



**AUTHENTIC LEADERSHIP, STAKEHOLDER ENGAGEMENT AND
SUSTAINABILITY OF DONOR FUNDED WATER PROJECTS:
A CASE OF LAMWO DISTRICT IN UGANDA**

BY

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PLAN A

DECLARATION

DECLARATION

I, Alupo Thereza hereby declare that this is my original work and to the best of my knowledge has never been submitted for the award of a Masters in Uganda in any other institution of higher learning unless other otherwise acknowledged.

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APPROVAL

APPROVAL

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DEDICATION

I dedicate this research report to my family, research supervisors and all my lecturers of Busitema University and friends. They have been such a strong support; I love you all and continue to believe that this journey yields success at the end.

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I extend my sincere gratitude to colleagues of MBA class of 2020 headed by Gerald, Paul, Patrick, and others, for the great teamwork during the discussions. It is one of the reasons I have been able to put together this piece of work (report).

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LIST OF ACRONYMS

CVI	Content Validity Index
GOU	Government of Uganda
JICA	Japan International Cooperation Agency
MDG	Millenium Development Goal
MWE	Ministry of Water and Environment
NGO	Non-Governmental Organization
SDG	Sustainable Development Goal
SNV	Stichting Nederlandse Vrijwilligers
SPSS	Statistical Package for Social Scientists
UNICEF	United Nations Children's Fund
WSC	Water Source Committees

ABSTRACT

The purpose of this study was to examine the mediation role of stakeholder engagement on the relationship between authentic leadership and sustainability of donor funded water projects in Lamwo District in Uganda. A cross sectional design was adopted. A population of 103 donor funded water projects with a sample of 82 water projects was selected. The study targeted 164 respondents from the 82 water projects. Simple random sampling technique was used. Usable questionnaires were collected and analyzed representing (81.5%) response rate. The data was tested for reliability and validity. It was analyzed using statistical package for social scientists (SPSS). regression findings revealed that there was significant positive effect of stakeholder engagement, and authentic leadership on sustainability of donor funded water projects. Regression findings revealed that stakeholder engagement and authentic leadership are significant predictors of sustainability of donor funded water projects while authentic leadership was found to be a significant predictor of stakeholder engagement. The findings also showed that Stakeholder Engagement plays a significant mediating effect in the relationship between Authentic Leadership and Project Sustainability. Based on the study results, it is recommended that there is need to improve on the authenticity of leaders of water user committees and at the same time ensure the engagement of water stakeholders in Lamwo district so as to enhance the community members' willingness and ability to consistently and adequately save money through strategic tools like community saving schemes for effective water facility maintenance to ensure consistent functioning of the water facility. This ensures frequent updates are provided by the water source committee during every community meeting of the amount of collected, used and the funds still available for water source maintenance which will in-turn encourage the beneficiaries to always physically take part or contribute monies for water source maintenance activities that will ensure consistent functioning of their water facility.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Water is essential to sustainable development and the basis of livelihoods. Thus, one of the main goals of the Millennium Development Goals (MDGs) is to achieve long-term sustainability of the water supply (UNESCO, 2020). This is because attaining Sustainable Development Goal (SDG) 6, which aims to guarantee the availability and sustainable management of water and sanitation for all, would depend on effective water management (United Nations, (UN, 2020). However, about 771 million (1 in 9) people worldwide still lack access to safe and clean safe water and 50% of them live in Africa (World Health Organization, (WHO, 2021). This is due to the continuous inadequate equipping of rural water source committees (WSCs) by the water source erectors to be able effectively manage their water sources, which in-turn leads to irregular servicing, frequent breakdowns and delayed repairs (SNV, 2020).

Historical Background

The long-term viability of initiatives (sustainability) for community development programs in sub-Saharan Africa has been poor over the years, and yet to meet their communities' needs, community development programs need greater internal capacities and more meaningful relationships with a broader range of stakeholders (USAID, 2019). The water supply sector in Uganda, for example, set a target to increase access to water supply services from 65% in 2010 to 100% by 2035. However as of 2020, the Ministry of Water and Environment (MWE, 2020) reported that access to water supplies was still just 68% for rural areas. This shows that water supply development has not been sustainable to achieve the desired goals in a period of more than 10 years. Notably in Northern Uganda, a survey conducted by the World Bank (2020)

found out that 33.5% of projects are only visible when still under implementation. In addition, most of the water projects extended in the period between 2014 and 2016 are no longer functional. Similarly in the Acholi sub-region, even after implementing donor funded water projects, the region still regularly has unserved water sources which in turn result in illnesses connected to water and sanitation that are among Uganda's top ten deadly illnesses (UNICEF, 2020), a case in point is Lamwo District that has a re-current yearly presence of non-functional boreholes that in-turn lead to water scarcity (MWE, 2020; Tsimpo & Wodon, 2018).

Theoretical Background

From the theoretical perspective, the Sustainability Theory states that long-term focus should be devoted towards the consistent functionality of social and ecological systems for future economic health and social justice (Jenkins, 2009; Vogt, 2021). Accordingly, *Authentic Leadership* focuses on solving problems and motivates the establishment of a positive learning climate (Gigol, 2020; Walumbwa *et al.*, 2008), in establishing a shared vision, aligning resources and generating enthusiasm by inspiring how to meet the goals to address sustainability (Attanasio, 2021; Casey & Sieber, 2016). This is because authentic leaders create mutual trust, respect, are solution-oriented and are agents of resilience (Basit, 2020; Yukl, 2013).

Similarly, *Stakeholder Engagement* creates unified determination in solving project challenges that fosters project sustainability since stakeholder input fuels community commitment in the pursuit to achieve project sustainability (Attanasio, 2021; Stolarski *et al.*, 2020; Heravi, *et al.*, 2015). This is because stakeholders are the ends rather than the means and value creation in projects depends on the willing participation of stakeholders (Freeman *et al.*, 2021).

Furthermore, authentic leaders increase stakeholder self-evolution levels of an inward ambition that keeps stakeholders committed and engaged over time (Duarte *et al.*, 2021). Gigol (2020) also lauds authentic leadership as key to ensure project sustainability since authentic leaders' value stakeholders' opinions and endeavor to understand how decisions will be perceived by whoever is interested in the project. This builds confidence, optimism and resilience which allows stakeholders to continue operations of the project. Sperry and Jetter (2019) also supplement this by revealing that authentic leadership increases stakeholders' willingness to provide any form of support required to keep the project visible even if external support is minimal or nonexistent.

Contextual Background

However, studies by Gigol (2020) and Basit (2020) that revealed the relevance of authentic leadership and stakeholder engagement towards project sustainability have largely been done in developed countries or emerging economies respectively. The degree to which authentic leadership and stakeholder involvement impact the long-term sustainability of donor-funded water projects in Uganda is not well understood. The role that stakeholder involvement plays as a mediator between authentic leadership and project sustainability is less examined in literature. By empirically examining the mediating influence of stakeholder engagement in the authentic leadership - project sustainability relationship, the current research aims to empirically add to the existing body of knowledge using empirical evidence from water sustainability projects in the Ugandan context.

1.2 Statement of the Problem

Project sustainability remains one of the prerequisites of every successful project (Kuchta & Mrzygłocka-Chojnacka, 2020). However, the developmental programs implemented in the Acholi sub-region in the last two-decade have not been sustainable (Stites *et al.*, 2019). In support of this, most water projects like boreholes in rural parts of Uganda are abandoned owing to a lack of restorative activities and a decline in enthusiasm occasioned by water users' constant refusal to help maintain the water facilities that have been erected in their own communities is a sign that community-managed water facilities' institutional, financial, and technical performance needs enhancement (Etongo *et al.*, 2018; Otika *et al.*, 2020).

In rural areas of Uganda, water sources managed by local communities are not sustainably functional due to the limited capacity of the community WSCs. Such rural water sources continue to have poor operation and maintenance procedures since most construction, monitoring, and technical support gaps still exist as contractors prioritize development above maintenance. A dependable and sustainable water source ought to supply water for at least 350 days annually, with no more than 14 days of interruption. Yet, not many water sources (30%) have lived up to this measure because a broken water source takes up to three months or more before repairs are done (SNV, 2020). For example, in Lamwo District, the recurrent major causes for non-functionality of boreholes include; lack of accountability by poor leaders that hinders investments to improve water supply or leads to poor maintenance and breakdowns which in-turn lead to water scarcity and boreholes being abandoned for five or more years (MWE, 2020; Tsimpo & Wodon, 2018).

Due to the above, it is anticipated that the failure to sustain water project outcomes or facilities in Lamwo District is attributed to inadequate authentic leadership and low stakeholder engagement. Prior studies have been directed to developed studies and moreover, the link between authentic leadership, stakeholder engagement and sustainability has not been explored in a single study generally in Uganda, and specifically in Lamwo district. We therefore, examine the connection between authentic leadership, stakeholder engagement and project sustainability with a special focus on Lamwo district in Uganda. enhances water sustainability used evidence from a developing country like Uganda. This is done with the aid of the sustainability and the social exchange theories.

1.3 Purpose of the Study

This research examines the mediation role of stakeholder engagement in the authentic leadership- project sustainability of donor funded water projects in Lamwo District in Uganda.

1.4 Specific Objectives

- i. To establish the effect of authentic leadership on sustainability of donor funded water projects in Lamwo District in Uganda.
- ii. To examine the role of authentic leadership on stakeholder engagement in donor funded water projects in Lamwo District in Uganda.
- iii. To establish the effect of stakeholder engagement on project sustainability in donor funded water projects in Lamwo District in Uganda.

- iv. To examine the mediating effect of stakeholder engagement on the relationship between authentic leadership and the sustainability of donor funded water projects in Lamwo District in Uganda.

1.5 Research Hypotheses

H₀₁: Authentic leadership has no significant effect on project sustainability

H₀₂: Authentic leadership has no significant effect on stakeholder engagement

H₀₃: Stakeholder engagement has no significant effect on project sustainability

H₀₄: Stakeholder engagement has no mediating effect on the relationship between authentic leadership and project sustainability

1.6 Scope of the Study

This research shall be limited to the concepts of Authentic Leadership, Stakeholder Engagement and project sustainability. Authentic Leadership shall be studied as a multifaceted construct comprising: balanced processing, relational transparency, self-awareness, and internalized moral perspective (Gigol, 2020; Walumbwa *et al.*, 2008). Stakeholder Engagement is conceptualized as a multi-dimensional construct involving: acceptance and community participation (Bidgorn & korf, 2012). Project Sustainability will be studied as a multi-dimensional construct of; Technical Capacity, Financial Capacity and Operational Capacity of the project (Otika *et al.*, 2020). This study will be conducted on donor funded water projects within Lamwo District because many donor water project facilities with in the area are now non-functional (MWE, 2020; Tsimpo & Wodon, 2018).

1.7 Significance of the Study

The research findings could help the local community know the benefits of learning how to repair and service their water sources on time through frequent seeking of information and training needs for the best water source maintenance strategies and tools from the water source constructors and NGO's (Non-Governmental Organizations) before and after the water facility has been constructed in their community. Also, the study's outcome might benefit the Ugandan government to enact guidelines to improve the engagement of stakeholders and learn the best ways on how to construct and maintain community managed water sources for the long term. The study findings will guide water project implementers and NGOs on the most appropriate strategies to train and guide the local community to maintain water sources put in their custody to last for a long time.

Further, the findings might aid academic scholars to establish the degree to which authentic leadership and stakeholder involvement influence project sustainability. Finally, the study findings extend the replicability of the social exchange theory by establishing whether stakeholder reciprocate the project when they are involved in project activities.

1.8 Conceptual Framework

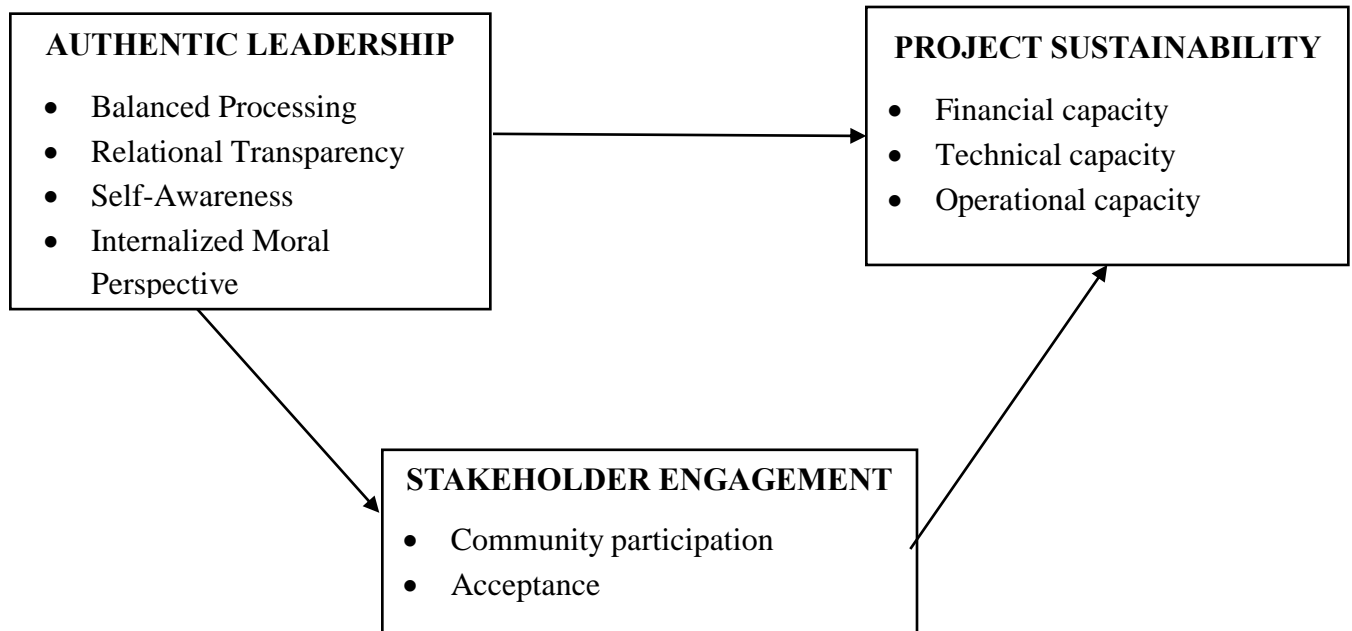


Figure 1: Conceptual Framework

Source: (Etongo et al., 2018; Gigol, 2020; Bidgorn & korf, 2012; Anderson et al. 2013; Stolarski et al., 2020; Walumbwa et al., 2008).

The theoretical progression of the study's principles is depicted in the conceptual framework (Figure 1). This concept suggests that project sustainability can be directly impacted by authentic leadership. Furthermore, the model suggests that stakeholder engagement has a direct impact on the sustainability of a project. Moreover, the model suggests that stakeholder engagement might act as a mediator between authentic leadership and project sustainability.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The literature that is currently accessible on the associations between the various variables employed in this investigation is presented in this chapter. The researcher looked at the research on the theoretical and empirical links between Stakeholder Engagement and Project Sustainability, Authentic Leadership and Sustainability, and Stakeholder Engagement and Project Sustainability as well as the role that Stakeholder Engagement plays as a mediator in the relationship between the two.

2.1 Authentic Leadership

When leaders work with followers to foster positive self-development, authentic leadership is a pattern of behavior that builds on and supports positive psychological capacities as well as a positive ethical climate. This leads to the development of greater self-awareness, an internalized moral perspective, balanced information processing, and relational transparency (Walumbwa *et al.*, 2008; Grošelj *et al.*, 2020). Authentic leadership is regarded as the most important form of leadership upon which other forms of leadership styles originate (Gigol, 2020). Authentic leaders are conscious of their thoughts, behaviors, and impressions on others which enables them to lead properly. In addition, authentic leaders exercise a lot of confidence, hopefulness, optimism and resilience which encourages subordinates to follow suit. From literature, authentic leadership is explained using four dimensions: self-awareness, balanced processing, relational transparency, and internalized moral perspective (Chughtai, 2018; Gigol, 2020).

Balanced processing exhibits the leader's capacity to objectively analyze positive as well as negative issues before they make the overall decision. Authentic leaders are known for being transparent in decision making because they encourage stakeholders to share thoughts, incorporate them and impartially interpret facts in addition to avoiding any form of exaggeration and distortion. On the other hand, relational transparency exhibits the magnitude to which a leader is open to others, shares thoughts and opinions and inspires others to reciprocate the same (Walumbwa *et al.*, 2008; Gigol, 2020). In their view Grošelj *et al.* (2020) put it that relational leaders do not hide anything, spread truth and harmony and provide a conducive environment for comments and criticism.

Empirical research by Walumbwa *et al.* (2008) and Grošelj *et al.* (2020) that explains the attribute of self-awareness indicated that such leaders have a thorough comprehension of one's feelings, strength, and limitations as well as the capability to make a self-assessment accurately and honestly. Moreover, they endeavor to understand the perception of others and themselves to develop appropriate passions and motivations (Creasy & Anantatmula, 2013; Grošelj *et al.*, 2020). Lastly, internalized moral perspective signifies the traits of leader who are guided by a set of values and behavior. These leaders are also in position to propel others to follow the same in order to achieve a common goal (Walumbwa *et al.*, 2008; Gigol, 2020).

2.2 Stakeholder Engagement

It is widely agreed that stakeholder engagement is a concept which encompasses two separate concepts, which are stakeholder and engagement (Erkul *et al.*, 2019). A stakeholder is any group or individual who has an impact on the project's success or failure either directly or indirectly (Dal Maso *et al.*, 2017). Conversely, engagement in project management has been used to mean

working together. On that note, according to Freeman et al. (2021), stakeholder engagement is the process by which an organization includes stakeholders in recognizing, comprehending, and addressing sustainability issues and concerns. It also involves reporting, elucidating, and holding stakeholders accountable for decisions, actions, and performance. Stakeholder engagement is important because every project entails a variety of stakeholders with varying views and interests. Intensified stakeholder engagement enables projects to acquire sufficient information as a way of harmonizing interests (Johnson *et al.*, 2018).

Additionally, stakeholder engagement is associated with improved decision making, trust, conflict resolution and significant reduction in implementation expenses (Dal Maso *et al.*, 2017; Erkul *et al.*, 2019). In this regard, Ahmed *et al.* (2018) postulate that the benefits of stakeholder engagement can only be achieved when stakeholders are not only engaged but also, when they feel that they are engaged. This aligns with Civera *et al.* (2019), who stress that stakeholder involvement requires engagement with stakeholders and engagement of stakeholders.

Additionally, according to Amaesh and Cane (2016), stakeholder involvement highlights the necessity of engagement that is far reaching, inclusive and balanced. Involving people and groups that are positively impacted by a company's operations is known as stakeholder engagement (Greenwood, 2017). Stakeholder engagement denotes the process of seeking realistic stakeholder opinions on their relationship by the with the goal of enhancing an organization's social and ethical accountability, and performance (Institute of Social and Ethical Accountability (Cumming, 2011) Anderson et al. (2013) operationalized stakeholder engagement using community participation and acceptance.

Moreover, to ensure project success, stakeholders must participate in it and cultivate relationships with as many diverse groups as possible. This is how effective stakeholder engagement is accomplished (Preble, 2015). According to O'Riordan & Fairbrass (2018), engagement is the process of managing an organization's interaction with various stakeholders in order to improve the efficacy of decisions, strategies, and behavior. The success of an organization depends on how stakeholders participate and accept the project (Freeman, 2010). According to some academics, as dialogue enables managers to "evaluate, address, and balance stakeholder demands," it is the fundamental component of stakeholder engagement (O'Riordan & Fairbrass, 2018).

Stakeholder involvement, according to Greenwood (2017) is a process that involves communication, interaction, dialogue and exchange. Stakeholder acceptability and participation consistently show up as important components of the stakeholder engagement process based on the literature review that was done. More engagement initiatives are being developed as a result of the heightened emphasis on stakeholders. According to Oakley and Marseden (1987), community involvement is the process by which people take charge of their own well-being and learn how to contribute to both their own and the community's development. When discussing development, the term "community participation" describes an active process through which recipients have a say in how development is carried out.

According to Ollander and Landin (2005), stakeholder acceptance is crucial for both project success and sustainability. Consequently, it is important to keep in mind that projects' strong stakeholder attribute significantly links success to satisfying stakeholders' needs (Jia et al., 2011). Project acceptance mostly depends on the stakeholder management process because it is a

complicated topic that is difficult to quantify. As a result, inadequate political backing can be linked to a lack of stakeholder acceptance at this level (Siupuliga & Cuppen, 2013). Conversely, community acceptance describes how the local impacted populace accepts a project (Wüstenhagen et al., 2007). Due to social and environmental issues, the local community's negative attitude toward a project is linked to a lack of acceptance on this level (Benn et al., 2009).

2.3 The Concept of Project Sustainability

Project Sustainability denotes the capacity of the beneficiaries to support and maintain the project over an indefinite period without any form of external assistance (Aga *et al.*, 2018; Otika *et al.*, 2020). Conversely, a study by Chen *et al.* (2019) reveals that project sustainability denotes the project's capacity to continue to realize benefits for a long period after its official closure and seizer of inputs. Indeed, Odenyo and Rosemary (2018) indicate that the concept of project sustainability provides a clear justification as to why projects need to work closely with external stakeholders, more so beneficiaries or end users. This is consistent with the studies of Vifell and Soneryd (2012) and Husgafvel (2021), who indicated that sustainability of livelihood projects is mainly vested in the community who are supposed to make sure that the outcomes of the project remain in existence over time. Therefore, project Sustainability will be studied in terms of the Financial Capacity, Technical Capacity and the Operational Capacity of the community to sustain a project facility that is in their custody (Etongo *et al.*, 2018; Otika *et al.*, 2020).

Operational Capacity is the ability to perform functional tasks and is concerned with having a balance between the demand placed on a facility and the ability to satisfy that demand (Slack *et al.*, 2014; Otika *et al.*, 2020). According to Hira (2012) and Otika et al. (2020), financial capacity

refers to the associated efforts made through laws, policies, strategies, and practices that support the community in improving its financial capacities for the project. According to Garg and Singh (2018), financial capabilities are made up of three components: financial behavior, financial knowledge, and financial attitude. Financial attitude is a crucial component of personal decision-making and is defined as an individual's economic and non-economic views about outcomes of particular behaviors (Potrich, et al., 2015). Financial knowledge refers to having a fundamental understanding of financial ideas (Huston, 2010). It also enables people to handle financial difficulties more skillfully in order to maintain and build their wealth (Hilgert et al., 2003). Because greater financial capacity is linked to more advantageous and low-risk financial behaviors, financial behavior shapes financial capacity (Potocki et al., 2019; Johnson & Sherraden, 2007). According to Mori (2014) and Otika et al. (2020), technical capacity is the set of resources, abilities, and learning strategies used by stakeholders to use, adapt, originate, develop, transfer, and disseminate technologies.

2.4 Theoretical Review

2.4.1 The Sustainability Theory

The theory of sustainability is broken down into 3 (three) models that include the Economic Model, Social Model and the Ecological Model (Husgafvel, 2021; Jenkins, 2009). The Economic model of Sustainability was developed by Robert Solow in 1993 and states that sustainability is a project management problem in which returns from the use of resources should be used to generate new opportunities of equal or greater value. It also states that leaders should voluntarily contribute for the empowerment of their followers so as to build and maintain participation of followers for sustainable development by and for all (Hussain & Wasem, 2020;

Jenkins, 2009). The Social model of Sustainability was developed by Julian Agyeman in 2005 and recommends to conserve social structures that lead to social justice by engaging in long-term consistent preservation of ethical social values. This model therefore recommends the preservation of social conditions needed to realize social pride, civic identity, or even personal faith through community membership (Husgafvel, 2021). The Ecological model of Sustainability was developed by Holmes Rolston III in 1994 and states that the ecological systems and the renewing processes on which ecological systems depend on should be consistently conserved for their fundamental importance as the creators of the fundamental importance (Husgafvel, 2021; Jenkins, 2009).

The Sustainability theory therefore directs practical focus to the multifaceted maintenance of social and ecological systems where economic health, social justice, and duty to the future must be incorporated to address multiple community challenges (Husgafvel, 2021; Jenkins, 2009). This shows that the Sustainability theory justifies the need for authentic leaders because of their balanced processing, rational transparency, self-awareness and internalized moral perspective which are crucial in making considerable decisions which in turn makes stakeholders reciprocate the desire to maintain the project since they are optimistic it would address their concerns (Gigol, 2020), and stakeholder engagement since stakeholder participation is the key in creating value in any venture (Freeman *et al.*, 2021). Because of this, project custodians must be authentic in their leadership where they can easily liaise and value stakeholders concerns during project operations and maintenance in order to encourage continuous stakeholder participation in project activities. From this explanation, it is clear that sustainability theory informs of the relevance of having authentic leaders and stakeholder engagement in stimulating project sustainability.

2.4.2 The Social Exchange Theory (SET)

Marcel Mauss developed the SET in 1925. It is a crucial idea for comprehending group dynamics and posits that social exchange is a series of relationships that forge commitments. The SET goes on to say that people's motivation to engage in social interactions is essentially derived from rewards and resources of trade. A resource is the quality that enables someone to allow the reward, which encourages people to participate in trade relations. A reward is the outcome of relationships having positive implications (Emerson, 1976; Hussain & Wasem, 2020). These relationships can result in high-quality affiliations that eventually develop into reciprocal, trustworthy, and trusted duties. These relationships are typically dependent on each other and each person's activities (Blau, 1964; Freeman et al., 2021). In order to achieve this, parties must adhere to a set of exchange rules that ensure each party receives compensation for participating in the relationship. These rules then serve as the foundation for any circumstances that arise or are accepted by the parties involved in the exchange relationship (Emerson, 1976; Hussain & Wasem, 2020).

According to the SET, stakeholders will reciprocate a supportive leader's gesture if they feel that the leader is supportive. This suggests that if a leader is highly supportive, stakeholders will also always voluntarily participate in project activities, resulting in high-quality performance and lower absenteeism from project management activities, which in turn encourages greater participation from stakeholders and improves performance (Hussain & Wasem, 2020; Lynch et

al., 1999). This is due to the fact that leaders consistently evaluate activities with balance, which increases stakeholder commitment to achieving project sustainability (Madyaningarum et al., 2018; Gigol, 2020). On the other hand, consistent participation by organised groups within a community in project management activities also leads to commitment and high-quality performance from individuals in the community (Eisenberger *et al.*, 2001; Stolarski *et al.*, 2020). This is because the outcomes of reciprocal relations result in commitment, satisfaction and positive behaviour (Freeman *et al.*, 2021; Griffin & Hepburn, 2005), which stimulates mutual trust amongst stakeholders and increases the resolve to achieve project sustainability (Tengan & Aigbavboa 2017). This shows that project custodians must be balanced in processing their actions so that stakeholders become committed and consistent in participating in project activities. This justification makes it evident that the social exchange theory highlights the importance of having authentic leaders and stakeholder engagement in stimulating project sustainability.

2.5 Empirical Review of Literature

2.5.1 Authentic Leadership and Project Sustainability

Previous works have argued that authentic leadership is associated with project sustainability (Liphadzi *et al.*, 2015). For instance, Duarte *et al.* (2021) emphasized that leaders who are authentic create conducive working conditions that lead to commitment and improved performance foster project sustainability. In line with the above, Basit (2020) and Nasiru and Kasimu (2018) upheld that authentic leadership is the surest way of fostering project sustainability because authentic leaders have the ability to influence desired behaviour and attitudes in a way that intensifies sustainability indicators. Consistently, Duarte *et al.* (2021) and

Tabassi *et al.* (2016) expressed that an authentic leader holds the trustworthiness and potential to employ meaningful impact onto project teams which consequently fosters them to perform in a more sustainable manner. Basit (2020) and Madyaningarum *et al.* (2018) also added that authentic leaders always find an equilibrium between work ethics and social norms of teams which makes their members perform with considerable devotion to achieve project sustainability.

An empirical study conducted by Buba and Tanko (2017) in Nigeria emphasized the importance of authentic leadership in fostering project sustainability. Findings ascertained under this study reveal that authentic leaders are always more effective while executing their responsibilities which increases their chances of attaining project sustainability over time. Moreover, Jang (2021) observed that authentic leaders always offer their followers the necessary support which in-turn leads to committed high quality performance. In agreement with the above, Duarte *et al.* (2021) postulated that authentic leaders regularly practice respectful relationships between them and their followers, which is vital in driving consistent creativity at work. Moreover, a study conducted by Nasiru and Kasimu (2018) on construction projects identified that authentic leadership and project sustainability are closely related. Under this study, it is maintained that authentic leaders hold an extraordinary ability which they always use to motivate team members thus creating a helpful environment which in turn inspires sustainability.

Furthermore, recent studies by Buba and Tanko (2017) and Jang (2021) attribute low project sustainability levels to lack of authentic leadership in project setups. These studies assert that authentic leaders are capable of inserting rational reasoning amongst project team members which later drives their individual performances in a manner that accrues to project

sustainability. More so, Duarte *et al.* (2021) postulate that authentic leaders proactively share decent information with their followers which is capitalized on to achieve project sustainability. Accordingly, Tabassi *et al.* (2016) further stressed that authentic leaders are always unbiased, consistent and optimistic to command project activities in a more sustainable manner. Similarly, recent works conducted by Rayiramkandath (2021) on organizational leadership in India concluded that leaders who are authentic improve project sustainability. Although majority studies reveal a positive association between organizational culture and member performance, some studies reveal totally contradicting views in relation to the study variables. For instance, the empirical study conducted by Hassan (2021) among development projects in United Arab Emirates identified a missing link between the primary antecedents of project sustainability. In this regard, the link between authentic leadership and project sustainability as discussed by numerous scholars and academia is still inconclusive. While, this linkage is still tenuous, it can only be confirmed if future studies focus on donor funded water projects in the Lamwo District.

2.5.2 Authentic Leadership and Stakeholder Engagement

Previous works have consistently examined the association between authentic leadership and stakeholder engagement (Demirtas *et al.*, 2017). For instance, Duarte (2021) emphasized that authentic leaders are always honest, respectful and committed in their words and actions which inculcates reliable stakeholder behaviour and right morals which significantly makes them to participate more and engaged. In line with the above, research studies Wibawa and Takahashi (2021), and Yang and Wei (2018) maintained that authentic leadership fosters stakeholder engagement simply because authentic leaders have the ability to influence and modify desirable behaviours and attitudes among stakeholder in a way that prompts them to become more engaged. Similarly, Basit (2020) revealed that authentic leaders have the potential to employ

meaningful influence onto their followers which consequently boosts engagements levels. Baek *et al.* (2019) also maintained that authentic leaders always develop and promote ethical codes commensurate with stakeholder's interests, values and goals something that makes them feel more contented and accept the project.

The empirical studies by Duarte (2021), and Samdani and Yameen (2017) also concluded that authentic leadership and stakeholder engagement are closely interconnected because authentic leaders tend to put up effective management structures which stimulates work satisfaction thus arousing their ultimate engagement levels. Consistently, Datche and Mukulu (2015) and Basit (2020) stressed that authentic leaders are known for offering psychological comfort to stakeholders which subsequently stimulates their engagement levels. In addition, Han *et al.* (2019) sustained that authentic leaders play a central role in modifying stakeholder relation networks which plays an intrinsic role in stimulating their engagement levels. Similarly, Demirtas *et al.* (2017) noted that authentic leaders strengthen moral relationships and dealings between themselves and stakeholders which boosts their confidence and participation. In support of the above findings, recent studies by Duarte *et al.* (2021) and Samdani and Yameen (2017) postulated that authentic leaders boost stakeholder self-actualization levels of an inner drive that keeps them more committed and engaged over time.

In the same view, Basit (2020) and Voegtlin *et al.* (2012) concluded that authentic leaders tend to be more honest and consistence which creates a positive impression among stakeholders that whatever promises made by them would be fulfilled. In this case, stakeholders become more engaged in anticipation that they would prompt their leaders to offer special benefits.

Furthermore, low stakeholder engagement levels is attributed to lack of authentic leaders in organizational setting simply because authentic leaders instill logical reasoning amongst stakeholders which enables them passionately deal with the alternating uncertainties (Engelbrecht *et al.*, 2017; Hussain & Wasem, 2020). It is worth noting that most organizations register low figures of committed and engaged stakeholders since they operate in environments with limited authentic leaders who can promote favorable attitudes in every stage and behaviour (Basit, 2020; Demirtas *et al.*, 2017). Furthermore, Han *et al.* (2019) stressed that authentic leadership enhances stakeholder organizational citizenship behaviour which are necessary in stimulating community participation and acceptance. Nevertheless, a study by Judeh (2020) suggests that authentic leadership should not be accorded much attention much as it has a bearing on stakeholder engagement. The study observed that stakeholder engagement depends on a number of antecedents more than just authentic leadership and vary from one organizational set up to another.

Another study conducted by Mohammad and Chaudhary (2020) equally established that stakeholders demand more psychological attachment drivers such as empowerment than just authentic leaders. Henceforth, it can be concluded that much as a lot exists to support the relationship between authentic leadership and engagement, it is not conclusive. Furthermore, this research observes that most of the studies are relatively scanty to elaborate the relationship of the same in developing economies such as Uganda. The majority of scholars used in the discussion are for studies which have been conducted in developed and developing countries. As such, there was a key need to understand how authentic leadership influences stakeholder engagement with more concentration directed towards donor funded water projects in Uganda.

2.5.3 Stakeholder Engagement and Project Sustainability

Stakeholder engagement has expanded more prominence among previous project studies due to its considerable influence on project sustainability. Certainly, conducted studies contend that appropriate levels of stakeholder engagement are significant in attaining proper social, economic and environmental sustainability (Freeman *et al.*, 2021). Particularly, in one of the studies conducted by Wells *et al.* (2021) it is indicated that enhanced stakeholder engagement is key in directing sustainability among projects due to the fact that stakeholders are diverse in nature with various views. Consequently, understanding of such differences is key in minimizing the likely conflicts that would compromise project sustainability. Moreover, a study by Nygaard *et al.* (2021) conducted among innovation projects observed that engaged stakeholders are always determined to take part in appropriate *interrelations* and clusters that enhance effective analysis and mapping of project priorities so as to attain desired sustainability levels. According to the study by Tengan and Aigbavboa (2017) among local government projects, it is revealed that enhanced stakeholder engagement stimulates mutual trust amongst project stakeholders which ultimately increases on their determination to achieve project goals including project sustainability.

Additionally, enhanced stakeholder engagement stimulates the development of desired and favorable attitudes among project members something that elevates their confidence in the quest to achieve project sustainability (Freeman *et al.*, 2021; Bal *et al.*, 2013). While still emphasizing the significance of stakeholder engagement, several studies by Attanasio (2021), and Heravi *et al.* (2015) established that stakeholder engagement indorses togetherness and collectivism in approaching project tasks which undeniably fosters project sustainability. Similar studies of

Fulton *et al.* (2013), and Stolarski *et al.* (2020) argued that stakeholder engagement arouses perceived individual capabilities which fosters project sustainability whenever such capabilities are combined towards achieving project goals and objectives. Furthermore, an empirical study by Jang *et al.* (2017) also emphasized the direct linkage between that exists between stakeholder engagement and project sustainability. The study asserts that enhanced stakeholder engagement minimizes unconstructive actions and the occurrence of unanticipated risks that restrain the attainment of project sustainability. Overwhelmingly, recent studies by Attanasio (2021) and Bizon-Górecka and Górecki (2017) established that sustainability of majority of projects is rooted in the engagement levels of project stakeholders. Another study conducted by Wells *et al.* (2021) discoursed that enhanced stakeholder engagement allows project course activities be accomplished as planned which allows for the attainment of project sustainability. It is worth noting that stakeholder engagement and relations are very significant in each project since they have huge impacts on the adequacy, timeliness of activity implementation and the sustainable quality of the end product over time (Freeman *et al.*, 2021; Heravi *et al.*, 2015).

Additionally, studies by Attanasio (2021), and Bal *et al.* (2013) ascertained that enhanced stakeholder engagement not only facilitates proper collaboration among project members but also deals with adverse environmental impacts that would detain the attainment of project sustainability. On the contrary, López *et al.* (2021) recounted that stakeholder engagement solely does not guarantee attainment of project sustainability, but it is a complement of numerous aspects. Therefore, the association between stakeholder engagement and project sustainability is not conclusive since majority of the conducted studies were limited to the developing world with Uganda inclusive. Much as some of the exiting studies concentrated on project works, their conclusions were flimsy and ascertained from developed economies. As such, there is a critical

need to investigate the impact of such phenomena with much attention directed towards donor funded water projects in the Uganda's setting.

2.5.4 The mediating effect of Stakeholder Engagement in the relationship between Authentic Leadership and Project sustainability

There is growing interest in literature to explain the mediation effect of stakeholder engagement in the relationship between authentic leadership and project sustainability although the existing empirical studies have been subject to an endless debate. For instance, an empirical study conducted by Meiyani and Putra (2019) in Indonesia expressed that authentic leadership has the ability of enhancing stakeholder engagement through building the necessary social capital required in achieving project sustainability. In line with the above, empirical studies by Duarte *et al.* (2021), and Beycioglu *et al.* (2012) reckoned that authentic leadership creates suitable grounds through which value networks are created among stakeholders thus stimulating their acceptance and participation towards attaining project sustainability. Moreover, Basit (2020), and Jang *et al.* (2017) highlighted that authentic leadership stimulates stakeholder engagement because it allows for the development and cultivation of trustful relationships among stakeholders which fosters sustainability over time.

Additionally, empirical studies by Wibawa and Takahashi (2021), and Yang and Wei (2018) indicated that stakeholder engagement mediates the relationship between authentic leadership and project sustainability. According to the findings of this study, it is also postulated that authentic leadership stimulates stakeholder's trust and benevolence which are key in facilitating sustainability among projects. Consistent with the above, Marschlich and Ingenhoff (2021), Meiyani and Putra (2019) posited that authentic leadership has the capacity of stimulating stakeholder engagement through the modification of mutual beneficial relationships between

stakeholders and other project actors that pave way for the attainment of project sustainability over time. While still emphasizing the mediating effect of stakeholder engagement, Han *et al.* (2019) maintained that authentic leaders are always able to strike a balance between project goals and stakeholder's interests and values which ultimately makes them feel more contented and participate to thrust until project sustainability is realized.

Nevertheless, according to studies by Shams (2020), and Tengan and Aigbavboa (2017) indicated otherwise that stakeholder engagement has a sole capacity of directly determining project sustainability than being considered as a mediating variable. Findings of this study assume that stimulated stakeholder engagement arouses mutual trust among teams which ultimately increases the likelihood of attaining goals including project sustainability. On the other hand, Muff *et al* (2021) stressed that stakeholder engagement is the surest way authentic leadership is likely to influence project sustainability. According to this study, authentic leaders provide conducive work settings under which stakeholders are emotionally comforted which energizes them to take part in various sustainable project activities. However, Rayiramkandath (2021) and Opoku and Fortune (2011) disregarded the mediating effect of stakeholder engagement in the same relationship indicating that authentic leadership has the solitary capacity of promoting sustainable practices among projects.

From the aforementioned discussions, a possibility of the mediating effect of stakeholder engagement is not obvious and evident since proponents of authentic leadership and stakeholder engagement reveal otherwise. That said, the study observes that most of these studies are not recent and were considerably conducted elsewhere other than Uganda, which raises a significant

question as to whether the findings ascertained in those studies apply to Uganda or not which inspired the researcher to instigate a study that can phase away imaginations.

METHODOLOGY

CHAPTER THREE

3.0 Introduction

This section covers the research design, study population, sample size calculation and sampling methods, data sources, variable measurement, data collection procedures, data processing, data analysis, and data collection tools. It also covers ethical considerations, research instrument validity and reliability, and anticipated study limitations.

3.1 Study Design

This study adopted a cross-sectional research design, a tactic that **allows data** to be collected at a single moment in time, which enables a speedy derivation of conclusions on a matter under investigation (Cvetkovic-Vega et al., 2021; Creswell, 2014). We also followed the quantitative approach in studying of the research problem where we **began** our study by posting the potential theories and then out of them, we derived the study objectives and hypotheses that we later on tested (Creswell, 2014).

3.2 Study Population

The study population comprised of 103 donor funded water projects that were constructed by the LWF and partners in Lamwo District in Uganda which was considered as the unit of analysis since this was the number of donor water funded projects in Lamwo District within the Time Scope (The LWF, 2018). The population of the donor funded projects was generated from the Lutheran World Federation (The LWF, 2018) report.

3.3 Sample Size

Sample size refers to the number of respondents who are expected to participate in any study. This study selected a sample of 82 water projects (See. *Appendix IV*) based on the Krejcie and Morgan (1970) table for selecting samples from a given population. The justification for using Krejcie and Morgan table to determine the sample size is that it was simplistic and less prone to errors as it involves reading the sample size which corresponds to the study population (Tabachnich & Fidel, 2010)

3.3.1 Sampling Technique

The study samples were selected using simple random sampling technique. The researcher wrote each of the donor funded water projects on a separate piece of paper before pooling them together. Upon mixing, the researcher selected the projects without replacing until the targeted sample was obtained. This technique was used because it grants every element within the population an equal opportunity of being selected (Taherdoost, 2016).

3.4 Data Collection Instrument

The study employed a questionnaire as the instrument to collect data since it effectively helped to obtain data from a large number and dispersed samples (Creswell, 2014). The instrument was structured with closed-ended questions which were anchored on a 5-Point Likert scale of 1-strongly disagree to 5-strongly agree.

3.5 Validity and Reliability

3.5.1 Validity

Validity refers to the extent to which the data collection instrument is relevant in measuring the study variables (Drost, 2011). In this study, validity of the questionnaire was determined by computing the content validity indices (CVI) for each study variable. This technique involved designing questions with the Likert scale of five responses of “strongly agree, agree, not sure, disagree and strongly agree” for my research supervisors who are also experienced researchers who ascertained that the dimensions and variables used in the study were appropriate enough to give reliable results. Using the formula, $CVI = K/N$ where, K = Number of items considered significant and N = Total number of items considered in the instrument, then the CVI ratios of relevant items were ascertained by using the threshold of ratios of value 0.7 and above as significant (Lynn, 1986).

3.5.2 Reliability

Reliability refers to the consistency or dependability of a data collection instrument (Tabachnick & Fidell, 2019). Reliability was determined by pretesting the questionnaire on donor funded water projects outside Lamwo District by conducting a pilot study of 15 questionnaires on 5 (Five) 15-year-old piped wells in the Kivu community in Kisozi Parish in Kyengerera Town, Wakiso District that were constructed by funding from the Japan International Cooperation Agency (JICA) (JICA, 2015). Reliability Cronbach Alpha Coefficients was above 0.7 was considered acceptable (Cronbach, 1950).

3.6 Measurement of Variables

Authentic leadership was conceptualized in terms of balanced processing, relational transparency, self-awareness and internalized moral perspective and the research adopted the Authentic Leadership questions developed by Gigol (2020) and Walumbwa *et al.* (2008). The items in the questionnaire were modified to fit the study context.

Stakeholder engagement was conceptualized in terms of community participation and acceptance and the research adopted the stakeholder engagement questions developed by Schaufeli (2002) and Stolarski (2020). The items in the questionnaire were modified to fit the study context before they were subjected to the 5-Point Likert scale.

Project sustainability was conceptualized in terms of financial, technical and operational capacity to sustain the water facility and the research adopted the Water Project Sustainability questions developed by Etongo *et al.* (2018) and Otika *et al.* (2020). The items in the questionnaire were modified to fit the study context before they were subjected to the 5-Point Likert scale.

3.7 Data Collection Procedures

The researcher obtained a letter of introduction from Busitema University to serve in communicating to the respondents that the research study was solely for academic research and not for any other hidden agenda. Thereafter, a closed-ended questionnaires were distributed to the targeted respondents to provide their responses on the various statements raised. The questionnaire method was selected because it is simple, convenient and can be used to collect data from a big sample size.

3.8 Data Analysis and Presentation

By using the Abu-Bader & Jones (2021) approach, data from the field was cleaned, edited, coded and captured in the SPSS for analysis. The researcher analyzed the data for descriptive and inferential statistics. Correlation and regression analysis were both included in the inferential statistics; the former was used to determine the link between variables under study and the later at the effect of factors under study on the dependent variables. The presence of mediation was ascertained through the execution of multiple linear regression analyses utilizing "Process Macro" within the SPSS software. This involved analyzing the impact of the independent (X) and mediating (M) variables on the dependent variable (Y) and calculating the unstandardized regression coefficient (b) and the standard error of b (Sb). Subsequently, the unstandardized and standardized regression coefficients, standard errors, and the direct, indirect, and total effects of X on Y were also determined. R-squared values, t, and p values, among other statistics, were also calculated.

A variable may serve as a mediator in the causal sequence, according to Baron and Kenny (1986), if regression analyses show statistically significant relationships at the first three levels under the following circumstances: where the independent variable is a statistically significant predictor of the mediator (X predicts M), where the independent variable is a statistically significant predictor of the dependent variable (X predicts Y). In this case, the mediator functions as a dependent variable for the independent variable, and it is a statistically significant predictor of the dependent variable when the effect of X is taken into account (M predicts Y). In this case, the dependent variable's independent variable is the mediator. These three actions demonstrate a direct result. It is found that mediation is unlikely and that it cannot be assumed if any of these

interactions are not statistically significant. The observed mediator effect on the link between X and Y is next investigated as either a complete or partial mediation model in the fourth phase, which is carried out if a statistical significance has been established (Abu-Bader & Jones, 2021).

3.9 Ethical Considerations

The researcher obtained an introductory letter from the Directorate of Graduate Studies, Research and Innovations of Busitema University that defined the researcher's intentions of undertaking the study. The researcher used the introductory letter to introduce themselves to every community they reached without much challenges. This helped to minimize the suspicion that members could have had towards the whole exercise of the data collection.

In addition, to increase the respondents' level of confidentiality, the researcher designed the data collection instruments without putting an option for the respondent's name. This ensured that specific views provided by respondents were not linked to the people who provided them and such an approach encouraged the community members to participate in the study without fear of being victimized by the community leaders or members. The researcher also first sought consent from the respondents so that they responded to the questionnaire items with an informed view.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.0 Introduction

This chapter comprises of the description of the demographic characteristics of the projects using frequency distribution tables. The study chapter also shows correlation and regression results.

4.1 Response Rate

According to Frankael (2010), response rate is the proportion of the respondents who responded to the study. Seventy-one water projects responded to the study implying a response rate of 81.5. This response as seen in Table 4.1 below meets the suggested minimum by Frankael (2010), and thus, this was judged adequate for further analysis

Table 4.2: Response Rate

	Frequency	Valid Percent (%)
Response rate	71	81.5
Non response rate	11	19.5
Total	82	100

Source: Primary Data, 2024

4.2 Project Characteristics

Characteristics of the water projects are presented based on the years of operation, average duration before breakdown and how long it takes to restore a water facility after breakdown. The results show that the majority of water projects in the area have lasted for 4 years and above represented by 59.1%, 4.22% have lasted for less than 1 year, whereas 8.45% of the water

facilities have lasted between 1-2 years, 12.6% of the water facilities have lasted between 2-3 years and 15.94% of the water facilities have lasted between 3-4 years.

As regards duration before break down of the water facility, the results show that the majority water facility breakdowns happen less than 1 year after installation or a repair represented by 83.09%, 11.26% of the projects take and 1-2 years, 2.81% of the projects take average duration of 3-4 years and 2.81% of the projects also take 5 years and above before the breakdown. Regarding facility restoration period after break down, the results showed that most water facilities after a breakdown are restored in less than 2 months represented by 60.56% followed by 2-4 months represented by 29.57%, 4.22% of the water facilities were restored between 5-7 months whereas 5.63% above 7 months.

Table 4.3: Project characteristics

The number years of operation of the water project, Total N = 71	Frequency	Valid Percent (%)
Less than 1 year	3	4.22
1-2 years	6	8.45
2-3 years	9	12.6
3-4 years	11	15.49
4 years and above	42	59.1
Total	71	100
Average duration before breakdown of the water project, Total N = 71	Frequency	Valid Percent
Less than 1 year	59	83.09
1-2 years	8	11.26
3-4 years	2	2.81
5 years and above	2	2.81
Total	71	100
Water facility restoration period after breakdown	Frequency	Valid Percent
Less than 2 months	43	60.56
2-4 months	21	29.57
5-7 months	3	4.22

7 months and above	4	5.63
Total	71	100%

Source: Primary data, 2024

4.3 Validity and reliability

The measurement constructs were tested for validity and reliability to ascertain the consistency of the research results and the how valid the research instrument was to measure the purported constructs. Validity was measured using Content Validity Index (CVI) and reliability was measured using Cronbach Alpha coefficient with a threshold of 0.7 and above considered reliable and valid (Tabachnich & Fidel, 2010). The study findings reveal that the study constructs were valid with a CVI index above the 0.7 threshold for Authentic leadership (0.83), stakeholder engagement (0.91) and project sustainability (0.92). Regarding reliability, the study findings show that data was reliable with Cronbach alphas coefficients for the study constructs above the 0.7 threshold. The results in Table 3 show that the Cronbach alpha for stakeholder engagement was ($\alpha=0.89$), social capital ($\alpha=0.75$) and project sustainability ($\alpha=0.73$) and hence the data used to draw conclusion was reliable.

Table 4.4: Content Validity Index and Cronbach's Alpha Statistics

Variable	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No of Items	CVI
Authentic Leadership	.830	.830	12	0.83
Stakeholder Engagement	0.87	0.91	06	0.91
Project Sustainability	0.81	0.83	12	0.92

Source; Survey Data (2024)

4.4 Correlation Analysis

Table 4.5: Results of correlation Analysis

Variables	1	2	3
1. Authentic leadership	1		

2. Stakeholder engagement	.509**	1	
3. Project sustainability	.704**	.680**	1
**Correlation is significant at the 0.01 level (2-tailed).			
Source: Survey Data (2024)			

We employed Pearson's correlation coefficient to determine the relationship among stakeholder engagement, authentic leadership, and the sustainability of donor funded water projects. The findings of the study as seen in Table 4.5 below:

4.4.1 Authentic leadership and project sustainability

Table 4.5 above reveal a significant positive relationship between authentic leadership and project sustainability ($r = .704, p < 0.01$). These results imply that an increase in authentic leadership leads to an associated increment in project sustainability

4.4.2 Stakeholder Engagement and project sustainability

Table 4.5 above indicates a positive and significant association between stakeholder engagement and project sustainability ($r = .680, p < 0.01$). These results show that changes in stakeholder engagement leads to corresponding changes in p in project sustainability by 68 percent

4.4.3 Authentic Leadership and Stakeholder Engagement

Table 4.5 above indicates a positive and significant correlation between authentic leadership and stakeholder engagement ($r = .509, p < 0.01$). These results show that authentic leadership is associated with stakeholder engagement. Therefore, there is a possibility that approximately 51% of the change in stakeholder engagement might be related to authentic leadership

4.5: Results of Hierarchical Regression Analysis

Hierarchical regression was used to determine the predictive power of authentic leadership and stakeholder engagement on project sustainability. Hierarchical regression is a regression technique which tests the additive value of the predictor variables on the outcome variable Cresswell (2004). The constructs are entered in a series of blocks to determine the incremental value of each predictor in the model. Results of regression analysis using hierarchical regression approach is presented in Table 4.6 below:

Table 4.6: Results of Hierarchical Regression Analysis

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
Constant	3.01	.97			.59		.22	.59	
Project Age	.11	.18	.08	.08	.11	.01	.03	.09	.02
Period before breakdown	.11	.17	.07	.05	.10	.03	.03	.09	-.01
Period to restoration	-.11	.14	.11	.03	.08	.01	.06	.07	.05
AL				.79	.05	.70	.48	.05	.63
SE							.68	.06	.64
R	.173			.809			.865		
R²	.030			.655			.749		
Adj R	.014			.634			.729		
ΔR^2	.030			.625			.093		
p-value	<i>P</i> = .564			<i>P</i> < .01			<i>P</i> < .01		
	> .01								
Dependent Variable: Project Sustainability									

Source: Survey Data (2024)

4.5.1 Hypotheses Testing (Testing for Direct Relationships)

Using hierarchical regression, we tested for the predictive power of the independent variables, that is, authentic leadership and stakeholder engagement on project sustainability based on the suggested hypotheses as explained below.

4.5.2 Demographic factors and project sustainability

Based on Table 4.6 above, in Model 1 we entered the control variables (project age, project duration, before the break down and duration, before restoration of the water source, after a break down) to establish the effect of the controls on project sustainability. The study findings show that project the controls had no significant influence on project sustainability. The controls explained only approximately 3% of the total change in project sustainability ($R^2 = 0.030, P > 0.01$). This implies that the contribution of the three demographic factors of project age, project period before breakdown, and period to restoration is insignificant in as far as causing changes in project sustainability is concerned.

4.5.3 Authentic and project sustainability

The first hypothesis hypothesized that authentic leadership is associated with project sustainability. As indicated in Table 4.6 above, this hypothesis was tested in Model 2. The findings of the study revealed authentic leadership significantly enhances project sustainability ($\beta = 0.70, p < 0.01$). Also, the ($\Delta R^2 = 0.625, p > 0.01$) shows that approximately 63% of the total change in project sustainability is explained by authentic leadership. Based on these results, hypothesis one (H_1) that states that authentic leadership is associated with project sustainability is supported.

4.5.4 Stakeholder engagement and project sustainability

The second hypothesis hypothesized that stakeholder engagement is related to project sustainability. As shown in Table 4.6 above, this hypothesis was tested in Model 3. The study findings revealed that stakeholder engagement is a significant predictor of project sustainability ($\beta = 0.64, p < 0.01$). Also, the ($\Delta R^2 = 0.093, p < 0.01$) shows that approximately 9% of the total variance in project sustainability is accounted for by stakeholder engagement. Based on these results, hypothesis one (H2) that states that stakeholder engagement is linked to project sustainability is supported.

4.5.5 Authentic leadership and Stakeholder Engagement

Table 4.7: Regression Results- Authentic leadership and Stakeholder Engagement

	Un Standardized Coefficients B	SE	Standardized Coefficients β
Constant	2.23	2.11	---
Authentic leadership	.365	.032	.342
R	.521		
R²	.487		
Adj R	.485		
p- value	P <.01		
Dependent Variable: Stakeholder Engagement			

The third hypothesis (H₃) stated that authentic leadership is positively associated with stakeholder engagement. As shown in Table 4.7 above, this hypothesis was tested using simple linear regression analysis. The study findings revealed that authentic leadership is a significant predictor of stakeholder engagement ($\beta = 0.342, p < 0.01$). Also, the ($R^2 = 0.487, p < 0.01$) shows that approximately 49% of the total variance in stakeholder engagement is explained by

authentic leadership. Based on these results, hypothesis one (H_3) that states that authentic leadership is associated with stakeholder engagement is supported.

4.5.6 Mediation influence of Stakeholder Engagement in the relationship between Authentic Leadership and Project sustainability

Under mediation analysis, the researcher tested the following study hypothesis: H_4 Stakeholder engagement has a significant mediating influence on the relationship between authentic leadership and project sustainability of donor funded projects in Lamwo business district. Thus, the indirect effect (mediation effect) of stakeholder engagement on the relationship between authentic leadership and project sustainability was tested using Process Macro version 4.2 (Hayes,2022) in the SPSS software version 23 (Baron & Kenny,1986) and later improved by Hayes (2017). According to Baron and Kenny (1986), mediation analysis requires the establishment of four (4) models to support the principles of mediation as indicated below:

Model 1 (c). This model establishes that authentic leadership should be a significant predictor of project sustainability. In reference to the study findings in Table 4.8 below, authentic leadership is positively associated with project sustainability ($r = .704$; $LLCI = .5314$, $ULCI = .64220$; $R^2 = .70$; $p < 0.01$). Thus, changes in authentic leadership induces a change in project sustainability hence satisfying the 1st model condition as indicated in Table 4.8 below;

Model 11 (a). This model states that authentic leadership should predict the mediator (stakeholder engagement). Based on results in Table 4.8 below, authentic leadership is a significant predictor of stakeholder engagement ($r = .509$; $LLCI = .3207$, $ULCI = .4352$; $R^2 = .487$; $p < 0,01$). Hence, authentic leadership is positively related to stakeholder engagement, thus fulfilling the 2nd model condition as indicated in Table 4.8 below:

Model 111 (b). This model establishes that stakeholder engagement should be a predictor of project sustainability. The study results revealed that stakeholder engagement is positively and significantly associated with project sustainability ($r = .680$; LLCI=.0342, ULCI=.0545; $R^2 = .93$; $p < 0.01$). This is because there is no zero value between lower and upper-level confidence interval values, thus satisfying the 3rd mediation condition.

The study findings also indicated that the subsequent indirect effect on project sustainability is determined by (path a) and (path b). Consequently, (path c') indicated that when we control for the mediator (stakeholder engagement), the direct effect of authentic leadership on project sustainability reduced from ($r = .704, p < 0.01$) to ($r = 0.456; p < 0.01$) but remained positive and significant indicating that a partial mediation. Thus Model 1 is a necessary condition for mediation analysis as earlier suggested by Baron and Kenny (1986).

Model IV, in reference to Model IV, the decision is established to ascertain the type of mediation whether it is full or partial mediation by subjecting Model 1 to Model 111. The mediation results therefore indicated that the influence of authentic leadership on project sustainability reduced but remained significant confirming partial mediation. Consequently, the study findings indicate that stakeholder engagement partially mediates the relationship between authentic leadership and project sustainability of donor funded water projects.

Table 4.8 Mediation results

Model	Variables	r	p	LLCI	ULCI
Model 1 (c)	Project sustainability Authentic leadership R- .809 R2- .634	.704	<i>p</i> <.01	.5314	.6422
Model 1 (a)	Authentic leadership Stakeholder engagement R-.521 R2-.487	.509	<i>p</i> <.01	.3207	.4352
Model 1 (b)	Project sustainability Authentic leadership Stakeholder engagement R-.653 R2-.498	0.456 0.354	<i>p</i> <.01	.2315 .2143	.3421 .4325
	<p>Total effect of X (Authentic leadership) on Y (project sustainability)</p> <p>Effect se p- value LLCI ULCI .704 .05 .001 .5314 .6422</p> <p>Direct effect of X (Authentic leadership) on Y (project sustainability)</p> <p>Effect se p- value LLCI ULCI .456 .04 .001 .2315 .3421</p> <p>Indirect effect of X (AL) on Y (PS)</p> <p>Effect se p- value LLCI ULCI .248 .01 .001 .2143 .3652</p>		<i>p</i> <.01 <i>p</i> <.01 <i>p</i> <.01		

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the discussion, conclusions, and recommendations arising out of the research findings in chapter four and suggests areas for further study.

5.1 Summary of the Findings

The study sought to examine the relationship between authentic leadership, stakeholder engagement and project sustainability. According to the regression findings of the study variables, the findings revealed positive and significant relationships between the study variables and project sustainability. Discussion of the Findings

5.1.1 Authentic Leadership and Project Sustainability

This objective sought to examine the relationship between authentic leadership and project sustainability authentic leadership and project sustainability. The findings revealed that authentic leadership was a significant and positive predictor of project sustainability, which implies that authentic leaders play a crucial role in ensuring that donor funded water projects are sustainable.

The study findings are in line with the findings of Duarte *et al.* (2021) who established that authentic leaders build favorable operational environments that bring about commitment and enhanced performance necessary for improved project sustainability. As well, the findings of this study support Basit (2020) who argued that authentic leadership provides a definite means of nurturing project sustainability, since these leaders demonstrate ability to effect preferred traits in a way that increases sustainability of projects. Therefore, the findings seem to suggest that

through balanced processing, rational transparency, self-awareness, and internalized moral perspective, management of donor funded water projects have been able to ensure project sustainability. Besides integration of ideas of water users, through balanced processing, management has been able to regularly identify causes for non-functionality of the water facilities and thus, map out interventions to enhance project sustainability. Through water user committees, awareness of management and maintenance of existing projects has been enhanced, a practice that has improved sustainability of such projects. Through rational transparency, authentic leaders have been able to support community's water source committees to regularly provide the beneficiaries with accountability for all the monies saved for water facility maintenance which in-turn motivates the beneficiaries to consistently and adequately save money for effective water facility maintenance, hence enhanced and consistent functioning of the water facility ensures project sustainability.

5.1.2 Authentic Leadership and Stakeholder Engagement

Through this objective, this study aimed at establishing the influence of authentic leadership on stakeholder engagement. The findings showed that authentic leadership significantly impacted stakeholder engagement in organizations, which highlights the fundamental role that authentic leaders play in enhancing sustainability of the donor funded water projects are sustainable.

The findings of this study are in tandem with the findings of Duarte *et al.* (2021) who argued that authentic leaders are consistently truthful, polite and devoted in their activities, a practice that builds stakeholder approach to project sustainability. These leadership traits have been found instrumental in committing stakeholders as well as making them more involved in project activities. In the same way, Basit (2020) contends that authentic leaders employ significant

impact onto their followers which subsequently enhances involvement intensities of followers. Similarly, studies by Wibawa and Takahashi (2021), and Yang and Wei (2018) maintained that authentic leadership fosters stakeholder engagement through leaders' demonstrated ability to influence and modify desirable behaviors and attitudes among stakeholder in a way that prompts them to become more engaged. The findings of the study provide justification that when the water source committee members are able to exhibit favorable authentic leadership traits, this will in turn promote the consistent engagement of beneficiaries in water source maintenance activities. Therefore, the findings highlight the significant role of balanced processing, rational transparency, self-awareness, and internalized moral perspective in the promotion of engagement initiatives among diverse stakeholders.

Through balanced processing, the need to integrate diverse stakeholder needs has meant that management of donor funded projects engage different stakeholder in order to analyze their differing needs and involve them in strategies geared towards ensuring project sustainability. Through authentic leadership practices highlighted above, stakeholder engagement is promoted as these leaders tend to develop effective management structures that stimulate work satisfaction thus, arousing their ultimate engagement levels. Similarly, stakeholders become more engaged in anticipation that they would prompt their leaders to offer special benefits. Also, low stakeholder engagement levels is attributed to lack of authentic leaders in organizational setting as authentic leaders instill logical reasoning amongst stakeholders which enables them passionately deal with the alternating uncertainties.

5.1.3 Stakeholder Engagement and Project Sustainability

Based on this objective, this study assessed the role of stakeholder engagement in promoting project sustainability. The findings showed that stakeholder engagement has a considerable influence in improving the sustainability of the donor funded water projects. Thus, once

stakeholders are engaged, the likelihood of projects being sustainable is high. These results are in agreement with the findings of Wells *et al.* (2021) who noted that stakeholder engagement is crucial in guiding sustainability among projects. In support, Freeman *et al.* (2021) states that greater stakeholder engagement leads to the enhancement of conducive behaviors among project associates that uplifts their certainty in the mission to achieve project sustainability. The findings of the study highlight the fundamental role of engaging stakeholders in improving project sustainability. Thus, through community participation, regular consultation and acceptance, project managers have been able to engage different stakeholders such as project beneficiaries, donors and government among others for the sole purpose of ensuring sustainability of donor funded water projects.

Through community participation, management of donor funded projects have been able to solicit views and opinions of beneficiaries, which are later incorporated within the project sustainability plans, a measure that ensures enhanced project sustainability. The findings further suggest that understanding stakeholder differences through stakeholder profiling is key in minimizing the likely conflicts that would compromise project sustainability. Moreover, a study by Nygaard *et al* (2021) conducted among innovation projects observed that engaged stakeholders are always determined to take part in appropriate *interrelations* and clusters that enhance effective analysis and mapping of project priorities so as to attain desired sustainability levels

5.1.4 The Mediation Effect of Stakeholder Engagement (M) in the relationship between Authentic Leadership (X) and Project Sustainability (Y)

Based on this objective, this study assessed the mediating influence of stakeholder engagement in the relationship between authentic leadership and project sustainability. The findings showed

that stakeholder engagement is a significant partial mediator in the relationship between authentic leadership and project sustainability. Thus, stakeholder engagement carries the influence of authentic leadership to project sustainability.

These results are in line with the SET that states that stakeholders who perceive a leader as supportive will return the gesture, which implies that if leader support is high, then stakeholders will also always voluntarily participate in project activities (Hussain & Wasem, 2020; Lynch *et al.*, 1999). This is because the outcomes of mutual relations result in obligation, fulfilment and optimistic behavior (Freeman *et al.*, 2021; Griffin & Hepburn, 2005), which arouses reciprocated confidence amongst stakeholders and increases the resolve to achieve project sustainability (Tengan & Aigbavboa 2017).

These results further suggest that authentic leaders provide an enabling environment for stakeholders to be engaged, a practice that further enhances project sustainability. Through exhibition of a sense of purpose, self-discipline, strong values, compassion and self-awareness, authentic leaders provide an enabling environment for stakeholder engagement, a practice that improves project sustainability.

5.2 Conclusions

In reference to the study findings and discussions, this study suggests the following conclusions; First, in line with the study findings, the findings validated that authentic leadership is an integral part of project sustainability. This indicates that authentic leadership traits such as balanced processing, relational transparency, self-awareness and internalized moral perspective positively influence the sustainability levels of water projects. This justifies the assertion that

authentic leadership is vital in promoting the sustainability of water projects. Therefore, the constant exhibition of favorable authentic leadership traits by community water source committees enhances sustainability of their water facility. Second, based on the study findings about authentic leadership and stakeholder engagement, it can be concluded that authentic leadership drives engagement among diverse stakeholders. Thus, this supports the argument that for the community to achieve the required stakeholder engagement levels, there is need for community water source committees to portray favorable authentic leadership traits like balanced processing, relational transparency, self-awareness and internalized moral perspective for the beneficiaries.

Third, consistent with the significant results about stakeholder engagement and project sustainability, it can be concluded that improvement in project sustainability requires stakeholders to be engaged. Therefore, the notion of improved project sustainability of donor funded water projects requires engaged stakeholders. Finally, the findings also showed that Stakeholder Engagement plays a significant mediating effect in the relationship between Authentic Leadership and Project Sustainability. The study hence concludes authentic leaders can best enhance project sustainability through stakeholder influence.

5.3 Recommendations

Authentic Leadership and Project Sustainability

According to the findings, authentic leadership was found to be a major predictor of water project sustainability. Therefore, water source committees or community leaders should put a lot of emphasis in portraying favorable authentic leadership traits so as to enhance the community members' willingness and ability to consistently adequately save money through strategic tools

like community saving schemes for effective water facility maintenance to ensure consistent functioning of the water facility. This can be achieved by the water source committee or community leaders consistently portraying behaviors like balanced processing, relational transparency, self-awareness and internalized moral perspective like accommodating beneficiaries' ideas in all water facility maintenance activities so as to encourage the beneficiaries to always practically take part in water facility maintenance activities that positively affect the sustainability levels of water projects. These behaviors can be realized through building genuine relationships, constant reflection on personal and organizational goals, finally through frequent communication.

Authentic Leadership and Stakeholder Engagement

In view of the positive and significant findings between authentic leadership and stakeholder engagement, it is recommended that the management of donor funded water projects should ensure increased engagement of all stakeholders including the community water source committees. This can be achieved through regular consultation of all stakeholders, improved communication among stakeholders and providing feedback on a regular basis whenever required. It is also important that management of donor funded water projects exhibit discrete behaviors *and enhance mentorship of staff within the organization*. The water source committees should also always participate and contribute first and more during all water source maintenance activities in order to enhance the engagement levels of beneficiaries in water source maintenance activities.

Stakeholder Engagement and Project Sustainability

Findings indicate that stakeholder engagement influenced the sustainability of water projects. By being fully engaged in water source maintenance activities, stakeholders will regularly attend and physically take part in water facility maintenance activities and also adequately save money

for effective water facility maintenance to ensure consistent functioning of the water facility. It is thus recommended that management of donor funded projects should develop and promote stakeholder engagement initiatives and practices such as stakeholder profiling, conflict handling strategies, tailored communications, and stakeholder needs assessment.

The Mediation Effect of Stakeholder Engagement (M) in the relationship between Authentic Leadership (X) and Project Sustainability (Y)

The findings showed that Stakeholder Engagement plays a significant mediation effect in the relationship between Authentic Leadership and Project Sustainability. In light of these findings, management of donor funded water projects should ensure joint investment in authentic leadership and stakeholder engagement for enhanced project sustainability. Secondly, effort should be put in training leaders in features such as transparency, accountability and self-awareness as these are important in promoting stakeholder engagement for improved project sustainability.

Limitations of the Study and Areas for Further Research

Applying a cross-sectional design implied that the researcher based all conclusions and recommendations on data collected in a snapshot from respondents. As such, we were not in position to further verify responses as it is the case with multiple data collection, which could have led to problems of causality challenges. Accordingly, it is recommended that further studies should test this project sustainability model using longitudinal approach.

Secondly, this study was based on a limited sample drawn from donor funded water projects from Lamwo district local government. This limited sample could have affected the generalizability of the study results to other projects. I recommend that a similar study be replicated in other projects and organizations.

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LIST OF APPENDICES

APPENDIX I: QUESTIONNAIRE

Dear Respondent,

I am a student at Busitema university pursuing a Master’s degree of Business Administration. As one of the requirements for being awarded with this qualification, I am conducting a study on a topic entitled, “*Authentic Leadership, Stakeholder Engagement and Sustainability of Donor funded Water projects in Lamwo District in Uganda*”. You have been identified as one of the resourceful people to participate in this study. You are requested to answer the questions as honestly as possible to facilitate reliable conclusions and recommendations. All responses obtained will be *strictly* used for *academic purposes* and will be treated with *anonymity and utmost confidentiality*.

SECTION A: DEMOGRAPHIC CHARACTERISTICS

In the following questions, you are requested to tick the option that best suits you.

Section A (I): Respondents Characteristics

Q1. What is your gender?

Male	Female
1	2

Q2. What is your age bracket?

Less than 30 years	30-39 years	40-49 years	50 years and above
1	2	3	4

Q3. What is your highest level of education?

Primary	Secondary	Diploma	Undergraduate Degree	Others (specify)
1	2	3	4	5.....

Section A (II): Water Project Characteristics

Q1. What are the years of operation of this water facility?

Less than 1 year	1-2 years	2-3 years	3-4 years	4 and above
1	2	3	4	5

Q2. What is the average duration before a breakdown of this water facility?

Less than 1 year	1-2 years	3-4 years	5 and above
1	2	3	4

Q3. What is the water facility restoration after breakdown?

Less than 2 months	2-4 months	5-7 months	7 months and above
1	2	3	4

SECTION B:

Under this section, the researcher is interested in ascertaining information on authentic leadership, stakeholder engagement and project sustainability. For each of the statements, you are supposed to indicate the extent to which you either agree or disagree. You are kindly requested to follow the scale provided in this section.

Scale: 1-Strongly Disagree (**SD**), 2-Disagree (**D**), 3- Not Sure (**NS**), 4- Agree (**A**), and 5- Strongly Agree (**SA**).

SECTION B (I): AUTHENTIC LEADERSHIP

	STATEMENT	SD	D	NS	A	SA
	<i>Balanced processing</i>					
BP1	Our water source committee first identifies the cause of non-function in case of any water facility breakdown.	1	2	3	4	5
BP2	Our water source committee does not blame others for any water source breakdown.	1	2	3	4	5
BP3	Our water source committee incorporates other peoples' ideas in performing water source management tasks.	1	2	3	4	5
	<i>Rational transparency</i>					
RT1	Our water source committee declare the amount of water source management resources required yearly.	1	2	3	4	5
RT2	Our water source committee regularly declare the available amount of water source management resources.	1	2	3	4	5
RT3	Our water source committee regularly declare the amount of water management resources used at any given time.	1	2	3	4	5
	<i>Self-awareness</i>					
SA1	Our water source committee regularly contributes first for any water source management activity.	1	2	3	4	5
SA2	Our water source committee regularly contributes more than others for any water management activity.	1	2	3	4	5
SA3	Our water source committee do not blame others for contributing less.	1	2	3	4	5
	<i>Internalized moral perspective</i>					
IM1	Our water source committee regularly declares that everyone is needed in the water source management.	1	2	3	4	5
IM2	Our water source committee regularly listens to others before deciding.	1	2	3	4	5
IM3	Our water source committee do not interrupt others during water source management discussions.	1	2	3	4	5

SECTION B (II): STAKEHOLDER ENGAGEMENT

	STATEMENT	SD	D	NS	A	SA
	<i>Community Participation</i>					
CP1	It is easy for the community to participate in the construction of roads	1	2	3	4	5
CP2	I have participated in public opinion during the projects	1	2	3	4	5
CP3	I am always involved in project planning before the project begins	1	2	3	4	5
	<i>Acceptance</i>					

AP1	we are satisfied with the way the project is handled	1	2	3	4	5
AP2	The services are quick and fast after the project has been implemented	1	2	3	4	5
AP3	The project will costs less than we are willing to pay for It is implementation	1	2	3	4	5

SECTION B (III): PROJECT SUSTAINABILITY

SCALE	SD	D	N	A	SA	
<i>Operational Capacity</i>						
OC1	Our community has a Water Source Committee (WSC).	1	2	3	4	5
OC2	Our Water Source Committee has a water source care taker.	1	2	3	4	5
OC3	Our water source caretaker is regularly available for any water source tasks.	1	2	3	4	5
OC4	Our community does monthly sanitation of the water facility and area.	1	2	3	4	5
OC5	Our Water Source Committee regularly stocks water facility spare parts.	1	2	3	4	5
<i>Financial Capacity</i>						
FC1	We regularly acquire money for water source repairs.	1	2	3	4	5
FC2	Our Water Source Committee operates with a yearly budget.	1	2	3	4	5
FC3	Our Water Source Committee has a saving scheme.	1	2	3	4	5
FC4	A water source maintenance fee is paid monthly by every household.	1	2	3	4	5
<i>Technical Capacity</i>						
TC1	Our Water Source Committee members have skills in water facility repairs.	1	2	3	4	5
TC2	Our Water Source Committee regularly has trainings in water source facility repairs	1	2	3	4	5
TC3	Our community does water facility servicing semi-annually.	1	2	3	4	5

Thank You for participating!

APPENDIX II: LIST OF DONOR FUNDED WATER PROJECTS IN LAMWO DISTRICT

Serial Number	Item Description	Location	Parish/Zone	Sub County
		Block/Community		
1	Hand Pump	Block 5A	ZONE 5A	Ogili
2	Hand Pump	Block 5B	ZONE 5A	Ogili
3	Hand Pump	Block 2	ZONE 1	Ogili
4	Motorized Pump	Block 3	ZONE 1	Ogili
5	Hand Pump	Block 4	ZONE 2	Ogili
6	Hand Pump	Block 1	ZONE 7	Ogili
7	Hand Pump	Block 2	ZONE 7	Ogili
8	Hand Pump	Block 3	ZONE 7	Gem
9	Motorized Pump	Block 7	ZONE 7	Gem
10	Hand Pump	Block 8	ZONE 7	Gem
11	Hand Pump	Block 8	ZONE 7	Gem
12	Hand Pump	Block 8	ZONE 2	Gem
13	Hand Pump	Block 6	ZONE 2	Ogili
14	Motorized Pump	Block 3	ZONE 2	Ogili
15	Hand Pump	Block 6	ZONE 2	Ogili
16	Hand Pump	Block 12	ZONE 5B	Ogili
17	Hand Pump	Block 10	ZONE 5B	Ogili
18	Motorized Pump	Block 9	ZONE 5B	Ogili
19	Hand Pump	Block 11	ZONE 5B	Ogili
20	Hand Pump	Block 11	ZONE 5B	Ogili
21	Hand Pump	Block 8	ZONE 5B	Ogili
22	Motorized Pump	Block 7	ZONE 5B	Ogili
23	Hand Pump	Block 6	ZONE 5B	Ogili
24	Hand Pump	Block 5	ZONE 1	Ogili
25	Hand Pump	Block 5A	ZONE 5A	Ogili
26	Hand Pump	Block 4	ZONE 5A	Ogili
27	Motorized Pump	Block 3	ZONE 5A	Ogili
28	Hand Pump	Block 2	ZONE 5A	Ogili
29	Hand Pump	Block 1	ZONE 1	Ogili
30	Motorized Pump	Reception Centre	Apyetta	Ogili
31	Hand Pump	Block 5	ZONE 4	Ogili
32	Hand Pump	Awish P/S	ZONE 4	Ogili
33	Hand Pump	Block 4	ZONE 4	Ogili
34	Hand Pump	Block 5B	Zone 5A	Ogili
35	Hand Pump	Block 13	Zone 5B	Ogili
36	Hand Pump	Waligo Boader	Palaceri	Ogili
37	Hand Pump	Bajere	Padwat	Ogili
38	Hand Pump	Laburu Jok	Padwat	Ogili
39	Hand Pump	Lajok Bwole/Ododo	OLEBI	Lamwo T/C

40	Hand Pump	Kira	Palacere	Ogili
41	Hand Pump	Lagot Topuk	Lugwar	Ogili
42	Hand Pump	Akworo Central	Lugwar	Ogili
43	Hand Pump	Pagada	Pangira	Lukung
44	Hand Pump	Ogako Ps	Wangtit	Padibe
45	Hand Pump	Moroto	Moroto	Gem
46	Hand Pump	Peny Ojoga/Lelemel	Ywaya	Padibe
47	Hand Pump	Bwola	Atwol	Padibe
48	Hand Pump	Marakac A	Pawaja	Paloga
49	Hand Pump	Michiri Kalaki	Lamwo	Kal
50	Hand Pump	Amot Larom	Ayuu Alali	Kal
51	Hand Pump	Apetta	Apyetta South	Ogili
52	Hand Pump	Tedope	Lelapwot	Lukung
53	Hand Pump	Ramram	Ywanga	Padide West
54	Hand Pump	Lanyang Central	Labiyinyang	Kal
55	Hand Pump	Lakiula	Okol	Madiopei
56	Hand Pump	Latida	Pawor	Lukung
57	Hand Pump	Poyamo	Kal (Molet)	Madiopei
58	Hand Pump	Tumanun	Pobar	Agoro
59	Hand Pump	Apyetta West	Lobur	Ogili
60	Hand Pump	Lokung Collection Center	Olebi	Lamwo T/C
61	Hand Pump	Moroto East	Moroto	Gem
62	Hand Pump	Abam East	Cubu	Gem
63	Hand Pump	Palocire West	Lopulingi	Agoro
64	Hand Pump	Lakwar	Patanga	Gem
65	Hand Pump	Atwangwa	Paloga	Paloga
66	Hand Pump	Latida	Pawor	Lukung
67	Hand Pump	Lotuku	Lawiye Oduny	Madiopei
68	Hand Pump	Kakira	Okol	Madiope
69	Hand Pump	Katum East	Katum	Padibe East
70	Hand Pump	Mission	Satwol	Padibe T/C
71	Hand Pump	Tadi North	Wangtit	Padibe
72	Hand Pump	Yweyope	Pawach	Agoro
73	Hand Pump	Apiriti Border Point	Lawiye Oduny	Madiope
74	Hand Pump	Kal	Kal	Kal
75	Hand Pump	Got-Jok	Ogili	Ogili
76	Hand Pump	Ogili	Ogili	Ogili
77	Hand Pump	Ogwang Chan Central	Nywaya	Padibe
78	Hand Pump	Luguri West	Acebe	Padibe
79	Hand Pump	Luguri East	Acebe	Padibe
80	Hand Pump	Ajawugala	Anaka	Ogili
81	Hand Pump	Palaa East	Mura	Padibe Tc
82	Hand Pump	Loyo Ayella	Pawach	Agoro
83	Hand Pump	Pobutu	Kal (Molet)	Madiope

84	Hand Pump	Panyul	Lopulingi	Agoro
85	Hand Pump	Arusha	Moroto	Gem
86	Hand Pump	Biwang West	Madi Kiloc	Padibe West
87	Hand Pump	Padwat North	Padwat	Ogili
88	Hand Pump	Akelikongo	Pangira	Lokung
89	Hand Pump	Amina	Gem	Gem
90	Hand Pump	Licwar Central	Licwar	Lokung
91	Hand Pump	Gena	Paloga	Paloga
92	Hand Pump	Moroto West	Pakwach	Agoro
93	Hand Pump	Polongo A	Rudi	Agoro
94	Hand Pump	Lalak P.S	Parapono	Lukung
95	Hand Pump	Pabwoc Central A	Lagwel	Padibe West
96	Hand Pump	Pabwoc Central B	Lagwel	Padibe West
97	Hand Pump	Langwibiyaka	Olebi	Lokung
98	Hand Pump	Lomodo	Pakuba	Lamwo T/C
99	Hand Pump	Poyamo (Longarim)	Kal (Molet)	Madiopei
100	Hand Pump	Kapeta	Okol	Madiopei
101	Hand Pump	Lacari Leb Munu	Alaa	Padibe East
102	Hand Pump	Pabwoc West	Lagwel	Padibe West
103	Hand Pump	Kamama Central	Moroto	Gem

Source: (LWF, 2018)

APPENDIX III: TURNITIN SIMILARITY INDEX REPORT

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