https://uonjournals.uonbi.ac.ke/ojs/index.php/ajein
ISSN 3005-7256



# Influence of Staff Personal Competency on Sustainability of Domestic Water Supply Projects in Tanzania: A Case of Singida District

*By: James Daniel Chindengwike*[1]

***Abstract***

*Water resources are the key driver for sustainable development which constitute the production of energy, food, industrial, household and environmental activities. This study aimed to assess the influence of staff personal competency on sustainability of domestic water supply in Tanzania: a case of Singida district. Survey research design was adopted whereby a simple random sampling was used to collect information from 100 officials who are part of the management. Questionnaire and documentary review were used as data collection methods whereas descriptive and inferential statistics were used in analyzing the collected data by using SPSS. The study revealed that the skills in solving water problems to the community and effective communication are statistically significant to sustainability of water projects. The finding also revealed that those groups with good and average management knowledge had 1.613 and 1.209 times more likely to be sustainable compared to those with poor management knowledge and managerial skills respectively. Based on the findings, this study recommended that the government should comprehensively employ people with water management knowledge, and by taking into consideration the experience and technical efficiency as it holds positive influence on sustainability of water projects. Also, regular training of the water management staff for capacity building is enormously essential for sustainability and development of projects. This can be done through setting proper budget in the water project area.*

***Key Words:*** *Personal Competency, Sustainability, Staff, Domestic Water Supply, Tanzania*

## 1. Introduction

Water resources are the key driver for sustainable development which constitute to the production of energy, food, industrial, household and environmental activities, consequently water is essential to human development throughout the world (Sasya, 2023). It's not just production of energy; access to adequate water and sanitation services but influences everybody's health, education, life expectancy, well-being and social development. Availability of water ensures food security; electricity generation and other economic and human activities are created in a productive way. Missing this essential product causes risks associated to health and socioeconomic activities whereby causes people to die with various water bone diseases, increasing unproductively time, hence failure to achieve strategies and goals set by stakeholders (Mathias, 2023). Despite of the importance of water, rural water projects lack sustainability, the problem which continues gasping in Sub-Saharan Countries Tanzania in particular. According to Nzilano (2017), stated that in Sub-Saharan Countries drinking water projects discrepancy exist between urban 83% and rural 61% which causes failure to meet the target of MDGs by 2015. Ndyamukama (2023), argues that the issue of sustainability if was not taken into account

[1] *Lecturer, St. John's University of Tanzania, E-Mail: chindengwikejames@gmail.com*

seriously the world will come near to a shortfall of water hence no required outputs to benefit the future generations will hinder other development activities.

On top of that, water sources need effective management to accommodate domestic needs, though management requires integrated thinking versus professional and personal competency for the aim of attaining sustainability for social, economic and environmental aspects (Werksman & Ayre, 2020). Therefore water resource management is one of the world's greatest challenges due to competition for limited resource, which in time been the competency-based management is inevitable in water supply systems (Aweso, 2021). In ensuring management capability in water systems the demand for competent staff in water management is inevitable to sustain domestic water supply especially in rural areas (Mturi, 2023). Initiatives have passed different phases through establishment of regulations to ensure sustainability of water resources and meet the requirements. For example, according to Water Supply and Sanitation Act - WSSA, (2009), the Ministry of Water shifted the regulation to the local government to operate in rural areas though COWSO in which after its establishment the board is responsible for the water supply system in the village. According to National Rural Water Supply Strategy (Bitesigirwe and Ndede, 2023).) noticed that there are limitations in COWSO registration on its formation process as there is a gap existing in Local Government Authority between policies and its practice. That means LGA is unable to meet their responsibility in the facilitation of COWSO. Thus, under WSSA Act No. 5 of 2019 the Ministry of Water established RUWASA an autonomy Agency in Regional, District point and formed CBWSO at a village level to replace COWSO.

Due to limited time of short-term projects implemented in rural areas, the process of COWSO establishment was very quick, the team had not enough time for community contact leaving people not that familiar which may influence their sustainability, particularly for communities with projects in place. Therefore, District Water Engineer requested close follow up support to newly developed COWSOs to ensure they take their course properly (Awoke et al., 2023). The study adopted two theories such are behavioral and participatory theory to explain the managerial competency on sustainability of domestic water projects in Singida district. The behavioral theory is based on the application of knowledge, skills and experience of the managers while performing their duties (Munro and Kweka, 2021). This theory lacks the explanation based on this study to explain management behavior (personal and professional competencies) rather than relying on individualism. On the context of participatory the theory based on the inclusion of various stakeholders, but it could even

indicate the facilitators (management) to the effective sustainability of domestic water supply. Karuri (2022) investigated managerial competence in low degree of professional personal competencies. Each study assessed managerial competence in inadequate variables such were training, communication, experience and teamwork. Therefore, this study will assess the managerial competency on social sustainability of domestic water supply with sufficient variables of personnel. In managing countries' resources the presence of competency-based management enables human resource management in its areas such are planning, recruiting, training, development and mobility of workers (Oyaro, 2023). It's required that community and management team of water projects is important and necessary to be empowered with necessary personal and professional competencies in order to attain sustainable water management (Akankunda, 2024). Accordingly, it's reported that to ensure management competencies the entire supply chain must ensure utilities moved more quickly toward best practices (Ferla et al., 2023).

So, despite all the efforts made by the government to ensure clean and healthy water supply in rural areas, clean and safe water supply is neither globally nor sustainable for the generations to come and the present one (Rono and Yusuf, 2023). In Tanzania the main objective of the National Water Policy, (2002) is to ensure community access drinking water within 400 meters. Rono and Yusuf (2023), study indicated that over 30% of rural water schemes are not operating properly. Though informal water suppliers are socially capable of providing water supply services, it was realized that there is unsustainable in accessing water in the households for domestic activities (Rono and Yusuf, 2023). On the other side Rono and Yusuf (2023), reported that rural water supply regularly fails to convene national standards and 57% of rural households are drinking water infected with E. coli bacteria, whereas in the same cases 56% was due to infected water points and 44% was due to poor hygiene in households. Various efforts made by different studies have ignored the issue of management competency on sustainability of domestic water projects; also, little has been mentioned on the study of personal and professional managerial competency on domestic water supply (Deus, 2024).

According to management Akankunda, (2024), seeing that a competent manager and staff in domestic water resources are necessary in project success to make them sustainable. Thus, having clear objectives for management competencies on water projects will increase its sustainability and thus aid policy and decision makers in handing over effectively the issue of sustainability of water projects. Therefore, this study examined the competency level, professional competency and personal

competency to the perspective of sustainability of rural domestic water supply projects. The study had various important significant which include contribution to the body of knowledge, the importance of managerial competency on sustainability of domestic water supply in rural areas to the community soundings the water projects in Tanzania, researchers and authorities of domestic water projects. Also the study intends to inform domestic water managerial staffs about their level of competency, professional and personal competency for the purpose of attaining sustainability when dealing with the recommendations of the study. Also, the study expected to help and inform policy makers and planners to consider managerial competency when improving water policies and plans for sustainability of domestic water projects.

## 2.0 Literature Review

The Participatory Theory was originally proposed by Goethe, in which it is the concept of participation of human thoughts in development activities (Akankunda, 2024). Participation theory suggests that effective participation of stakeholders can develop enduring project impact. Jennings Akankunda, (2024), participation is the total inclusion by local people in the project with the facilitators in the execution. Therefore, the theory suggests equal inclusion of all stakeholders in decision making to guide the process regarding a particular project. The theory has been criticized that no need to talk about the project impact hence every project must have an output; therefore, participation must be used as a means to attain a certain output in the project Akankunda, (2024), Though the theory is being criticized but the theory used by various scholars Chindengwike (2025) in supporting sustainability of rural water schemes. Therefore, this study used participatory theory to explain the impacts of involvement of various stakeholders like the managerial staffs in implementation of domestic water projects.A paper conducted by Chindengwike (2025) about the seven competences of a sustainable professional in context of RESFIA plus D model for Human Resource Management (HRM), education and training. The paper revealed that sustainable development will be determined by personal responsibilities in working continuously when improving some duties in the organization. Therefore, this paper supports the use of training when workers demanding to increase their sustainable development in working carrier.

Mokiwa Akankunda, (2024), conducted the study in Tanzania – Dar es Salaam about the performance of urban water supply. The study used both primary and secondary sources whereas both mixed research methods were used. The study sort ought that there was a poor performance of staffs in

supply of water to the public. Also, the study noted that there was lack of cooperation between human resource management officers, other employees and customers. Moreover, the study investigated how water authorities motivate the staff of water department that may be committed in projects implementation. Rono and Yusuf (2023), conducted the study about sustainability of community-managed rural water supply systems in Amazonas-Peru. The study used question mapping techniques and sustainability assessment tools, but the analysis recognizes the sustainability assessment tool to be effective in ensuring sustainability of rural water supply. Then the study revealed that, in Amazonas rural water supply systems are not sustainable. However provisional of external technical support and trainings are one of the services which provided by ATM and JASS still, sustainability remains unconscious. The social sustainability conceptual framework encompasses of four major concepts namely, equity, safety, sustainable urban forms and eco-presumption (Rono and Yusuf, 2023). On the other side the competency model focus on establishing attributes of skills, knowledge and abilities to enhance competent personnel (Rono and Yusuf, 2023), Various studies had tried to show how competency can be linked up with social sustainability. For instance, Ferla et al., (2023), found that one of the barriers of sustainable development is lack of interpersonal skills. Also, George and Ferla et al., (2023), indicate that institutions have significant correlation with sustainability issues of community-based water projects. Therefore, assessing competency issues in sustainability is relevant due to their significant relationship to attain organization goals (Rono and Yusuf, 2023).

### *2.1 Conceptual Framework*

A conceptual framework gives a broader understanding of the phenomenon of interest, in which the study guessing that social sustainability is influenced by different aspects of management competencies. Therefore, management competencies are independent variable and social sustainability dependent variable. A management competency comprises of personal competency which includes self-confidence, self-control, personal responsibility, awareness of ethics and self-management. Connectedly, dependent variables such are social sustainability of water supply projects tend to be influenced by the actions made in management capability.

Independent Variable Dependent Variable

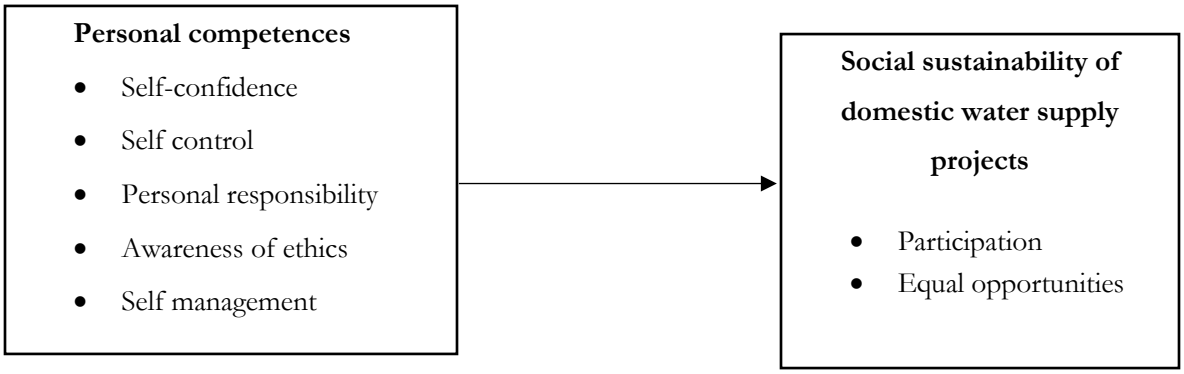



**Figure 1:** Conceptual Framework: (Adom & Hussain, Emad.Kamil. and Joe, 2018)

## 3.0 Research Methodology

Survey research design was adopted whereby a simple random sampling was used to collect information from 100 officials who are part of the management. Questionnaire and documentary review were used as data collection methods whereas descriptive and inferential statistics were used in analyzing the collected data by using SPSS.

### *3.1 Model Specification*

A binary logistic regression model to investigate the influence of management knowledge and skills on sustainability. Therefore, the following equations of regression were used.

$$Y - 1 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \ldots\ldots\ldots\

## 4.0 Results and Discussion

This part explained the findings and discussion of this research. This includes depth discussion on the study.

### 4.1 Actual Sample

The study collected data from a total of 66 respondents who are management team of rural water supply projects in Singed District. Though the expectation was not reached as the actual data collected from 56 staff, this is a small variation of the data as it is displayed in the Table. Lack of knowledge from the respondents, time factor and distance from one village and another to meet management staffs were the major factors that hindered to collect all expected data from the generated sample size.

### 4.2 Internal Consistency of the Data

The reliability statistics in this study were measured by using cronbach's alpha. The analysis indicated an alpha of 0.782 which is 78.2% of the internal consistency of the data. This analysis implies that the internal consistency of the likert scale data of 22 items used in this study was good to be used in presenting this study. Therefore, the internal consistency of the data used in this study is good and the information out from this study is reliable to be used.

**Table 1: Reliability statistics (n = 56)**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| 0.782 | 0.787 | 22 |

### 4.3 Demographic Information

The study used common demographic information to describe the profile of the management such are sex of respondents, working position (occupation) and experience of the respondents. This information was used to identify the characteristics of the respondents whereby it's relevant to check for their importance in the study.

#### 4.3.1 Sex of the Respondents

The respondents were asked to indicate the age of category that they fall in. A total number of 29 (55.8%) and 23 (44.2%) of male and female respectively were involved in this study. These results

imply that the management team in the study area more covered by male than female. From this study male are more involved in dealing with management of water projects in Singida District however female involvement is not equally as 50 to 50. Table 5 summarizes sex profile of respondents at the study area from the sample of 56.

**Table 2: Sex of respondents (n = 56)**

| Cattegory | Frequency | Percent |
|---|---|---|
| Male | 31 | 55.8 |
| Female | 25 | 44.2 |
| Total | 56 | 100.0 |

### 4.3.2 Working position

The management team involved in this study were represented by assistant technicians, head technicians, accountants, other members, private operators and a village messenger. It was indicated that 51.9% were majority of management team assed were other members involved in water committees and meetings of water projects in the study area. Also 23.1% assistant technicians were involved in this study as the part of management team. Others in statistical order were head technicians, accountants, private operators or service providers and village messenger who possess 15.4%, 3.8%, 3.8% and 1.9% respectively (See Table 7).

**Table 3: Working position of respondent (n = 56)**

| | Frequency | Percent |
|---|---|---|
| Assistant technician | 12 | 23.1 |
| Head technician | 8 | 15.4 |
| Accountant | 2 | 3.8 |
| Member | 27 | 51.9 |
| Private operator | 2 | 3.8 |
| Village messenger | 5 | 1.9 |
| Total | 56 | 100.0 |

### 4.1.3 Experience

The research looks at number of years of respondents' working experience whereas they asked to point out the duration they have been working with their respective position. It was indicated that the maximum working experience of the management team in Singida District was 6 years while in the minimum the study found out that there are some workers who possess an experience of less than 1 year. In average workers in the study area had an experience of 1.87 years. Then it was found that the years of experience from one worker/member and another differ in a large context, which means the gap between experiences from one worker to another is big as the Standard Deviation equals to 2.059 which is big difference to the mean data.

**Table 4: Working experience of respondents (n= 56)**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Working years | 56 | 0 | 6 | 1.87 | 2.059 |
| Valid N (list wise) | 56 | | | | |

### 4.2 The Level of Managerial Competency in Managing Domestic Water Supply

This part explains the experience, training, time management, supervision and physical and material resources.

### 4.2.1 Experience

The study findings in Table 9 revealed that, about 45% of respondents had good knowledge in experience when solving domestic water issues, 32% had poor knowledge and only 23% had average knowledge. On the other side, as presented in Table 7, majority of respondents (workers in the management team) about 67.3% had an experience below 1 year. Further, 15.4% of the total workers in the management team they have got an experience above 5 years. Others were found to be between 1 up to 3 years and 4 up to 5 years which are 9.6% and 7.7% respectively.

These results imply that, the experience of management team in Singida District that is responsible in managing water resources in the district is poor but the availability of big experience among workers can be adopted by other workers who lack experience. These results were supported by the behavioural theory which explains how managers use their experience to behave and act within the

organization (Rono andYusuf, 2023). Therefore, the adoption of experience between workers within the management is one of the characters of internal ability of the management in exercising its duties.

**Table 5: Years of Experience in the field**

| | Frequency | Percent (%) |
|---|---|---|
| Below 1 Year | 35 | 67.3 |
| 1-3 Years | 5 | 9.6 |
| 4-5 Years | 6 | 7.7 |
| More than 5 Years | 10 | 15.4 |
| Total | 56 | 100.0 |

### 4.2.2 Training

Training is very important especially to the organization which demands to achieve its goals and objectives. As presented in Table 9, about 40% of respondents have poor knowledge on training provided for the management of domestic water sources in Singed district whereas 37% and 23% had average and good knowledge respectively. Likewise, it was found that (Table 8) in this study there are some sorts of training that workers in management team have been acquiring but are inadequate. About 48.1% of management workers possess more than 1 training course but 51.9% had practiced with below 1 training course. These results entail that in case of worker's development there is incompetency management in dealing with sustainability of domestic water projects, since they acquire few numbers of trainings in handling domestic water problem. These results concur with those of (Rono andYusuf, 2023), which stated that training in any field is very important in facilitating its performance but if it does not build up the requirements of the industry it would be no value for the development of the economy.

**Table 6: Number of training courses attended in capacity building of water project management**

| | Frequency | Percent |
|---|---|---|
| Below 1 Training | 27 | 51.9 |
| 1-2 Trainings | 11 | 32.7 |
| 3-6 Trainings | 6 | 7.7 |
| More than 6 Trainings | 1 | 7.7 |
| Total | 56 | 100.0 |

### 4.2.3 Time management

From the sample of 56 of management team the results findings as shown in Table 9 revealed that most of the workers (36%) had poor knowledge in managing their time when solving water problems in Singida district. Others, 34%, had an average knowledge in application of time management when delivering service, only 30% had a good knowledge. These results imply that the management of Singida district has knowledge in managing time hence the combination of average and good knowledge percent exceeds poor knowledge assessed. Therefore, time management of management team considered to be ineffective in dealing with water projects sustainability or problems of water supply services especially in the study area.

### 4.2.4 Supervision

The study findings as presented in Table 9 indicate that 56% of management team possesses average knowledge in dealing with water matters in Singida District. Others, 38% and 6%, possess poor and good knowledge respectively. These results entail that workers in the management team in Singida District implement their duties regarding water issues with average supervision, which means they can work with minimal supervision and still they can reach the organization goals and objectives.

### 4.2.5 Physical and material resources

About 54 % of respondents had an average knowledge on physical and material resources in exercising water problems in the study area. Further, 25% of respondents have good knowledge of physical and material resources in exercising water problems in Singida District. These results entail that water problems in the district have been taken seriously with the management in such a way that they had

been solved with a massive solution as the management team is physical and material resources in all areas of water issues in the district.

**Table 7: The level of management competency in Singida district**

| Knowledge | | | |
|---|---|---|---|
| Specification | Poor knowledge | Average knowledge | Good knowledge |
| Teamwork | 20% | 30% | 50% |
| Communication | 32% | 44% | 24% |
| Training | 40% | 37% | 23% |
| Experience | 32% | 23% | 45% |
| Time management | 36% | 34% | 30% |
| Human/physical and material resources | 21% | 54% | 25% |
| Supervision | 38% | 56% | 6% |
| **Skills** | | | |
| Specification | Poor knowledge | Average knowledge | Good knowledge |
| Communication | 27% | 45% | 28% |
| Problem solving | 50% | 44% | 6% |
| Emotional Intelligence | 44% | 35% | 21% |
| Audit | 46% | 32% | 22% |

#### 4.2.6.1 Condition of domestic water supply equipment in the Singida District

Management complained that there is lack of equipment and spare parts for maintenance. Also, other water projects failed due to their life span are too old which causes operation and maintenance increase. Moreover, the distance from Headquarter to villages is very high thus are difficult to get equipment's and spare parts in time. Equipment and spare parts are unavailable in nearby areas until they go to Singida and it takes long, this causes delay and unnecessary costs. However, authorization to buy spare parts comes from District Headquarter; but in the side of private operators buy themselves this enhances no delay of solving water problems. In major maintenance the management relies on Engineers from the Headquarter of District. The study revealed that this hinders sustainability of water projects when the case of leakage happens even if the management are competent.

#### 4.2.6.2 Distribution of income with Private Operators

The percentage of distribution of income are 39% to Village Water Committee, Private Operator are 41% and Operation and Maintenance is 20%: The study noted that percentage of O & M when are insufficient the amount is taken from VWC, and the percentage of Private Operator remain constant. This grounds the management loose morally in performing their duties effectively thus can affect sustainability of water projects. The Ministry of Water through the Agency should amend the regulation to increase the percentage O & M and reduce the percentage of Private Operators through contracts.

### 4.3 The Influence of Management Knowledge on Sustainability of Domestic Water Supply

The binary logistic regression employed to assess the association between management knowledge and sustainability of domestics' water supply. The finding from table 2 shows that for those groups with average management knowledge they had 1.209 times more likely their domestic water to be sustainable compared to those with poor management knowledge and lastly for those with good management knowledge they had 1.613 times more likely their domestic water to be sustainable compared to those with poor managerial skills

**Table 8: To assess the influence of management knowledge on sustainability of domestic water supply (Binary logistic regression)**

| Variable | OR | 95% C.I | | Sig. | AOR | 95% C.I. | | Sig. |
|---|---|---|---|---|---|---|---|---|
| | | Lower | Upper | | | Lower | Upper | |
| **Poor knowledge(reference)** | 1 | | | | 1 | | | |
| Average knowledge | 1.209 | 0.252 | 3.281 | 0.002 | 2.346 | 0.424 | 12.979 | 0.032 |
| Good knowledge | 1.613 | 0.115 | 3.267 | 0.007 | 1.27 | 0.024 | 2.995 | 0.028 |

**Source:** Field work (2025)

### 4.4 The Influence of Management Skills on Sustainability of Domestic Water Supply

The binary logistic regression employed to assess the association between managerial skills and sustainability of domestics' water supply. The finding from table 3 shows that for those groups with average managerial skills they had 1.75 times their domestic water to be sustainable compared to those with poor managerial skills and lastly for those with good managerial skills they had 2.256 times more likely their domestic water to be sustainable compared to those with poor managerial skills.

**Table 9: To assess the influence of management skills on sustainability of domestic water supply (Binary logistic regression)**

| Variable | OR | 95% C.I | | Sig. | AOR | 95% C.I. | | Sig. |
|---|---|---|---|---|---|---|---|---|
| | | Lower | Upper | | | Lower | Upper | |
| **Poor skill (reference)** | 1 | | | | 1 | | | |
| Average skill | 1.75 | 0.183 | 3.066 | 0.689 | 1.745 | 0.133 | 4.176 | 0.738 |
| Good skills | 2.256 | 0.379 | 4.163 | 0.009 | 1.409 | 0.41 | 4.843 | 0.586 |

**Source: Field work (2025)**

## 5.0 Conclusion and Recommendations

Based on the findings, this study recommended that, the government should comprehensively employ people with water management knowledge, and by taking into consideration the experience and technical efficiency as it holds positive influence on sustainability of water projects. Also, regular training of the water management staff for capacity building is enormously essential for sustainability and development of projects. This can be done through setting proper budget in the water project area.

## References

Akankunda, B., Nkundabanyanga, S. K., Kaawaase, T. K., Adaramola, M. S., Nkurunziza, G., & Tumwine, S. (2024). The mediating effect of management control systems on human capital and sustainable performance among Ugandan power companies. *Cogent Business & Management*, *11*(1), 2324369.

Aweso, J. H. (2021). *Assessment of Community Members' Attitude Towards the Performance of Chalinze Water Project* (Doctoral dissertation, The Open University of Tanzania).

Awoke, M. D., Hafner, J., Kimaro, A. A., Lana, M. A., Löhr, K., & Sieber, S. (2023). Development of an integrated assessment framework for agroforestry technologies: assessing sustainability, barriers, and impacts in the semi-arid region of Dodoma, Tanzania. *International Journal of Agricultural Sustainability*, *21*(1), 2285161.

Bitesigirwe, N. H. S., & Ndede, F. W. (2023). Effects of project implementation practices on project performance in Tanzania: The case of Mnazi Bay gas. *International Journal of Project Management*, *5*(2), 16-30.

Chacha, E. M. (2022). *Beneficiary-driven Implementation and Sustainability of Borehole Water Projects in Kenya a Case of Tigania West Subcounty in Meru County* (Doctoral dissertation, University of Nairobi).

Deus, I. (2024). *Natural Gas Utilization and Domestic Energy Development in Tanzania-Exploring Why Tanzania prioritize natural gas exportation over domestic energy development* (Master's thesis, NTNU).

Ferla, J. P., Gill, M. M., Komba, T., Abubakar, A., Remes, P., Jahanpour, O., ... & Antelman, G. (2023). Improvement of community health worker counseling skills through early childhood development (ECD) videos, supervision and mentorship: A mixed methods pre-post evaluation from Tanzania. *PLOS Global Public Health*, *3*(6), e0001152.

Karuri, M. (2022). *Can succession planning be a mechanism for fostering project sustainability in the Catholic Church in Kenya?* (Doctoral dissertation, Doctoral dissertation, Strathmore University).

Mathias, N. (2023). *Factors Affecting Sustainability of Water Supply Project in the Rural Areas in Tanzania: A Case Study of Maswa District Council* (Doctoral dissertation, The Open University of Tanzania).

Mturi, S. S. (2023). *Assessing the Influence of Strategic Procurement to the Performance of Urban Water Supply and Sanitation Authorities in Tanzania* (Doctoral dissertation, Institute of Accountancy Arusha (IAA).

Munro, N., & Kweka, O. (2021). Trust in providers of domestic water: a comparison of the public utility and informal vendors in Dar Es Salaam. *The Journal of Development Studies*, *57*(10), 1710-1722.

Ndyamukama, S. W. (2023). *Factors Influencing Economic Sustainability of Water Supply Schemes in Rural Areas in Tanzania: A Case of Ngara District* (Doctoral dissertation, The Open University of Tanzania).

Nzilano, K. L. (2017). Factors influencing organisation efficiency of water supply and sanitation authorities in Tanzania: The analysis of Mbeya urban water supply authority.

Oyaro, G. D. (2023). *Project Execution Procedures and Its Impact on Long-term Viability of Communal Water Projects in Kenya-Case Study Mwala Sub-county in Machakos County* (Doctoral dissertation, University of Nairobi).

Rono, G. K., & Yusuf, M. (2023). Team Management Dynamics and Performance of Water Projects in Bomet County, Kenya. *International Journal of Business Management*, *3*(1), 67-71.

Sasya, I. S. (2023). *Contribution of Training Programmes to Employees' Performance in Tanzania: A Case of Dodoma Urban Water Supply and Sanitation Authority* (Master's thesis, University of Dodoma (Tanzania).