, the access rates in Kenya have remained very low, 59% and 17% and with annual growth rates of 0.9% and 0.2% for water and sewerage respectively (WASREB, 2020).

PPPs in Sub-Saharan Region are still in a developmental phase although there are indications that their uses are increasing. South Africa PPP sector leads in Africa, as the country has a strong legislative framework implemented by its National Treasury, which manages risk and helps to stabilize returns for private investors having been in existence since mid-2000. As at 2021, 34 PPP projects valued at USD 5.6 bn had been completed in sectors including health, transport, tourism, water and sanitation, and office accommodation. Other countries that have embraced PPPs include; Uganda with 28 projects worth USD 1.9 bn reaching final closure as of 2018; Rwanda with 10 PPP projects worth USD 694 mn in the same period and Kenya with 23 projects worth USD 2.9 bn reaching final closure as of 2018. We will now look into PPPs in Kenya which has a pipeline of over 70 projects at different stages of approval and in different economic sectors.

In Rwanda PPPs have been popular (Nuwagaba, 2013). These PPPs are in the water, transport, energy and health care services industries. The view in this country is that PPPs can function well in the limits of politics and where openness prevails when negotiating contracts. It is further argued that while PPPs can improve service delivery, rationalising PPP models for service delivery is important. The study found that Build Own Operate and Transfer (BOOT) was one of the most preferred PPP models, which is believed to provide the best option regarding the adoption of PPPs in public service provision. Prevost (2010) argues that PPPs have been common in the water sector at local government level. In the water sector, local government entities, for instance in the Northern Province (Byumba), have engaged PPPs where the contracting authorities have contracted out the operation and maintenance of their water supply schemes to local private operators. The PPP model in the water sector is considered as a source of revenue for local government administration. It is also argued that PPPs in Rwanda enable government to tap into financial resources and technical expertise in the private sector. Despite passing a PPP Act in 2016, limits of capacity and adequate information about opportunities for PPP investment in Rwanda exist (World Bank, 2017). However, the government of Rwanda should have a possibility to review the contract with the private sector where the consumers are not benefiting according to their expectations.

PPPs in Kenya were established under PPP Policy Statement 2011, and later revised in Act 15 of 2013 titled ‘Public Private Partnership Act’, which stipulates that the government retains total strategic control on the service, the government is mandated to secure new infrastructure which will become the government’s assets at the end of the contract period and allocation of project and performance risks is to the party best able to manage or mitigate. Kenya has one of the more mature PPP markets in Africa with a comprehensive legislative framework where recently in December 2021, the Public Private Partnerships (PPP) Bill 2021 was signed into law. The purpose of the Act was to address the shortcomings of the PPP Act 2013 by including a framework for streamlined project processes with clear timelines, expanded procurement options and robust processes for Privately Initiated Investment Proposals (PIIP). Other regulatory changes to support PPPs development in Kenya include the addition of debt instruments for financing of infrastructure or approved affordable housing projects under the PPPs Act’ as an allowable investment class under the Retirement Benefits Regulations. In effect, Pension schemes can invest up to 10.0% of their assets in PPPs. Moreover, in support of the above, the government in the FY’2022/23 Budget Statement mentioned that It has elevated the PPP Unit to a Directorate in the National Treasury, It is putting in place a joint Public Investment Management and Public-Private Partnership planning framework and strengthening the coordination between Public Debt Management Office and the Public Private Partnership Directorate for effective control of fiscal exposure, as envisioned in the new PPP Act 2021 and It is planning to fully operationalize the Public-Private Partnership Project Facilitation Fund to support activities of the PPP Directorate and those of the contracting authorities in the preparation phase of projects during the tendering processes and project appraisal.

Financial sustainability in water service provision is not only important in ensuring universal access to water, but also a major consideration by development partners interested in financing the sector (Schwartz, Tutusaus, & Savelli, 2017). Inability to realize sustainability could be attributed to high levels of inefficiency, sub-optimal water pricing, overreliance on subsidies, failure to implement current technology in the management of water and low water coverage. For instance, according to the EWFD (2000), financial sustainability is influenced by pricing, efficiency, investment financing, asset management, subsidies, implementation of the right policies and public participation. This notwithstanding, however, there is limited current, empirical and domesticated research linking infrastructure financing to financial sustainability of WSPs. For instance, although governments have increased infrastructure financing to the water sector, it is worrying that the infrastructure financing gap continues to grow (Wu, 2011; Uninstall & Messner, 2015).

Statement of the Problem

The main problem in Public Private Partnership (PPP) involves the lack of financial sustainability. A study by the World Bank examined the sustainability levels for water and waste water utilities across Sub-Saharan Africa and showed a declining trend (Marson & Savin, 2015). In Kenya, various challenges have been identified to deteriorate the financial sustainability of water projects including overreliance on public financing for operation and maintenance, highly leveraged projects, cooperate disarrangements, lack of a clear leasing periods and concessions, financial operation costs and management – just but to mention a few. Since inception of financing water projects, Kenya, has been on the initiative to support the community with various water supply projects, despite the development, most projects have collapsed or delayed majorly due to funding for Example the Kiptogot water project which was supposed to provide service in January 2021 has not been completed upto date raising a lot of alarm. The above-mentioned hypothesis necessitates a thorough investigation, thus the objective of this research.

Long term concessions for example can lead to significant problem to the public hence project failure because forecasting urban growth and traffic demand is unpredictable while on the other side investors need to be assured on the potential earnings (Ryan & Eunil,2011). To ascertain viable financial sustainability, project officials need to be well informed about the decisions regarding cooperation otherwise project will collapse that is more insight on appropriate allocation of sufficient resources for the project (Bhatia, 2017), government guarantees, contractual guarantees and preparation of a financial, fiscal framework to include tax reduction (Mohammad, 2021). Joint venture offers risk reduction, access to market and source of finance in implementation of a project thus need to be well understood to avoid project failure. Further to portray consistency in terms of lease fees, operating and maintained fee there should be a mutual agreement between the parties otherwise project can collapse for example the Naari/Nturukume water project in Buuri sub-county, Meru County which failed due to lack of funds for buying water pipes (Kenya News Agency, 2022).

Most studies have discussed on PPP as a general principle towards various infrastructure development with limited knowledge on PPP for water projects. For instance, Anna and Dariusz (2016) in Poland provided insight into the principles of PPP financing using discounted subsides, internal rate of return and analysing risk variants. The scholars found that public private is important although they do not correlate and partnership is just a mode of cooperation hence more research need to be conducted. Further, Julius and Okech (2020) studied the influence of public private partnership on financial sustainability of water service providers (WSP's) in Kenya and concluded that PPP has a positive and statistically significant influence on financial sustainability of WSPs in Kenya. The researchers recommended that all funding proposals should apprehend an end-to-end financing so as to surge the last mile connectivity. Whereas investments in the water sector have been predicted, the issues of how sustainable in the realization of financial gap remain indiscernible. There is therefore the need to undertake a study aiming at establishing the effect of Public Private Partnership on Financial Sustainability of Nzoia Water Services Projects in Kenya.

Research Objectives
General Objective
The general objective of the study was to assess the effect of Public Private Partnership on Financial Sustainability of Nzoia Water Services Projects in Kenya.

Specific Objective
The study was guided by the following specific objectives:

1. To determine the effect of Leasing Finance on Financial Sustainability of Nzoia Water Services Projects in Kenya.
2. To determine the effect of Concession Finance on Financial Sustainability of Nzoia Water Services Projects in Kenya.

Research Questions
The study was guided by the following questions:

1. How does Leasing Finance Influence Financial Sustainability of Nzoia Water Services Projects in Kenya?
2. How does Concession Finance Influence Financial Sustainability of Nzoia Water Services Projects in Kenya?

LITERATURE REVIEW

Theoretical Review
Various theories have been studied by diverse authors while addressing PPP on Financial Sustainability. Authors used different variables in regard to Financial Sustainability in various Countries. In the current study the following theories will be adopted.

Public Value Theory
Barry Bozeman (2011) formulated this pragmatic theory of public value theory. Public value is value realised at the macro, but not at a micro level of public service consumption (Alford & Hughes, 2008). Spano (2009) points out that value is created as long as the advantages of an intervention surpass its costs. At a society level, public values provide 'normative consensus about the rights, benefits and prerogatives to which citizens should (and should not) be entitled, the obligations of citizens to society, state, and one another and the principles on which governments and policies should be based' (Bozeman, 2007). Therefore, Public value is a rigorous way of resolving democratic deficits, judging the viability of projects, decision making, and defining, measuring and improving performance (Rutgers, 2015, Sufna & Fernand, 2015). Resultantly, PV delivers both democratic values (equity, honesty and fairness) and the managerial values (efficiency and effectiveness) in the performance of tasks (Bonina & Cordella, 2009). Based on the above deductions, PV practices maximise citizen welfare by remedying market failures of negative externalities, natural monopolies and imperfect information, and increases trust for and legitimacy of the government (Alford & Hughes, 2008 & Talbot, 2008). Such translate into generation of economic activities and employment, improved social networking for prosperity, transparent discussions and citizen involvement morality regeneration and reduced environmental degradation (Benington, 2007). Notwithstanding the aforementioned benefits, PV is criticised for focusing on achieving and measuring medium to long-term targets, yet governments that are dictated by the voting processes emphasize short term targets. However, this can be contained if the public servants concentrated on program politics than

partisan politics (Benington, 2007:17), because the real political environment can limit their autonomy in service delivery (Alford & Hughes, 2008).

Like the New public service theory, public value theory promotes accountability of public organizations not only to their political masters but to the citizens as well. It moves beyond political democracy that limits itself to the ballot box, to a level where bureaucrats have the capacity to satisfy citizens' preferences through administrative systems that are more sensitive to local conditions (Blaug, Horner & Lekhi, 2006). For PPPs to positively influence service delivery, public institutions need to shape and inform public interests based on purposeful interactions, logical and transformative choices, rather than succumb to the unrealistic dictates of the general public (Blaug et al., 2006). This is possible, only if public managers have the capacity and use innovative means to influence institutions, politicians and citizens to positively respond to the refined public preferences. Basing on Coats (2006) suggestions, public managers can ensure PPPs deliver value to the public through increased, improved, responsive, transparent and innovative citizen oriented approaches.

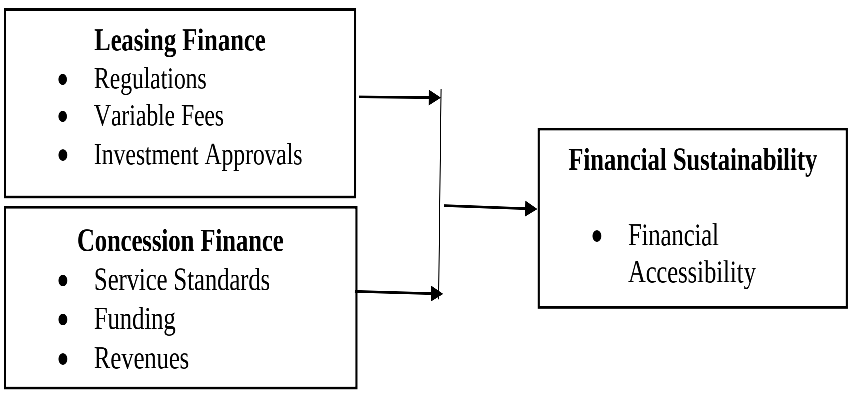
One of the important tools for advancing public value paradigm in a real PPP environment is the "Public Value Scorecard" developed by Meynhardt (2012). It is an effective management tool for assessing the viability of proposed PPP projects and evaluating the appropriateness of project implementation decisions using the chance and risk approach. The tool assesses and evaluates the various PPP operational structures and system environments while making a tradeoff among five dimensions of profitability, usefulness, decency, positive experience, and political realism/acceptance. As such the Public Value Scorecard ensures that PPP policies and performance targets are legitimate, feasible, sustainable, ethical, and adequate to citizens and the private actors. In summary, PV approach provides tools to demonstrate why public money should be or how it was spent on PPPs advances actions that are based on informed solutions, challenges an only technocratic led performance approach; appreciates the input of service users and citizen, sensitizes the citizens about the challenges faced by both politicians and public managers, and the limits of what can possibly be offered and ensures effective management hence adopted for this study.

New Public Governance Theory (NPG)

NPG is a mode of practice that is more adapted to the most recent style of managing public operations (Xu et al., 2015). It agitates for sustainability of public policy, public services, public service organisations, societal and environmental concerns (Osborne, 2010) by creating transparent activities, processes and open structures that are more socially responsive (Patapas & Smalskys, 2014). It views management of public affairs from several governance strands, which include among others, policy, administration, social, economic, political, contractual, decentre, corporate, meta and networking (Osborne, 2010; Rhodes, 1996; Rhodes, 2016). The theory is centred on the effective management of intra and inter-organisational environmental pressures that can permit or curtail policy execution to deliver public services with in a plural and pluralist structure (Osborne, 2010). In fact, with in a well-functioning public sector system, society needs are satisfied through consensus building among the various actors, yet more often with differing interests and values (Koenig-Archibugi, 2003). This argument is supported by Kooiman (1993, p.4) in the assertion that, no actor would have all the resources, capacity and enough influence to singlehandedly solve society problems. New public governance practices appreciate the transformation of public service delivery through a multiple of processes and actors based on both formal and informal interactions (Kennett, 2010). This enables the development of more networked and citizen focused service delivery approaches that promote self- sustaining initiatives, close shareholder collaborations and continuous improvement practices for the wellbeing and satisfaction of the community (Benington, 2007). NPG practices focus on how guidelines and standards are increasingly co-formulated and co-regulated by government, citizens and non-government players through autonomy and authority sharing to deliver public services. NPG encourages the provision of public service through PPPs based on joint collaboration and governance led networks to enable actual interaction, horizontal power relations, close organisational relations, trust, reputation, reciprocity, mutual interdependence and joint decision-making (Stelling, 2014; Mauri & Muccio, 2012). Accordingly, PPPs have become an ongoing reconfiguration of authority in the world of politics (Stelling, 2014). This assertion is justified by the current governance and management systems that promote coexistence of institutional, contractual and informal network structures in which citizens, government, private sector and civil society organizations are given an opportunity to collectively direct and participate in the provision of public services. This prompts PPP operations to be coordinated with in well-networked organizational structures, managerial and institutional strategies that are directed towards the achievement of universally determined service delivery outcomes. In fact, the co-production and co-regulation initiatives advanced by the new public governance approach enable public service stakeholders to exchange information among themselves to have better PPP inventions of solving intricate society problems (Klijn, 2010). In conclusion, as Villanueva (2015) states, the new pubic governance practices are now being institutionalised by passing of PPP ACTS; and such legislations recognise the insufficiency and lack of self-sufficiency of government, and acknowledges the relevance of adding on private and social resources to existing public ones in order to strengthen the society and government's capacities to tackle critical problems and promote relevant projects.

Conceptual Framework

Mugenda and Mugenda (2003) term a conceptual framework as a model identifying the concepts under study and their relationships. The dependent variable was Financial Sustainability and the independent variables include Leasing Finance and Concession Finance. The relationship between the variables of concern is shown in the figure below;



Review of Variables

Leasing Finance

Leasing is one of the important sources of medium-and long-term financing where the owner of an asset gives another person, the right to use that asset against periodical payments. The owner of the asset is known as lessor and the user is called lessee which also apply to contractual infrastructure (Ikhtiar, 2021). Under an affermage or a lease contract, the private partner is responsible for the service in its entirety and undertakes obligations relating to quality and service standards. Except for new and replacement investments, which remain the responsibility of the public authority, the operator provides the service at his expense and risk. The duration of the leasing contract is typically for 10 years and may be renewed for up to 20 years". Under a lease contract the financial risk for operation and maintenance is borne entirely by the private sector operator. The private sector retains revenue collected from customers and makes a specified lease payment to the contracting authority". An affermage allows the private sector to collect revenue from the customers (typically an agreed rate per unit sold), pays the contracting authority an affermage fee, and retains the remaining revenue. (ADB, 2016).

Asuquo and Anyadike (2018) examined the effect of lease financing on corporate performance of Deposit Money Banks in Nigeria. The study employed the Ex-post facto research design. Four research objectives and hypotheses were respectively formulated for the study. And these were accordingly tested at 5 percent significance level and 9 degree of freedom. The data for this study were collected from the annual reports of the various Deposit Money Banks through on-line and manual retrieval methods. The data were analysed using Ordinary Least Square multiple regression technique. The findings from this study revealed that there is positive and significant relationship between finance lease and corporate performance respectively. Based on these, it was concluded that lease financing is one of the major sources of financing any asset as this option of financing ensures improved corporate performance. However, the study recommended that Equipment Lease Association of Nigeria should carry out more sensitization on the importance of lease financing to encourage those banks seeking for funds to use either finance lease or operating lease taking into consideration the benefits of the two methods in terms of improved corporate performance. Also, in the study of Alazzam (2015) finding showed that the presence of motives for contracting firms in Irbid city to adopt lease financing is very clear because financial leasing gives tax savings which also contribute adequately to Profitability ratios. The study was aimed at evaluating the impact of the presence of the motives of the contracting firms in Irbid city to rely on finance lease and to note the most vital hindrances which prevent its viability.

Moreover, Justine (2016) studied the noteworthy effects of lease funding on the monetary act of corporations registered at NSE. The research assumed descriptive study plan in defining the noteworthy effects of lease financing on performance in financial perspective. The study population consisted all the 65 registered companies at NSE. All firms listed at NSE had not reported use of lease, but only 33 firms which had reported use of lease financing and their secondary data for the period between the year 2011 – 2015 was obtained from annual financial reports of the firms. The gathered secondary statistics from the annual reports and financial statements was evaluated using Statistical Package for Social Science version 20. A reversion examination was carried out on the data set to regulate the significant effect of lease business on the ROA (measure of financial performance) for firms listed at NSE. The results from regression analysis showed, lease financing and liquidity having positive effects on ROA whereas size and leverage had negative effects on ROA.

However, Kibuu (2015) conducted a research on the effects of lease financing on the monetary performance of corporations registered at NSE. Data for only 33 firms which was available and complete for the period under study was used. Secondary data from annual financial reports and financial statements was poised for the organizations for the period 2010 – 2014. ROA was taken as the dependent variable while lease finance, size of the firm and liquidity was taken as the independent variable. The study concluded that lease 23 financing had positive, but insignificant effects on ROA which was used as the measure of the financial performance.

Sindani, Namusonge and Nambuswa (2016) analysed the effect of finance lease on the financial performance of Trans Nzoia County Government. The study was based on the Agency theory, the theory of Information Asymmetry, and the theory of Managerial Risk Aversion. The study adopted a descriptive survey research design where the population of the study was 10 departments of the County government of Trans Nzoia and entailed a sample of 10 county officials who were selected using purposive sampling method. The research instrument used was a 5 point Likert scale questionnaire and interview schedule was used as tool of collecting data. The measures of financial performance were taken as the dependent variables while amount of Finance lease, taken as the independent variables. The primary data was analysed using Statistical Package for Social Science (SPSS) version 22. A regression analysis was conducted on the data set to determine the effect of leasing on the ROA for county government of Trans Nzoia. From the regression results, finance lease, had positive effects on ROA. Financial performance of the county government of Trans Nzoia is affected by the level of lease financing. The study recommended that county governments should be careful with the use of leasing as a method of financing their operations as evidence suggests that value is added through the use of leasing since there is a positive correlation between leasing and financial performance.

Concession Finance

A concession makes the private sector operator (concessionaire) responsible for the full delivery of services in a specified area, including operation, maintenance, collection, management, and construction and rehabilitation of the system. The operator is responsible for all capital investment. The public sector is responsible for establishing performance standards and ensuring that the concessionaire meets them. A concession contract is typically valid for 25–30 years". "The concessionaire collects the tariff directly from the system users" (ADB, 2016).

Jayasuriya, Guomin, Sujeeva and Indu Patnaikun (2014) stated that countries around the world are in search of new means to engage the private sector in managing and financing infrastructure through Public Private Partnerships (PPPs). However, most of the past PPP projects have faced issues during the concession and those issues usually become evident during the operational phase. When considering Australian context most of the PPP projects have failed due to inaccurate projections of revenue growth, patronage increase and consumer behaviour. This issue directly related to the designing of a suitable concession period at the initial stages of the project.

Moreover, dealing with uncertainty during the concession is another major issue in PPPs. Due to this uncertainty frequent renegotiation is a major shortfall of PPPs. Although many authors around the world have developed models to design the concession period and renegotiation, there appears to be a lack in summarizing what they have done already. This study will help to compare and contrast the findings of the studies so as to provide insights for directing further PPP research and improving the existing practices of PPP projects in Australia.

Financial Sustainability

Migliorelli (2021) defines financial sustainability activities that contribute to the achievement of at least one of the relevant sustainability dimensions. According to Gecim (2020), good financial sustainability contributes positively to the country's well-being. It is essential that the management and control committees of the institution are completely transparent, responsible, reliable and fair, and that the institution is able to provide financial sustainability. The financial sector's growth, according to Memmedov and Ahmedov (2021), involves both financial expansion and financial deepening.

Nurkhodzha and Leyla (2021) analysed the financial sustainability in Azerbaijan for the period 2006-2020. Firstly, unit root test was applied to the data used in the study and the results showed that the data were not stable at the levels. All variables were found to be static at first differences. The long-term co-integration relationship was investigated using the Johansen (1988) test. Finally, Engle-Granger cointegration test were used to test financial sustainability. This study for the first time in the financial sustainability literature includes an innovative view. For the purpose of revealing the effects of public revenues and public expenditures separately, the analysis was performed by separating these items. The results showed that the financial sustainability in Azerbaijan was very sustainable.

RESEARCH METHODOLOGY

Research Design

This study used descriptive survey research design, through the administration of semi-structured questionnaire. Descriptive study deals with existing phenomenon or population and includes collecting data to test hypotheses or answer questions about the current status of the subject of the study (Ngechu, 2004). The choice was suitable in this study because descriptive research help examine the tendencies, spread normality and reliability of the data sets. Descriptive research design is also employed because it enables the researcher to infer the findings to a larger population with high level of accuracy. Suđić, Ćirović and Mitrović (2017) used this design to analyze risk management on public private partnership projects (PPP) in Serbia. According to Allan and Randy (2005) descriptive research is used to describe the characteristics of a population by directly examining samples of that population.

Study Population

Population refers to the total collection of the elements about which the researcher wishes to make inferences (Cooper & Schindler, 2006). The target population was one finance respondent in Nzoia Water Services Company (Finance Manager, Senior Accountant, Finance Officer, Accounts Clerk and Internal Audit Manager) from each water treatment works namely Nabuyole, Matisi, Kapkateny, Chesikaki, Terem and Nzoia. The total target population for the study was 30 Finance respondents.

Sampling and Sampling Technique

A census survey approach was applied to all the 30 finance respondents in Nzoia Water Services Company as outlined in Appendix. Census sampling was used in this study to select data from the study population this was to enhance validity of the collected data by including certain information regarding the study (Saunders, Lewis & Thornhill, 2009).

Data Collection Instruments

It refers to the device used to collect data such as a questionnaire (Sekara & Bougie 2010). The research used primary source of data collection which was in form of structured questionnaire. A Likert scale of 1 – 5 was adopted to indicate the extent to which each of the statements apply to PPP. Kibe (2021) used questionnaire to collect data to study public private partnerships and project performance of Kenyan commercial state-owned corporations.

Data Collection Procedure

Data to be used was collected from finance respondents for a period of one month. Data collection is the process of gathering information and measuring information on targeted variables in an established systematic fashion which then enables one to answer questions and evaluate outcomes (Sekara & Bougie, 2010). Julius and Okech (2021) established the influence of infrastructure financing on financial sustainability of water service providers (WSPs) in Kenya. A structured questionnaire was used to collect the quantitative data from key informants.

Data Processing and Analysis

According to Babbie (2010) data analysis is carried on the data collected to transform it to a form that is suitable for use in drawing conclusions that reflect on the ideas, and theories that initiated the inquiry. Data collected was coded, keyed in the computer and analysed with the aid of the Statistical Package for Social Science (SPSS Version 26) computer software for Windows.
Model:

$$Y_{FS} = \beta o + \beta_1 X_1 + \beta_2 X_2 + e$$

Where:

Y_{FS} = Financial Sustainability
$\beta_1, \beta_2, \beta_3\ \beta_4$ = Coefficient of the regression
X_1 = Leasing Finance
X_2 = Concession Finance
e = error term
βo = Constant term.

RESEARCH FINDINGS AND DISCUSSION

Response Rate

The study was carried out with a total of 30 questionnaires which were administered to finance related employees of Nzoia Water projects within the water treatment works, only 27 questionnaires were successfully completed by the respondents which is a response rate of 90.0% of the total questionnaire. Richard (2005) observed that the Australian Vice Chancellors' committee and graduate careers council of Australia (2001) regarded an overall institutional response rate for the course experience questionnaire of at least 70% to be both desirable and achievable. The response rate of 90.0% which was attained during this study is acceptable because it is above the 70%.

Table 1: Other factors affecting Financial Sustainability

	Factors	Percent
	Government expenditure	16.4
	Credit growth	13.4
	Exchange rate	16.4
	Inflation	17.9
	Interest rates	14.9
	Unemployment	20.9
	Total	100.0

Table 1 shows that (20.9%) of the respondents feel that unemployment is one of the other factors that affect financial sustainability.(17.9%) feel that inflation is one of the other factors that affect financial sustainability of Nzoia water projects in Kenya.(16.4%) feel that government expenditure is one of the other factors that affect financial sustainability of Nzoia water projects in Kenya (16.4%) of the finance employees feel that exchange rate is one of the other factors that affect financial sustainability of Nzoia water projects in Kenya.(14.9%) of the respondents feel that interest rates is one of the other factors that affect financial sustainability of Nzoia water projects in Kenya and (13.4%) feel that credit growth is one of the other factors that affect financial sustainability of Nzoia water projects in Kenya. This was interpreted to mean that government expenditure, credit growth, exchange rate, inflation, interest rates and unemployment are other factors apart from leasing, joint venture, cooperative arrangements and concessions affect financial sustainability of Nzoia water projects in Kenya.

Analysis of Specific Objectives

Table 2: Leasing Finance

Factor	1	2	3	4	5	Std. Dev	Mean
Lease finance can provide sponsors with significant accounting earnings and tax benefits	20 (84.2)	3 (7.7)	1 (1.7)	1 (1.7)	2 (4.7)	1.32	2.02
Water Projects are suitable for lease financing because of their long useful lives and their ability to predictably maintain value, primarily due to well-established operating characteristics and maintenance requirements.	19 (81.2)	2 (4.7)	3 (7.7)	2 (4.7)	1 (1.7)	0.96	1.54
Nzoia Water service company obtain adequate institutional credit for water projects	15 (69.2)	5 (13.7)	3 (7.7)	3 (7.7)	1 (1.7)	1.33	2.21
Merchant banks grant 'reasonable' leasing facilities in accordance with prescribed ceiling on lease portfolio	20 (84.2)	1 (1.7)	3 (7.7)	1 (1.7)	2 (4.7)	1.36	1.97
Contribution of Leasing in PPP has been insufficient	18 (75.2)	5 (13.7)	2 (4.7)	2 (4.7)	1 (1.7)	0.97	1.64

On the effect of Leasing Finance on Financial Sustainability of Nzoia Water Services Projects in Kenya, the respondents were asked to rank their agreement or otherwise of the leasing. On providing sponsors with significant accounting earnings and tax benefits 20(84.2%) of the respondents indicated that they strongly agreed with that while another 3 (7.7%) respondents agreed while also 1(1.7%) disagreed respectively. The mean response of 2.02 is indicative of the fact that the respondents agreed with the fact. The standard deviation of 1.32 relatively indicates that the respondents were in agreement that financial sustainability was affected by leasing of water projects.

On the impact of Water Projects for lease financing sustainability due to well-established operating characteristics and maintenance requirements, majority of the respondents 19(81.2%) strongly agreed, 2(4.7%) of them agreed while 1(1.7%) strongly disagreed. On average 1.54 of the respondents agreed that leasing has an impact on financial sustainability. Majority of the respondents 15(69.2%) strongly agreed that Nzoia Water service company obtain adequate institutional credit for water projects. Another 5(13.7%) of them agreed to this fact while 3(7.7%) somehow agreed and 3(7.7%) disagreed. On average, the respondents agreed 2.21 while the standard deviation 1.33 relatively indicates that the respondents were in agreement.

On the effect of leasing on the Merchant banks granting reasonable leasing facilities in accordance with prescribed ceiling on lease portfolio, majority of the respondents 20(84.2%) strongly agreed, 1(1.7%) of them agreed while 3(7.7%) somehow agreed. On average 1.97 of the respondents agreed. While the standard deviation 1.36 was relatively indicates that the respondents were in agreement.

On the effect of leasing on the contribution in PPP has been insufficient, majority of the respondents 18(75.2%) strongly agreed, 5(13.7%) of them agreed while 2(4.7%) disagreed respectively. On average 1.64 while the standard deviation 0.97 was relatively indicates that the respondents were in agreement.

Table 3: Concession Finance

Factor	1	2	3	4	5	Std. Dev	Mean
Advance rules and regulations governing concessions	19 (81.2)	3 (7.7)	3 (7.7)	1 (4.7)	1 (1.7)	0.99	1.70
Great number of proposals/bids received on a concession	15 (69.2)	5 (13.7)	3 (7.7)	3 (7.7)	1 (1.7)	0.86	1.75
Provision of the available information for the concession agreement participants and publicity	20 (84.2)	3 (7.7)	2 (4.7)	1 (1.7)	1 (1.7)	1.27	1.91
Obtain authentic and impartial information about the activities in the water projects by using accounts	20 (84.2)	2 (4.7)	3 (7.7)	1 (1.7)	1 (1.7)	1.10	1.78
Revenue is greatly obtained through concessions	22 (90.2)	2 (4.7)	1 (1.7)	1 (1.7)	1 (1.7)	0.90	1.48

On the effects Concession Finance on Financial Sustainability of Nzoia Water Services Projects in Kenya, the respondents were asked to rank their agreement. On whether advance rules and regulations governing concessions, 19(81.2%) of the respondents indicated that they strongly agreed with that while another 3(7.7%) respondents agreed. The mean response of 1.70 is indicative of the fact that the respondents agreed with the fact.

On whether great number of proposals/bids received on a concession, majority of the respondents 15(69.2%) strongly agreed, 5(13.7%) of them agreed while 1(1.7%) disagreed respectively. On average, 1.75 of the respondents agreed to that fact. Majority of the respondents 20(84.2%) strongly agreed that there is Provision of the available information for the concession agreement among participants. Another 3(7.7%) of them agreed to this fact while 1(1.7%) disagreed. On average, the respondents agreed 1.91 while the standard deviation was 1.27.

With regard to obtaining authentic and impartial information about the activities in the water projects by using accounts 20(84.2%) respondents strongly agreed to the fact, 2(4.7%) agreed, 1(1.7%) strongly disagreed with a total mean of 1.78. Finally, the respondents were asked to indicate whether Revenue is greatly obtained through concessions. Majority 22(90.2%) of the respondents agreed while 1(1.7%) did not hence a mean of 1.48.

Inferential Analysis

Inferential statistics were used to determine the relationships between dependent and independent variables. This comprised of correlation analysis, and regressions. Correlation analysis by means of Pearson Product Moment Correlation Coefficient technique was used to determine nature and magnitude of the relationships between the variables.

Correlation Analysis

Table 4: Correlation Matrix

		LF	CS	FS
LF	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	27		
CS	Pearson Correlation	.893**	1	
	Sig. (2-tailed)	.000		
	N	27	27	
FS	Pearson Correlation	.724**	.527**	1
	Sig. (2-tailed)	.000	.000	
	N	27	27	27

Correlation analysis enable researcher to determine the strength and significance of relationship between each individual independent variable and the dependent variable. Leasing Finance has a positive correlation of 0.724 The *p* value (0.000) < 0.01 indicating that leasing can lead increase in PPP if maintained. This result is in line with Asuquo and Anyadike (2018) that examined the effect of lease financing on corporate performance of Deposit Money Banks in Nigeria. The study established a positive relationship between PPP and Financial Sustainability.

Concessions has a positive correlation of 0.527. The p value (0.000) < 0.01 thus there is need to make the private sector operator the full responsibility of delivery of services in a specified area. This result is in line with Jayasuriya, Guomin, Sujeeva and Indu Patnaikun (2014) that countries around the world are in search of new means to engage the private sector in managing and financing infrastructure through Public Private Partnerships (PPPs)

Regression Analysis

Table 4: Regressions Summary

Model	R	R Square	Adjusted R Square df	Std. Error of the Estimate	Durbin-Watson
1	.820[a]	.765	.643 (3,91)	.47187	1.446
a. Predictors: (Constant), LF, CS					
b. Dependent Variable: FS					

The results indicate that the value of R^2 is 0.765 thus 76.5% of variance in the independent variables can be accounted in the dependent variable FS. The Durbin Watson value of 0.599 indicates there is no autocorrelation since the value is between 1 and 3.

Table 5: ANOVA

Model		Sum of Squares		Mean Square df	F	Sig.
1	Regression	16.014		3.503 (3,91)	18.325	.000[b]
	Residual	4.820		.201		
a. Dependent Variable: FS						
b. Predictors: (Constant), LF, CS						

The result shows that p value (0.000) < 0.01 level of significance. The F value is significant at 1% level (F= 18.325, P<0.01) indicating application of the model. Thus the result shows that Independent variables are significant in determining FS among water treatment works in Nzoia Water Service Projects in Kenya.

Table 6: Coefficients of the regression

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
1	(Constant)	.625	.488		4.148	.000		
	LF	.562	.333	.562	1.687	.106	.260	3.844
	CS	-1.208	.348	-1.471	-3.690	.001	.828	1.208
a. Dependent Variable: FS								

The results depict that there is no multicollinearity because the VIF values are less than 10 (Robert, 2015). The regression equation is $Y_{FS} = 0.625 + 0.562X_1 - 1.471X_2$

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Summary of Study Findings

The Summary Effect of the Variables

The results indicate that the value of R^2 is 0.765 thus 76.5% of variance in the independent variable can be accounted in the dependent variable NP. The Durbin Watson value of 1.446 indicate there is no autocorrelation since the value is between 1 and 3. The result show that p value is actual 0.000 which is less than 1% level of significance. The F value is significant indicating application of the model. Thus the result show that Independent variables are significant in determining financial sustainability of Nzoia Water Service Projects in Kenya. The results depict that there is no multicollinearity because the VIF values are less than 10 (Robert, 2015). The regression equation is $Y_{FS} = 0.625 + 0.562X_1 -1.471X_4$.

Leasing Finance

It was evidenced that leasing has a positive correlation of 0.724. The *p* value (0.000) < 0.01 indicating that leasing influence financial sustainability. Hence it is statistically positive significant. Thus the result show that leasing is significant in determining financial sustainability of Nzoia Water Service Projects in Kenya. The F value is significant indicating application of the model. The results depict that there is no multicollinearity because the VIF values are less than 10. The regression equation is $Y_{FS} = 0.625 + 0.562LF$.

Concession Finance

From the findings the results indicate that Concessions is negatively statistically significant in determining financial sustainability. Thus the positive correlation of 0.527 with p value (0.000) < 0.01 indicate that projects involved in concessions incur advance financial sustainability. The F value is significant indicating application of the model. The results depict that there is no multicollinearity because the VIF values are less than 10. The regression equation is $Y_{FS} = 0.625 - 1.471CS$.

CONCLUSION

Leasing Finance

From the findings it is evidenced that Leasing had a positive correlation of 0.724 The *p* value (0.000) < 0.01 indicating that leasing can lead to an increase in PPP if maintained. This result is in line with Asuquo and Anyadike (2018) that examined the effect of lease financing on corporate performance of Deposit Money Banks in Nigeria established a positive relationship between PPP and Financial Sustainability.

Concession Finance

The findings stipulated that Concessions had a positive correlation of 0.527. The p value (0.000) < 0.01 thus there is need to make the private sector operator the full responsibility of delivery of services in a specified area. This result is in line with Jayasuriya, Guomin, Sujeeva and Indu Patnaikun (2014) that countries around the world are in search of new means to engage the private sector in managing and financing infrastructure through Public Private Partnerships (PPPs)

RECOMMENDATIONS

Following the findings of the study and the implications on the influence of Public Private Partnership on Financial Sustainability of Nzoia Water Service Projects in Kenya, the study gives the following recommendations.

Managerial Recommendations

The management of water bodies in Kenya need to adhere to policies concerning water project enactments to increase water supply in regions. The financial aspect should keenly be audited to avoid the problems of water projects failure. This therefore requires massive audits of water projects and management should put into consideration the process and procedures in regard to private public partnership.

Policy Recommendations

From the finding the study recommends that there is need for partnership to embrace leasing as it positively influences financial sustainability. The study recommends that there is need for Nzoia water to ensure joint venture to reduce instability of finance to water projects under concern. Further, the study recommends that the Nzoia water project boards should ensure the implementation of the PPP reforms that will help in enhancing concessions and greater cooperative arrangements among water projects in Kenya.

Areas for Further Research

Therefore, any researcher interested into the area of assessing the influence should consider the factors that have been mentioned in the current study though not adopted. Further other researchers can also investigate the concept of PPP but in other geographical areas especially in the Northern part of Kenya.

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