

Community Participation as Strategy to Ensure Sustainability of Rural Water Supply Projects

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Abstract

Water is essential for life existence here on earth. Provision of safe water supply scheme will go a long way in making life meaningful. Huge resources are being deployed to make water available, but more than half of water supply schemes provided in rural areas failed. The aim of this research is to find ways of making rural water supply schemes sustainable. Sustainability in this context is the ability of a water supply schemes to function as a source of safe water supply continuously and indefinitely. To achieve sustainability in rural water supply schemes, community members should be involved. To this end communities where water supply schemes are to be located should have members included in decisions such as; project type, site selection, construction, maintenance and repairs. This will engender ownership of the project by community members, which will result in them safeguarding the project and contributing to its repairs when broken down. Therefore, getting the host community members included as part of water supply scheme provision will bring about sustainability in the rural water supply scheme. Hence, we recommend that Community Water Committee (CWC), be established to drive the rural water supply schemes for sustainability.

Keywords: Community participation, sustainability strategy, rural water supply

Introduction

Water is a transparent and nearly colorless chemical substance that is the main constituent of earth's rivers, lakes, and oceans, and the fluids of most living organisms (Fetter, 2015). Water is everywhere. According to Pidwirny and Jones (2014), water covers about 71% of the

Earth's surface. It is essential for all forms of life. The ocean holds about 97% of the Earth's water volume, leaving other sources of water such as rivers, lakes, groundwater, ice caps and glaciers etc. to share the remaining 3%. Fortunately, the available fresh water amounts to a generous supply. Moreover, this water is continually

collected, purified, recycled, and distributed in the solar-powered hydrologic cycle.

Although water is very useful, it is not readily available, accessible and affordable, hence the need for water resource development to make it available, accessible and affordable. Water resources development in Nigeria is a three tier responsibility between the Federal, State and Local Government. The main objectives of Nigeria's water resources development policy are two-fold. First is the need to increase the access of the population to safe water – for both drinking and industrial purposes, and second is to increase the supply of water through irrigation for agricultural purposes (Olasumbo, 2001). Nigeria first water supply development waterworks was commissioned in 1915, and since then progress has been made in exploitation of Nigeria's water resources (Oteze, 1981). Idu (2015), stated that the responsibility of portable water supply is entrusted to State Water Agencies (SWAs). These state agencies are responsible to their state governments, through the State Ministry of Water Resources. Despite the huge financial resources deployed by the State Governments, Federal Government and donor agencies, only 55% of those living in rural areas enjoy the highest level

of drinking water service. While many rural communities gained access to a source of safe water over the past years, many of those water failed (Lifewater, 2018).

There are several threats to sustainable water resources development in Nigeria. According to Idu (2015), these threats arises from two causes; natural and anthropogenic. The natural causes include all adverse fallouts from climate change and hydrological extremes which includes: well failures in shallow aquifers due to imbalance in seasonal precipitation and abstraction in the Sahel; sea level rise with attendant salt water intrusion in the coastal aquifers, decreased discharge rate of surface waters due to soil moisture deficits. The man-made threats include industrial wastes, effluents and oil spillages, salinization of surface and groundwater through irrigation and fertilizers and failure of water projects due to non-maintenance. Nevertheless, Laah, et al (2014), described the major issue confronting rural water supply schemes and indeed rural infrastructural development in Nigeria as absence of sustainability. Most rural water supply schemes fail shortly after commissioning, leaving the benefitting communities stranded and the huge resources expended on the project development wasted.

Therefore, this research seeks to bring out the benefits and ways to get the benefitting communities participate in rural water

Rural Water Supply

Almost half of humanity, mostly in Asia and Africa, still live in rural areas and are of low income groups (UNESCO, 2012). The rural people lack access to appropriate, low-cost and locally produced technology for water. Rural water supply, according to African Development Bank (2014), entails provision of water supply infrastructure to people living in rural areas. One major objectives of rural water supply as stated by African Development Bank (2014), is to increase access to safe water in rural areas. This will help improve the health and socio-economic benefits of rural communities.

Recent thinking according to the EuropeAid (2018), on rural water supply is to focus on community participation approach to create community ownership and responsibility for maintenance of rural water supply schemes. The overall aim is to support the

Sustainability and Rural Water Supply

Sustainability in the context of rural water supply, is according to Lifewater (2018), specifically looking at the use of the local

supply projects conceptualization, execution and maintenance. This will engender sustainability of rural water supply schemes.

development of an integrated development strategy for ensuring sustainable water security in rural areas. According to African Development Bank Group (2018), poor water supply has long been regarded as a constraint to inclusive economic growth. Inadequate access to clean safe water supply especially in rural area is a major contributing factor to poverty. The amount of time and effort spent on daily chores of water collection, caring for those suffering from water related diseases, decreases opportunities for engaging in productive activities. With improved water supply, the reduction of time spent on fetching water can be put to positive impact through reduced morbidity which will allow the population to increase productive and income generating activities. This will ultimately lead to more inclusive growth outcomes (African Development Bank Group, 2018).

water committee for managing the community's water supply. One of the core strategies of sustainability is community

ownership, where water projects users are empowered to maintain and repair water projects with locally available resources. This community management model relies primarily on small, local representative groups of men and women designated as water committees. The water committees are

Determinant Factors for Sustainability in Rural Water Projects

Demand-responsiveness at the household level is a determinant of overall sustainability primarily due to its role in increasing Community member's satisfaction and willingness to sustain the system (figure, 1). Community members are more likely to be satisfied with results such as quantity of water, color and taste of water, distance and waiting time to fetch water when they initiate the project, are involved in decision-making, and are informed about their responsibilities in terms of costs, operations, management and maintenance. It is expected that under such circumstances, users express a higher sense of ownership, greater confidence in their ability to maintain the water scheme, a better understanding of how the tariff is used, and a willingness to pay for improvements.

trained by Non-Governmental Organization (NGO) staff and are accountable for the continued functionality of a water project. The size of a water committee depends on the size of the project and the community it is met to serve (Lifewater, 2018).

Women also play central role in the collection, management and use of water (Fong, et al 2003). Furthermore, there is evidence that active involvement of women can optimize the results and impacts of rural water projects (Department for International Development,1998). Therefore, it is not surprising that the continued involvement of women, after project implementation has been completed, is identified as one important determinant of sustainability. Similarly, an adequate degree of social cohesion within a community is now considered as a fundamental factor in sustainability. The collective willingness to maintain a water supply system, is a reflection of social cohesion, and is dependent on the concept of community identity (Carter, et al 1999).

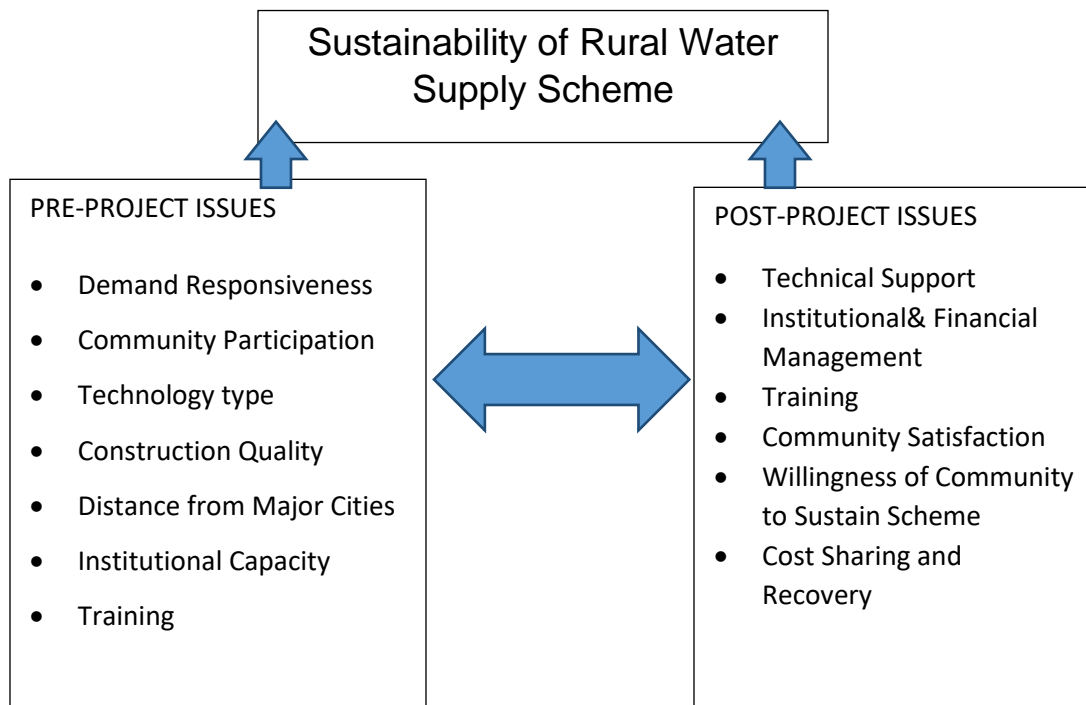


Figure 1: sustainability of rural water supply scheme and determinant factors

Benefits of Community Participation in Rural Water Development

The benefits of community participation in rural water development are bound. They include the following;

- i. Community participation in rural water development is met to instill a sense of ownership on the part of the host community. It ensures that services are based on local needs, priorities and affordability (United Nation, 2007).

- ii. Community participation according to Chukwuma (2016) ,in rural water development is widely considered as a very crucial strategy for efficient and sustainable operation of rural water supply and that no rural water system can be truly successful without the support of the host community. This is in agreement with Ofuoku (2011), who concluded in his study of the effect of

community participation on sustainability of rural water projects in Delta Central agricultural zone in Delta State that, the level of community participation influenced the sustainability of the water projects in his study area.

- iii. Community participation enhances stakeholders influence and share control over rural water development initiatives. According to Awoniyi, et al (2006), community participation enables community members

play active, though not necessarily direct, roles in rural water development, at conception, implementation and maintenance.

- iv. Community participation allow for bottom-up approach to rural development. It removes the usual practice where community involvement in project execution is often largely in terms of local investment of labour and not necessarily participating in decision making.

Community Participation in Rural Water Supply Schemes through Community Water Committee (CWC)

Organizations and governments responded to the problem of sustainability by implementing strategies that increase a community's sense of ownership of a safe water source as well as strategies that increase community participation in maintenance and repairs of the water projects. According to Lifewater (2018), one of the more widely-used strategies is to

build and train a small, local representative group tasked with maintaining the safe water project, called "community management" or a "water committee".

The Community Water Committee (CWC), is made up of prominent members of the community that are assembled by the government or project donor in collaboration with the host community leadership. Their role is to work alongside the project contractor to ensure the project is done to specification as contained in the

contract agreement. They also sensitize the community members of the need to protect the infrastructure from theft and vandalism (United Nation, 2007).

The committee is made up of a chairman, secretary and members. Outside these regular members, there are an ad-hoc committees that are set up from time to time as the occasion demand. Constituting these ad-hoc committee is situational and members must be people that have the technical knowhow of the job for which they are being commission to carry out. The Community Water Committee (CWC) are

Characteristics of an Effective Community Water Committee

For a community water committee to be effective according to Lifewater (2018), it should possess the following characteristics;

1. Understands its responsibility to the users/community
2. Represents the community

Conclusion and Recommendation

Provision of safe drinking water in rural communities is key to eliminating poverty and diseases in rural areas. Since poor water supply has long been regarded as a constraint to inclusive economic growth and

trained on workings of the water supply scheme, they also monitor the construction of the water scheme ensuring quality is adhered to. On completion of construction, the committee takes responsibility of managing of the scheme. Management of the water supply scheme entails collection of rent from users, repairs of the water supply scheme when it develops faults, regular maintenance and galvanizing of entire host community through regular meetings to brief the community members of their challenges and sort input on the way forward.

3. Understands the water project itself and how to prolong functionality
4. Establishes savings to pay for the long-term costs
5. Maintains relationships with local officials and professionals, and
6. Meets regularly.

spread of water borne diseases in the rural areas. Though many rural communities gained access to a source of safe water over the past years, many of those water schemes failed, wasting the huge sum of money spent and years of effort. Therefore, sustainability

of rural water supply becomes a central concern.

Sustainability in the area of rural water supply will specifically look at community water committee in rural water supply. Due to the vital roles of community water committee in sustainability of rural water supply, the following recommendations are put forward to enhance their overall performance, these includes;

1. Government channeling rural water supply schemes through the NGOs involved in training of community water committee members. This will remove the erroneous believe on the part

of the host community that the project is met as government patronage.

2. Selected members must be resident in the community and can be remove whenever community members fill they are not properly carrying out their assignments.
3. A member of the committee must be person of impeccable character and command respect from members of benefitting communities. This will enhance the confidence of community members on the committee

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