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Factors Affecting Sustainability of Water Project in Ukenyenge Ward-Kishapu District; Shinyanga Tanzania

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Abstract: ***The objective of the study was to determine the factors which affect sustainability of water project at Ukenyenge ward, which is the area with reasonable growing number of population in Kishapu District. The study employed descriptive survey ,where population used was the household heads. A sample size of 96 respondents was drawn from the target populations of 2396 from the project area. The respondents were reached through household survey and purposive identification of the subject matter or key informants across relevant local institutions. A focus Group Interview and Questionnaire was used as instrument for conducting the research. Where a group of experts knowledgeable on project sustainability's was subjected to focus group discussion and was facilitated and guided by a researcher. The study employed a questionnaire with different types of questions including open ended and closed-ended questions. The findings show that stakeholders were involved in the water project through contribution of funds/other resources,designing and in management. The project transformed health, sanitation practices in the region, facilitated participation of local communities in development initiatives, encouraged residents to take ownerships of their own resources, improved security by reducing conflicts over natural sources of water, encouraged residents to conserve water projects, as well as helped the community gained substantial knowledge and technical skills. The level of adoption of technology in the management of water project was very low impairing the sustainability of the projects. As well as, helps on reduction of operations costs, improving the efficiency and increasing the longevity of the projects. The adoption of the technology in the water project was minimal. The government should institute stringent measures to deal with persons vandalizing the water projects.***

Keywords: Sustainability, projects

1. Introduction

In developing countries national and regional governments, local and international Non Government Organizations and other development partners invest large sums every year for the implementation of water supply projects. There are more than 1 billion people in the developing world that are unable to access, on a daily basis, a reliable source of clean, freshwater. The challenge of water for all is one that has taken on renewed interest through the declaration of the Millennium Development Goals (MDG), which has, the specific target, of reducing by half the proportion of people without sustainable access to safe drinking water by 2015 (United Nations)[1]. Progress has been made towards meeting the water supply needs for the world's poor, for example, in 2002, 79% of the population in developing countries had access to improved water supplies, bringing up the total world coverage to 83%. This is an increase of 8% from 1990 to 2002 (WHO/UNICEF)[2].

According to Mbata [3] the sustainability of any community projects requires a team of highly competent managers owing to many dynamics of the project implementation. However, construction of water projects does not help if they fail after a short time. In order to make the investment in water supplies more effective, failure rates of these systems should be reduced.This research aimed to determine the factors which affect the sustainability of water projects in Ukenyenge Ward.

The study employed descriptive survey where population used was the household heads. A target of 2396 populations was used in this study and stratified sampling technique. The respondents were stratified based on areas where water projects were implemented. A sample size of 96 respondents was selected for the study so as to know why the water project implemented and failed in this area.

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2. Purpose

The study determined factors affecting sustainability of water in Tanzania particularly at Ukenyenge Ward , Kishapu District in Shinyanga Region. It specifically highlighted the following specific objectives: Firstly explored the effects of stakeholders' participation on the sustainability of water projects, likewise established whether cultural practices influence the sustainability of water projects in Tanzania, as well as determined how technology influence sustainability of the water projects in Tanzania, and lastly examined how management skills influence sustainability of water project in Tanzania.

3. Methods

The study adopted a descriptive research design which employs descriptive survey. It covered a simple random

sample of 96 respondents drawn from a target population of 2396 from Ukenyenge Ward Kishapu District, Shinyanga Region in Tanzania. The instruments used in data collection were questionnaire and interviews.

4. Results and Discussion

This part covered the findings and discussions of the study.

4.1 Participation in the initiation/start of water projects

Table 1, shows households responses in the initiation/ start of the water projects.

Table 1: Participation in the initiation/start of water projects

Statements	Frequency	Percentage
Never participated	54	54.4
Participated	42	45.6
Total	96	100

From the study findings in Table 1, the majority 54 (54.4%) of the households' respondents never participated in the initiation/start of the water projects while only 42(45.6%) participated in the initiation of the water projects. This implies that the level of stakeholders' participation in the water projects was minimal.

4.2 Stakeholders'involvement in the project

Table 2 shows the involvement of stakeholders in project operation.

Table 2: Stakeholders involvement in water project operation

Statements	Frequency	Percentage
Stakeholders involved	60	62.2
Through contributions of funds/ other resources	28	29.1
Designing	8	8.7
Total	96	100

According to the findings, the majority of the household respondents 60 (62.2%) posited that the stakeholders were involved in the water project through contribution of funds/other resources, 2 8 (29.1%) through designing while 8 (8.7%) posited that stakeholders were involved in management/running of the operation of the water projects. Thus the stakeholders brought many contributions to the running of the water projects in terms of financial supports, designing of the project and the operation of the water projects. This implication concur with the study done by Peter;*et al* [4]which concluded, that in order for project to be sustainable multi-dimensional attributes of sustainability to be included among them being social, cultural, economic, environment together with other important pillars such as community involvement, capacity building as well as local staff involvements.

4.3 Other Stakeholders' involvement in water project operation

The respondents were required to indicate whether other partners/stakeholders were involved in the water projects in this area.

Table 3: Other stakeholders'involvement in water project operation

Statements	Frequency	Percentage
Other stakeholders involved	55	57.3
Other stakeholders not involved	41	42.7
Total	96	100

According to the findings in Table 3, majority 55(57.3%) of the respondents indicated that other partners/stakeholders were involved in the water projects in this area. While 41(42.75%) refuted that other stakeholders were not involved in the project. This illustrates that involvement of the all the stakeholders determined the efficiency and sustainability of the water projects.

Chart 1 shows the respondents of water project employee on how stakeholders were involved in the water project.

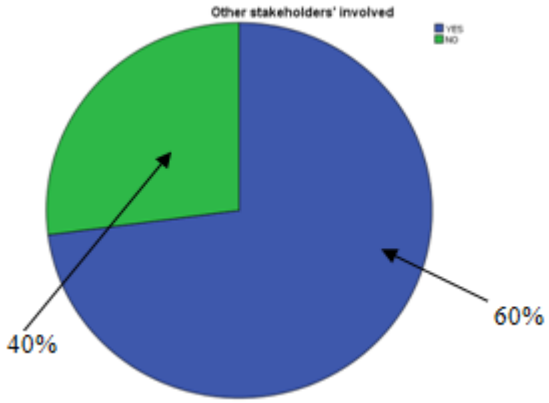

Chart 1: Responses of water employee on how stakeholders'involvement in the project

From the findings in Chart 1, the majority of the water project employees 12 (60 %) responded that the stakeholders were not adequately involved in the project. Only 8(40%) of the water project employees responded that stakeholders were adequately involved in the project. Therefore the water project didn't involved stakeholders in planning, and implementation.

Lack of sufficient stakeholders' participation in the project implementation contributed to the project failure. The water project employees further explained that in decision making the stakeholders endorsed the project budgetary allocations, vetted the employees to work in the project, proposed the policies to be implemented. In the sharing of development activities the stakeholders approached strategic personalities and institutions to aid in management of the project, and in lobbying for support from the government and private sector.

Stakeholders' participation is very vital for the sustainability of the project. This is supported by Mnaranara [5*]* in her study on the importance of community participation in an ongoing construction of school in Tanzania at Morogoro. She found that participation by material giving was an important leading to community ownership of the project hence sustainability of the intervention. This was also supported by Temba [6] in his study, who said stakeholders' involvement in a project need to be initiated from the planning stage in order to win the support of various

stakeholders' support can be in form of material support, Resource mobilization, knowledge and skills, involvements to ensure sustainability through active participation in various aspect of resource mobilization, material contribution, setting standard for monitoring the project success, collaborative partnership, consultation and information giving. Secondly, effective utilization of stakeholders' strength, also mitigation of weakness in order to reduce risk of project failure posts the funding period. Thirdly, stakeholders' analysis can be carried throughout the project cycle in order to ensure sustainability of project.

4.4 Technology used to pump water

The household respondents were to indicate how they got water from the point/source mentioned.

4.4.1 Meters installed to monitor consumption of water

The household respondents were to indicate whether there were meters installed to monitor consumption of water.

Chart 2 reveals if meters were used to monitor water consumption in the area.

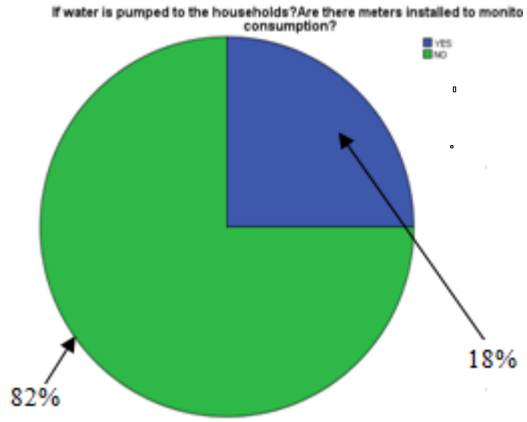

Chart 2: Meters installed to monitor consumption of water

According to the findings in Chart 2, the majority of the household respondents 79 (82%) responded that no meters had been installed to monitor consumption of water. Only 17 (18%) indicated that meters had been installed to monitor consumption of water. Therefore, the level of monitoring water was poor technology in the management of water project was very low impairing the sustainability of water projects. This complies with the study of Binder [7] who said that adoption of technology is key in sustainability of community based water projects as it eases operations and maintenance.

Table 4, displays the technology which used to obtain water from the sources.

Table 4: Technology used to pump water

Statements	Frequency	Percentage
Water pumped	60	63
Pulleys used	22	22
Water piped	14	15
Total	96	100

From the results of the study in Table 4, the majority 60(63%) used water pumped out of well/ source to storage tanks, 21 (22%) used pulley to get water from the point/source, while 14 (15%) indicated that water is piped to all households. This implies that, the majority got water through pumps, therefore once the pump was not working led to many people missing this service of water from their project.

Table 5 shows persons who maintained the water projects if broke down.

Table 5: Water project systems being broken down

Statements	Frequency	Percentage
Local artisans maintained	55	57.3
Water project committee	33	33.4
Local Government officers	8	8.3
Total	**96**	**100**

According to the findings in Table 5, majority of the household respondents 55 (57.3%) reported that the persons who maintained the water project systems when they broke down was the local artisans,33 (33.4%) cited local water project committees, while 8 (8.3 %) cited water local government officers. Therefore the water project suffered major setbacks due to breakdown since the local artisans were the major repairing persons to maintain the water project. This comply with the study of Binder[7] who observed that community management of water supply systems on operation and maintenance (O & M) is not successful, if financing resources are not available and frequent supports are not provided. Budgeting sufficient funding for water supply systems is an important issue for sustainability and proper maintenance but not only one.

5. Conclusions

The study concluded that the majority of the community members never participated in the initiation/ start of the water projects. Likewise the findings concluded that water project has positively transformed health, water and sanitation practices in the region, facilitated participation of local communities in development initiatives in the region, encouraged residents to take ownerships of their own community resources, improved security in the region by reducing conflicts over natural sources of water, encouraged residents to conserve available water resources and other natural resources, as well as helped the community gained substantial knowledge and technical skills from the water project. The study concluded that those who managed the water projects responded adequately to concerns whenever raised. The people appointed to manage the water project were effective. The study also found out that there is sufficient technical expertise to manage the project, there is sufficient human resource for sustainability of the project, the community is satisfied with the overall management of the water project, risk management is satisfactory, management of projects has increased the alignment of development projects with host communities priorities, project managers have adequate and experience (task familiarity) in management, there are clear and

achievable estimates in the project schedule and budget, community based projects are complex and require multifaceted management skills, the leadership skills of the managers is satisfactory, and that advice about technical architecture was made available for the project. The water project suffered major setbacks due to breakdown as the local artisans who were relied on lacked adequate skills to maintain the water project. The sustainability of the water projects in the ward was highly affected by lack of modern technology required in the running of the project as the local community was not fully equipped with adequate skills .

6. Recommendations

In initiation of water projects, the beneficiary community must be engaged fully since are the ones who know well the sources of water in their areas. Community water supply organizations (COWSOs) must be equipped with enough leadership skills and knowledge in order to run water projects sustainably. The District council must be improvising special audit to water projects on disbursement of funds collected for running the projects, as well as holding accountable for those who collect funds for running the project if used the fund contrary to the delineated objectives settled to water projects. The technology of the community to pay in advance on the service to utilize as is done mobile phone and electricity companies should be implemented also in water supply projects utilization.

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Author Profile

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