

FACTORS INFLUENCING SUSTAINABILITY OF SANITATION AND HYGIENE PROJECTS IMPLEMENTED BY WORLD VISION KENYA IN POKOT CENTRAL SUB-COUNTY, WEST POKOT COUNTY, KENYA

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ABSTRACT

This study's objective was to evaluate the factors affecting the sanitation and hygiene initiatives run by World Vision in West Pokot County over the long term. The study set out to ascertain the impact of funding, community involvement, technical expertise and information technology on the sustainability of sanitation and hygiene projects in Pokot Central Sub-county. This study was anchored on resource dependence theory, stakeholder theory and legitimacy theory. The study adopted a descriptive design, and the target population included the 236 employees working at the headquarters of World Vision in Karen and opinion leaders in Pokot Central Sub-county. Stratified random sampling technique was used to select 148 respondents. A semi-structured questionnaire was used to collect primary data. Qualitative data was analyzed using content analysis while descriptive statistics was adopted for the quantitative data. In order to assess the degree of relationship between the dependent and independent variables, multiple linear regression analysis was utilized. The study discovered a statistically significant association ($p=0.000$, and $\beta=0.099$) between community involvement and the sustainability of sanitation and hygiene programs. Additionally, the study indicated that there is a statistically insignificant

positive relationship between technical expertise and the sustainability of sanitation and hygiene projects ($p=0.389$, $\beta=0.32$). The study also found a statistically insignificant negative relationship between funding and the sustainability of sanitation and hygiene projects ($p=0.771$, $\beta=-0.011$), suggesting that a decrease in funding sources could lead to a decrease in project sustainability. Finally, the study indicated a statistically insignificant positive relationship between technology and the sustainability of sanitation and hygiene projects ($p=0.183$, $\beta=0.030$). The study recommends that the local community members should be allowed to participate in the process of deciding upon and organizing water and sanitation infrastructure from the initial stages of planning to implementation. It is also recommended that the management of World Vision hires experts to manage sanitation and hygiene projects. Adequate funding should be provided to ensure the smooth running of the projects. Lastly, the management should deploy the right ICT tools, such as mobile phones and computers, to ensure real-time collection and dissemination of data and information.

Key words: Sanitation and Hygiene Projects, Sustainability, Funding, Community Involvement, Technical Expertise, Information Technology

INTRODUCTION

Nearly half (2.5 billion) of the population in the developing world lacks adequate sanitation and hygiene and more than 884 million people continue to consume contaminated water (Ochelle & Hampshire 2020). Every day, hundreds of children are killed or sickened due to a lack of access to proper water and sanitation, as well as bad hygiene practices, which have been

impoverishing them and limiting their possibilities. In many nations, poor sanitation, water, and hygiene have a number of negative consequences, including a high child death rate and a high illness load. To reduce health concerns, effective sanitation services and efficient waste disposal are required, as well as control of disease carriers such as mosquitoes, rats, mice, and flies.

Poor sanitation and water shortage still persist in many countries across the globe. Women and children take inordinate amounts of time to travel long distances looking for water from the nearest water sources (World Bank, 2014). Hundreds of animals die each year on which the residents depend for their livelihoods due to lack of access to pasture and water leading to abject poverty and low levels of economic growth. This situation has been attributed to lack of managerial skills by the local communities to manage the projects, low levels of ownership due to lack of community participation, inadequate funding and inadequate security system to take care of the projects.

The concept of sustainability gained currency in the 1980s when environmental degradation and pollution was at its highest globally and defining sustainability and development has been difficult. Project sustainability is recognized as a key factor to be considered in donor funded projects. According to Harvey and Hurworth (2017), project sustainability refers to a project's ability to continue serving the community or stakeholders for an extended period of time. Furthermore, sustainability can be described as a company's capacity to build a growth strategy and advancement that works indefinitely (Ochelle, 2020). For a project to be sustainable, its resources must be managed in a way that preserves its value to the community for both the now and the future. Sustainability is about preservation and growth of resources that affect the ability of people to support themselves. Sustainable projects have activities and advantages that continue for at least three years after the project has been completed.

In the Philippines, a study by Rigby (2017) on the constraints of project sustainability revealed that one of the most common constraints was the failure to undertake risk analysis prior to project design, as well as a lack of tangible risk management measures. Inadequate consideration of contextual issues was also cited to be one of the factors affecting project sustainability. Factors such as lack of or poor infrastructure was another cause of project stagnation or failure. In addition, lack of financial services such as banking makes it difficult to design and implement projects on time which might lead to unsustainable projects.

In a study done in Nigeria by Adebayo (2017), NGOs expressed difficulty in obtaining sufficient, suitable, and consistent funding for their operations. The study discovered that finding donors is just as difficult as dealing with their finance requirements. It was thought that some cartels of persons and non-governmental organizations (NGOs) controlled access to donor funds. They have limited resource mobilization capabilities and prefer to wait for outside donors to approach them rather than seeking funds available locally. Donors are heavily relied upon, and interventions are changed to fit donor objectives. There is a lack of financial, project, and organizational sustainability.

A study by Foxand (2017) investigated the long-term viability of projects in rural parts of South Africa's Limpopo Province. The study discovered that projects could not be performed and sustained without the active engagement of the community. Many projects fail, leaving populations in a state of abject poverty. Another study on the survival rate of community-based projects in South Africa conducted by Korten (2020) found that lack of relevant skills and education to manage projects has a negative impact on project sustainability because project managers and their teams make mistakes and blunders that impede project sustainability.

Most Kenyans still lack safe drinking water despite increasing government and development partner funding for water projects in rural regions (Alida, 2020). A research by Muttagi (2017) found that the failure of many donor-funded projects in developing nations may be traced back to ineffective administration of grassroots efforts. Many donor-funded initiatives in developing countries have failed because of poor administration of community projects.

The majority of these studies, however, have mostly focused on community-based programs in general, and the majority of them have been done in metropolitan areas. This research will be undertaken in Pokot Central Sub-County, a rural location where most residents lack access to clean water and sanitation. This area experiences prolonged drought and many people fall sick due to lack of water and sanitation facilities and many projects initiated in this area collapsed due to lack of sustainability. Therefore, the goal of this study is to look into the long-term viability of World Vision's water and hygiene projects.

In Kenya's water industry, the long-term viability of donor-funded water projects has been a major concern. The Kenyan government and donor organizations are interested in water management that is sustainable, efficient, and equitable. Several factors have been linked to long-term water management, and this study will assess the long-term viability of water projects sponsored by World Vision Kenya - Kirindon IPA. The requirement for water project continuity once donor financing is withdrawn prompted this study.

Sustainability of sanitation and hygiene interventions are widely recognized as a complicated and ongoing problem for governments, communities, and international development partners alike (Serageldin, 2017). Project sustainability, according to Dungumaro and Madulu (2018), is the continuing functioning of a project over a long period of time so as to achieve its goals. Sanitation and hygiene projects are implemented to mitigate water scarcity, promote health and sanitation among vulnerable groups in the community. Sustainable sanitation and hygiene projects ensure that the present and future generations continue to enjoy their benefits even after funding has stopped. The essence of sustainable projects is to enhance the quality of people's life, protect ecosystems and preserve natural resources for future generations.

In Kenya, a number of studies on the long-term durability of community-based initiatives have been conducted. Community involvement, finance, project management strategies, and community training are all factors that impact the sustainability of community sanitation and hygiene programs, according to Ochelle (2020). According to a Mulwa (2018) study, project planning and execution, community management, stakeholder collaboration, and financial

management all affect how long NGOs' initiatives will last. According to a different research by Odhiambo (2017), organizational setup, operational rules, and community capacity building in projects are crucial elements that improve project ownership, empowerment, and sustainability. In light of this, the study seeks to assess the variables affecting the longevity of sanitation and hygiene initiatives carried out by World Vision.

Statement of the Problem

Despite attempts to enhance community ownership of sanitation and hygiene activities, long-term sustainability remains a concern. Most sanitation and hygiene programs fail within three years after inception (Purdum, 2020). Several sanitation and hygiene projects have been launched in West Pokot County, but most of them are dilapidated and dysfunctional. According to a study conducted by Nturibi (2017), 70% of the residents of West Pokot do not have access to clean and safe drinking water for human or animal consumption. As a result, many residents of West Pokot County are exposed to water-borne diseases like typhoid, cholera, and dysentery, putting pressure on the county's healthcare system and contributing to the county's high poverty levels (Nturibi, 2018).

Studies conducted by Gebrehiwot, 2019) and Agevi (2018) on sanitation and hygiene projects reveal that these projects demonstrate low levels of sustainability. According to Cedric (2020) and Barney (2019), poor management of community projects such as sanitation and hygiene leads to a worsening of poverty levels and failure of many donor-funded projects in developing nations. However, most of these studies mainly focus on community-based projects in general and most of them have been conducted in urban centers. In addition, there are no known studies that have been conducted to establish the sustainability of sanitation and hygiene projects in rural areas implemented by World Vision. This indicates a knowledge gap. In light of this, the purpose of this study is to assess the sustainability of sanitation and hygiene projects implemented by World Vision in Pokot Central Sub-County, West Pokot County, Kenya.

Objectives of the study

1. To find out the effect of community participation on the sustainability of sanitation and hygiene projects implemented by World Vision in Pokot Central Sub County, West Pokot County, Kenya.
2. To evaluate the effect of technical expertise on the sustainability of sanitation and hygiene projects implemented by World Vision in Pokot Central Sub County, West Pokot County, Kenya.
3. To assess the effect of funding on the sustainability of sanitation and hygiene projects implemented by World Vision in Pokot Central Sub-County, West Pokot County, Kenya.
4. To find out the effect of information communication technology on the sustainability of sanitation and hygiene projects implemented by World Vision in Pokot Central Sub County, West Pokot County, Kenya.

THEORETICAL FRAMEWORK

This section delves into the ideas that underpin this research. The research concentrates on three theories in particular: stakeholder theory, resource dependence theory, and legitimacy theory.

Stakeholder Theory

The stakeholder theory developed by Freeman (1984) defines a stakeholder as any individual or group of persons who may impact or are affected by the projects or its results. The theory says that a stakeholder is anyone interested or involved in or affected by a company such as employees, community, suppliers, financial institutions and government agencies.

This theory was supported by Pedrini and Ferri (2019) who argued that managers have a fiduciary responsibility to defend the interests of stakeholders. Managers must operate in the best interests of stakeholders and the company while protecting each party's long-term interests. Enlightened value maximization is the link that Jensen (2020) sees as existing between objective function and stakeholder theory. This suggests that managers take into account the process of producing value for stakeholders whenever they make trade-offs.

Project stakeholders can be the clients, the project team, the community or the government. These people's interests are likely to be influenced by the project's implementation or its completion. As opined by Chinyio and Plomolaiye (2020), stakeholders can affect the activities, objectives and even survival of the project. Accordingly, stakeholders could be beneficial in facilitating the attainment of the goals of the project or antagonistic when they protest the mission of the project.

In his opinion, Khwaja (2019) argued that lack of support from stakeholders may lead to project failure. Stakeholders should be involved in the design and implementation of the project. This can be achieved through meetings and public forums to contribute their ideas and gain their commitment to the project. When major stakeholders are involved in the project's conception and implementation, ownership is more likely to be permanent.

In this study, there are many stakeholders with different interests. These stakeholders include the local community, the government agencies (both county and national governments), other non-governmental organizations and the project team. Thus, the stakeholder theory will aid in understanding the demands of stakeholders and how their participation might affect the sustainability of West Pokot County's water, sanitation, and health programs.

Resource Dependence Theory

According to Miles and Friedman's (2019) resource dependency theory, companies must interact with other environmental parties in order to get resources for their operations or the manufacture of goods and services. This theory operates on the principle that no business

enterprise or organization is self-sufficient. They all depend on other actors like suppliers in order to function effectively.

To be successful, organizations need resources such as personnel, raw materials, technology and spare parts. These resources can be in short supply or held by uncooperative parties. Organizations should establish internal structures and procedures to improve their bargaining position in resource-related transactions like partnerships in order to reduce reliance.

Organizations are reliant on resources derived from their environment. This holds when it comes to sustainability of community-based projects. According to Chapman *et al* (2017), the sustainability of these projects depends on financial and human resources. Skilled and knowledgeable employees are required to plan, implement, monitor and evaluate the project. To survive and attain sustainability, all organizations rely on resources. Consequently, this theory is extremely important to this research and will aid in understanding the underlying issues that impact the long-term viability of borehole water projects implemented by World Vision in West Pokot County.

Legitimacy Theory

The legitimacy theory as developed by Woodward (1995) states that there should be congruence between the expectations of the local community and the value addition to be achieved from a project. This implies that legitimacy is a value system derived from the existence of a project within the community which makes it acceptable. This also means that the perceptions of key stakeholders about the existence, impact and activities of the project are justifiable and appropriate to the community and the government institutions.

This theory is supported by Brown (2017), arguing that legitimacy is determined by the project organization's perceptions of its social contract within society. It has to do with the legal, acceptable, and defensible right to be and do anything in a community. In their chosen path of action, organizations must fulfill a social compact within society in a way that is legitimate, acceptable, and justifiable.

This theory will be beneficial in this research since it will aid in the development of a clear understanding of the legality, admissibility and justification of the sanitation and hygiene projects. Sustainability of the projects in West Pokot County will depend on whether they are acceptable to the local communities and comply with the legal and environmental requirements of the county and national governments.

RESEARCH METHODOLOGY

Research Design

This study's objectives were served via a descriptive survey design. According to Cooper and Schindler (2014), this strategy is used when the researcher is interested in determining who, what, where, when, or how much information is being gathered. According to Orodho (2018), descriptive survey design is ideal since it is used to gather data that portrays contemporary

occurrences by asking individuals questions about their views, attitudes, actions, or values. It is also useful for describing or investigating the current condition of two or more variables. Because they are objective, this design was helpful in describing and measuring the elements that impact the sustainability of the sanitation and hygiene initiatives that World Vision has completed in West Pokot County.

Target Population

According to Cooper and Schindler (2017), population refers to the entire collection of goods or subjects that a researcher is interested in. Population is defined by Kothari (2017) as the universe or complete set of humans, things, or stuff that have common observable traits and hold the correct information that the researcher is looking for. The target population consisted of all 236 employees at Work Vision, including top management, departmental heads, operational staff and opinion leaders.

Sample size and Sampling Procedures

According to Creswell (2016), a sampling frame refers to the actual occurrences or persons from which a sample was drawn to represent the total population. The sampling frame for this study included all 236 World Vision workers located at the Nairobi headquarters and opinion leaders in Pokot Central Sub-county. A stratified random sample technique was used in this investigation. This is due to the research population's heterogeneity, which includes senior management, department heads, supervisory personnel, and opinion leaders, among other groups (strata). A basic random sample was obtained from each strata, and the sub-categories were connected to provide full stratified samples. Additionally, proportional allocation was adopted, in which each stratum contributed a sum to the sample that was proportionate to its size. A simple method for calculating sample size that is representative of the population is provided by Yamane (1967). The sample size was calculated using the formula below:

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

Where:

n= necessary sample size

N stands for population sample.

e= acceptable sample error/margin of error (i.e. $e = 0.05$ where the confidence level is 95%)

$$\begin{aligned} n &= \frac{236}{1 + 236(0.05 \times 0.05)} \\ &= 148 \text{ employees} \end{aligned}$$

Table 1: Sample Size Distribution Table

Department	Number of employees	Percentage of target Population	Sample Size
Senior Management	9	63	6
Departmental Heads	13	63	8
Operational Staff	155	63	97
Opinion leaders	59	63	37
Total	236	100	148

Data collection procedure

A semi-structured questionnaire that includes both open-ended and closed-ended questions would be used for the purpose of data collection. As a consequence of this, the researcher was in a position to gather data of both a quantitative and a qualitative nature. The researcher used a process known as "drop-and-pick later" to deliver the questionnaire to the participants. The goal of a questionnaire, according to Alshenqeeti (2014), is to ensure that the data acquired accurately reflects the respondents' thoughts and sentiments. The major goal of employing questionnaires in this study was to guarantee that all of the participants are given the same questions, reducing interviewer effect and other anomalies.

There were three sections to the questionnaire. Section A helped to collect background information, Section B contained factors affecting sustainability of sanitation and hygiene projects (independent variables) and section C had questions addressing the dependent variable which is project sustainability. Secondary data was collected using books, manuals, journals and company reports. The secondary data was used to examine alternative perspectives related to the variables under investigation and generate new insights about the research problem.

Validity and dependability of research instrument

According to Kothari (2017), the effectiveness or accuracy with which a research instrument evaluates the notion or variable that it is supposed to test is known as validity. The content validity of the instrument was established in this study by pilot-testing it on ten randomly selected World Vision workers. The employees were not involved in the final study to avoid biasness since they had been exposed to the instrument. In addition, advice from industry experts and a project supervisor from the University of Nairobi was solicited. The researcher then revised the instrument to ensure that it has all of the information and addresses the study's objectives.

The degree to which a certain measuring technique generates consistent results across repeated trials of a research instrument is referred to as its reliability (Bolarinwa, 2015). According to Orodho (2017), the degree to which results are consistent over time and correctly reflect the whole population is referred to as dependability. In this study, a test-retest method was carried out by administering the questionnaire on several employees of World Vision who carry out similar work as the Head Office. This helped to establish whether similar results are obtained. The feedback from the respondents helped the researcher to revise the questionnaire by editing

and modifying the questions to achieve consistent results. A reliability value of 0.70 or above indicates that the combination of items is dependable and has great internal consistency (Kombo & Tromp (2017)).

Pilot testing of the research instrument

A pilot study was carried out prior to the formal distribution of the questionnaires and interview guides to the participants in order to ensure that the questions are pertinent, that they are easily understandable, and that they make sense. The purpose of a pilot research is to evaluate the reliability of the questionnaire by looking at aspects such as the language used, the structure of the questions, and the order in which they were asked. To ensure objective responses and lower the non-response rate, the surveys were personally delivered and given at the respondents' workplace. The findings of the pilot research will not be used in the present study. According to Isaac (2020), a sample size of 10 to 30 respondents is sufficient for a pilot research.

Data Collection Procedure

To make data collecting easier, the researcher identified himself to World Vision management, explain the study's goal, and request permission to undertake it. They were also presented with a document from the University of Nairobi approving the researcher's work on the chosen topic. The researcher also applied to the National Commission for Science, Technology, and Innovation (NACOSTI) for permission, which was presented to World Vision management in order to obtain approval to conduct the research study among its personnel.

The questionnaires were individually delivered to the respondents' workplaces and they had two weeks to complete and return them. This was ample time for them to fill in their responses after which they were picked for analysis.

Data Analysis Techniques

The process of arranging, tabulating, and assessing data is referred to as data analysis (Kombo & Tromp 2017). This study yielded both qualitative and quantitative data. To evaluate qualitative data, content analysis was performed. This involved identifying major themes arising from the responses to the open-ended questions and then making inferences about the variables. On the other hand, quantitative data was analyzed using SPSS version 28. To examine quantitative data, measures of central tendency, frequencies, percentages, regression, and standard deviation was employed. The quantitative data was presented using statistical techniques such as bar graphs, pie charts, and frequency tables. A multivariate linear regression model was also used to estimate the strength of the correlation between independent and dependent variables. The regression model that was utilized is as follows:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + e$$

Where; Y= dependent variable

a=constant or intercept

b₁+b₂+b₃+b₄= slopes of the regression equation

- X₁ = community participation
- X₂ = technical expertise
- X₃ = funding
- X₄ = technology
- e = Error term of the equation

The coefficient of variation (CV) was calculated to demonstrate the level of data variability in the sample in reference to the population mean. To determine if there were any statistically significant differences in the means of two or more independent (unrelated) study groups, an analysis of variance (ANOVA) test was utilized.

RESEARCH FINDINGS AND DISCUSSIONS

Regression analysis was used to establish the relationship between the factors influencing sustainability of sanitation and hygiene projects implemented by World Vision Kenya in Pokot Central Sub-County, West Pokot County, Kenya.

Table 2: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.354 ^a	.125	.101	.37262

a. Predictors: (Constant), technology, community participation, technical expertise, funding

The model summary was used in the study to estimate the correlation between the dependent and independent variables. The study looked at how community involvement affects the viability of sanitation and hygiene initiatives in Kenya's West Pokot County's Pokot Central Sub-County. According to the research, the R-squared value was 0.125, which explained why there was a 12.5% relationship between the dependent and independent variables.

Table 3: ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.848	4	.712	5.128	.001 ^b
	Residual	19.855	143	.139		
	Total	22.703	147			

a. Dependent Variable: Sustainability of sanitation and hygiene projects

b. Predictors: (Constant), technology, community participation, technical expertise, funding

The study significant value was 0.001, which was smaller than 0.05 significance level. Hence, the data was statistically significant at 95% confidence level.

Table 4: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.650	.160		4.067	.000
1 community participation	.099	.023	.338	4.307	.000
technical expertise	.032	.036	.107	.865	.389
funding	-.011	.037	-.036	-.291	.771
technology	.030	.023	.106	1.338	.183

a. Dependent Variable: Sustainability of sanitation and hygiene projects

The link between the dependent and independent variables was explored using the model coefficients. According to the study, community involvement and the sustainability of sanitation and hygiene programs have a statistically significant link ($p=0.000$, and $\beta=0.099$). According to the study, there is a statistically insignificant positive relationship between technical expertise and the sustainability of sanitation and hygiene projects ($p=0.389$, $\beta=0.32$), and the community participation coefficients showed that both an increase in community participation and an increase in technical expertise increase the sustainability of sanitation and hygiene projects. Further, the study indicated that there is a statistically insignificant negative relationship between funding and Sustainability of sanitation and hygiene projects with ($p=0.771$, $\beta=-0.011$). This indicated that if funding sources decreases, the Sustainability of sanitation and hygiene projects decreases its efficiency. Finally, the study indicated that there was a statistically insignificant positive relationship between information communication technology and Sustainability of sanitation and hygiene projects with ($p=0.183$, $\beta=0.030$).

The first objective of this study was to assess the effect of community participation in sustainability of sanitation and hygiene projects implemented by World Vision in Pokot Central Sub-county. the study found out that there was a positive and significant relationship between community participation and sustainability of sanitation and hygiene projects. The study found that community participation in planning can be through attendance at meetings and the contribution of ideas. These results are in line with those of Odhiambo (2020), who argues that community support for a project guarantees its success by empowering previously marginalized groups and movements to enhance their influence and control over the project's resources and governing structures. According to Orodho (2017) community participation in project planning and implementation ensures project ownership and contributed to long term viability of community-based projects.

The second objective of the study was to investigate the effect of technical expertise on sustainability of sanitation and hygiene projects implemented by World Vison in Pokot Central Sb-county. The majority of respondents agreed with the statement that technical expertise has an impact on the long-term viability of sanitation and hygiene projects. These results are consistent with those of Odoyo (2018), who studied the factors that determine the sustainability of donor-funded programs by looking at water and sanitation projects in Kenya's Laikipia East District. The study showed that there was a positive and significant relationship between

technical expertise and implementation of water and sanitation projects. He argues that technical expertise is a useful tool for project managers since it improves the efficiency with which both public and commercial companies achieve results and guarantee the long-term viability of projects.

The third objective was to find out the effect of funding on sustainability of sanitation and hygiene projects implemented by World Vision in Pokot Central Sub-county. The study established that there was a relationship between funding and sustainability of sanitation and hygiene projects implemented by World Vision in Pokot Central Sub-county. This finding agreed with that of Pollnac & Pomeroy (2020) who argued that one way to ensure project sustainability is via adequate funding and ensuring the funds are used for the purpose for which they were meant. This is crucial since it may reduce the amount of money lost on inefficient programs or duplicative activities funded by different organizations.

The fourth objective of the study was to find out the effect of ICT on sustainability of sanitation and hygiene projects implemented by World Vision. The study found out that there was a significant and positive relationship between ICT and project sustainability. This is supported by a study conducted by Sneddon (2019), which reveals that successful community-based programs are dependent on the deployment of the right technology such as machines, computers and internet.

Conclusions

The study's results allow for the following inferences: Long-term sustainability of sanitation and hygiene projects in West Pokot County was influenced by community participation in planning, leadership, monitoring and evaluation, and management. The research findings suggest that the success of sanitation and hygiene projects was greatly enhanced by the participation of local residents in their design and implementation. Locals were invited to meetings where their input was sought and used to improve the final designs of the projects. They also helped gather materials and create a budget and cost estimate for the undertaking. Thus, the sustainability of sanitation and hygiene projects is directly tied to community involvement in these planning stages.

Further, the study found that technical expertise had an effect on the sustainability of sanitation and hygiene projects implemented by World Vision. This is confirmed by the majority of respondents who strongly agreed that technical expertise affected the sustainability of sanitation and hygiene projects. This expertise was in the form of skills, knowledge and experience of the project managers and workers. Therefore, this study concluded that there was a positive and significant relationship between technical expertise had a significant effect on the sustainability of sanitation and hygiene projects implemented by World Vision.

In addition, the study established that there was a relationship between funding and sustainability of sanitation and hygiene projects implemented by World Vision in Pokot Central Sub-county. This was attested to by the majority of respondents who agreed that adequate

funding is a significant factor affecting project sustainability. Thus, the study concludes that funding is a major factor that affects sustainability of sanitation and hygiene projects.

Lastly, the study found out that ICT affected the sustainability of sanitation and hygiene projects implemented by World Vision in Pokot Central Sub-county. This can be attributed to the fact the majority of respondents agreed that the organization uses CCT cameras to monitor the security of the projects, deploys modern technology in storing and disseminating data and using mobile communication technologies to communicate locally and to the head office in Nairobi. Thus, the study concludes that there was a positive and significant relationship between ICT and sustainability of sanitation and hygiene projects implemented by World Vision in Pokot Central Sub-county.

Recommendations

Based on the findings, the study suggests a number of possible next steps. To begin, all members of the community, should participate in the process of deciding upon and organizing water and sanitation infrastructure. It is essential that all community initiatives have full buy-in from all relevant parties at every stage of development and that decision-making authority be devolved to the lowest suitable level. This can be achieved by implementing participatory management approaches at both the organizational and beneficiary levels in order to achieve maximum local participation and ensure that these initiatives broadly match the requirements of beneficiaries in order for them to be sustainable enough.

On technical expertise, the study recommends that the management of World Vision hires and retains adequately trained and experienced personnel to manage the sanitation and hygiene projects that they implement. In addition, the management should train the project managers and staff on a regular basis to ensure that they acquire relevant skills and knowledge related to sanitation and hygiene projects. The management of World Vision should also educate and empower the local community on the importance of sustaining the projects. This can be done through public barazas and advocacy among the opinion leaders in the community.

Further, the study recommends that the management of World Vision provides adequate funding to sanitation and hygiene projects. This will ensure that the right quality of equipment, employees and technologies are procured to ensure project sustainability. In addition, the management should ensure the funds are used according to budget and that there is no wastage. Also, the study recommends that the management of World Vision deploys the right technology such as computers, mobile phones and machines to collect, analyze and disseminate data and information in real time to the stakeholders. This will help to identify problems on time and take corrective measures.

REFERENCES

- Adebayo A. (2017). The Role of NGOs in Poverty Alleviation: A Case Study of Farmers Development Union (FADU) in Poverty Alleviation in Nigeria, *Selected Papers for the Annual Conference of the Nigeria Economic Society*. Pp.397-414.
- Agevi, A (2018). Experience with marine protected area planning and management in the Philippines. *Coastal Management*; 30:1-26.
- Alida (2020). *Strategic Management: Formulation, Implementation and Control*, 8th edition, McGraw Hill. pp 46
- Barney (2019). *Faith-Based Organizations in Community Development*. U.S. Department of Housing and Community Office of Policy Development and Research. The Urban Institute. United States.
- Brown (2017). Infrastructure and economic development in Sub-Saharan Africa. *Journal of African Economies*, 19(suppl 1), i13–i87.
- Cedric (2020). Our dream is a world full of poverty indicators: the US, the World Bank, and the power of numbers. *New Political Economy*, 15(4), 473–492.
- Chapman *et al* (2017), *Sustainability development and strategy*. Center for Philanthropy & Nonprofit Leadership. Nonprofit Good Practice Guide
- Chinyio and Plomolaiye (2020). *Future Positive: International Co-operation in the 21st Century*. London: Earth scan.
- Cooper, D. & Schindler, P. (2018) *Business Research Methods* (8th edn) McGraw-Hill: New York
- Creswell, J. W. (2017). *Research Design: Qualitative, quantitative and mixed method approaches*. Thousand Oaks, California: Sage Publications.
- Dungumaro and Madulu (2018). Community Managed Water supplies in Africa: stainable or dispensable? *Community Development Journal Advance*.
- Foxand (2017): *The First National Communication of Kenya to the Conference of the Parties to the United Nations Framework Convention on Climate Change*.
- Freeman (1984). *Strategic management: A stakeholder approach*. Boston: Pitman
- Gebrehiwot, (2019). *A Case Study of Third World Development Projects Developed and Implemented by the Non-Governmental Organization: Volunteers in Technical Assistance (VIT A)*, faculty of Education, West Virginia University.
- Harvey and Hurworth (2017). *Sustainable Community Development: A Social Approach from Vietnam*. Community Development.
- Isaac, S. (2020). *Handbook in research and evaluation*. San Diego, CA: Educational and Industrial Testing Services.
- Kombo, D. K., & Tromp, D. L. (2017). *Proposal and Thesis Writing: An Introduction*. Nairobi: Pauline'S Publications Africa, Don Bosco Printing Press.
- Korten (2020). *Administration of Development Initiatives by NGOs: A Study of their Sustainability in Bangladesh and Nepal*. Pp 1-88.

- Kothari, (2017). *Research Methodology: Methods and techniques*. 2nd Edition. New Age International. New Delhi
- Mulwa, N. (2018). *Factors affecting financial sustainability of NGOs funded projects in Kenya*. Unpublished MBA Dissertation-Kenyatta University. Nairobi-Kenya. -.
- Nnturibi (2019). *A Case Study of the Integrated Community Care and Support Project in Kenya*. Family Programme Promotion Services).
- Ochelle, L., & Hampshire, J. (2020), *Promoting Practical Sustainability, Quality Assurance Group*. The Australian Agency for International Development. AUSAID government publications.
- Odhiambo, P. (2020). *Changing faces of pastoralism: Experiences and possibilities for mountain and oasis agriculture in Marsabit District*. Based on a categorization in Sustainability in Development Programmes: A Compendium of Evaluation Experience. Paris.
- Odoyo (2018). *Successful project management*. Center for Project Management, San Ramon Calif
- Orodho, J. A. (2017). *Elements of Education and Social Science Research Methods* (2nd ed.). Maseno, Kenya: Kanezja Publishers
- Pollnac, R & Pomeroy, R. (2020). *Factors influencing the sustainability of integrated coastal management projects in the Philippines and Indonesia*. Ocean and Coastal Management.
- Rigby, D. (2017), *Sustainability indicators for natural resource management and policy: A review of indicators of Agricultural and rural Livelihood sustainability*.
- Serageldin, I. (2017) Sustainability and the Wealth of Nations-First Steps in an On-going Journey. *Environmental Sustainable Development Studies and Monographs Series No. 5*. Washington, D.C: World Bank.
- Sneddon, C. (2019) Sustainability in Ecological Economics, Ecology and Livelihoods: A Review. *Progress in Human Geography*, 24(4): 521-549.
- UNDP (2014). *World Commission on Environment and Development*. Enhancing Global environmental sustainability. Brunt land Commission. United Nations.
- Woodward, D. G., Edwards, P., & Birkin, F. (1996). Organizational Legitimacy and Stakeholder Information Provision. *British Journal of Management*, 7(4): 329- 347.
- Yamane (1967) *Statistics, An Introductory Analysis*, 2nd Ed., New York: Harper and Row.