

Research Paper

Assessing sustainability of community managed NGOs' WASH interventions in rural Zimbabwe: the case of Chivi district in Masvingo province

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ABSTRACT

Availability and accessibility to water and good sanitation add considerably towards improving human lives and in the development of every country. In a number of instances, central governments have been unable to meet the requirements and needs of their respective citizens in totality, mainly due to capacity constraints and other competing demands. This has seen non-government organizations (NGOs) inspired to provide communities with those services. Concern has been raised about sustainability of community managed NGOs' services in rural areas of Zimbabwe. This study assesses sustainability of community managed NGOs' rural WASH services with a view to producing recommendations on how sustainability of NGOs' services might be enhanced by working with other stakeholders. The study's major finding was that NGOs' services in rural areas lack a clear mechanism of enhancing continuity. Forty-five households, three water point committees, two schools and one clinic from three wards were interviewed. Respondents were chosen using purposive sampling techniques from ward 18, 19 and 20. Semi-structured interviews were conducted with the use of an interview guide. The study recommends the need for government to prioritize the rural WASH sector in resource allocation. This will ensure that infrastructure maintenance and repairs are implemented in conjunction with involved communities.

Key words | non-government organizations, service delivery, sustainability, water and sanitation

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INTRODUCTION

Zimbabwe experienced a phenomenal growth of non-government organizations (NGOs) from the early 1980s to date, as many developing countries were embracing the interventions of NGOs in service delivery (Moyo *et al.* 2000). The emergence of NGOs in the Zimbabwe arena of development was to fill the capacity gap as the government was failing to deliver basic services. NGOs have demonstrated much ability in terms of accessing the poorest communities (Lewis 2006). They have established a strong link with these communities in crucial areas that are proving to be of greater impact and influence to poor communities'

livelihoods (Ashley & Carney 1999). One area in which NGOs have been dominant is that of rural WASH. Gleitsmann *et al.* (2007) emphasized the importance of community participation in the area of maintenance and repairing of rural WASH facilities.

According to Hutchings *et al.* (2015), during the last decades in many low income countries, community management has become a default approach for the rural water supply. Weak local governance coupled with a failing public service provision has resulted in development actors handing over the management of rural water facilities to the

communities. According to [Harvey & Reed \(2006\)](#), community management of water supplies is prevalent in developing countries. It started in the 1980s at the peak of the UN International Decade for Drinking Water and Sanitation as a response to the government's failure to deliver public services. The concept is based mainly on three principles: community participation in water supply projects; taking ownership; and consequently undertaking operations, maintenance and repairs of systems. The failure of this approach is owed to its unchallenged assumptions that there exists a high degree of cohesion in communities and a high level of volunteerism in managing these facilities and a high willingness to pay for maintenance and repairs. Evidence in many African countries indicates that users are not willing to make contributions (labour or financially) for the management of water supply facilities ([Butterworth et al. 2013](#)). Poor households in developing countries' rural areas are finding themselves not in a position to be able to pay for the maintenance of installed hardware.

Several reasons for high functionality failures have been cited in other parts of Africa. Among these reasons is a mismatch between demanded and supplied service levels leading to breakdown of infrastructure ([Moriarty et al. 2013](#)). Several studies have highlighted the fact that rural communities in developing countries are not able to manage their water systems sustainably on their own without external support ([Harvey & Reed 2006](#)). These communities are not endowed sufficiently with both technical ability and financial resources to ensure meaningful upkeep of water supply facilities. In such cases water systems fail, especially in the event that major repairs and maintenance works are required.

Sustainability issues have been at the centre of discussions in the WASH community for quite a long time. According to [Brikké & Bredero \(2003\)](#), sustainable WASH interventions should address the following elements: technical appropriateness, economic viability, social acceptability to the community, continuing functionality, protection of the environment and natural resources. For the purposes of this study, sustainability refers to ongoing functionality of installed WASH infrastructure. More pressure has been put on extending water coverage in rural areas through installing hardware instead of a continued focus on the more challenging issues of management, repairs and

maintenance. The majority of WASH projects' financing in rural communities in developing countries come in the form of once-off investment programmes with specified duration, for example, three to six years. This scenario contributes much to the prevailing pattern where NGOs ultimately hand over the management, operations and maintenance functions entirely to the beneficiary communities. Given this background, rural WASH services are facing a myriad of challenges. Various development researchers are reflecting on the limits of what community management can realistically accomplish on the basis of an approach entirely based on voluntarism and informality ([Moriarty et al. 2013](#)).

According to [Muhumed \(2013\)](#), sustainability of the rural water supply in Africa is facing severe challenges since between 20% and 70% of mounted hand pumps in Africa are not functioning, and in Ethiopia it was 35% of hand pumps. Zimbabwe is also not spared from this predicament. The participation of NGOs in the delivery of WASH services is commendable as lack of capacity by the Zimbabwe government to provide improved water supply and sanitation services for its rural communities has not reduced poverty levels ([Ngure et al. 2014](#)). The country's socioeconomic challenges including an unfavourable economic climate and persistent budget deficits has adversely affected provision of these social amenities as the rehabilitation and control of the water infrastructure is left to ill-equipped communities and NGOs ([Dube 2013](#)). The NGOs have been accused of implementing projects that only last for the time the NGOs are on the ground. Within a short period of them leaving comes the discovery of broken-down water infrastructure scattered across rural areas ([Banks et al. 2015](#)). The majority of water facilities in the rural areas have either broken down or dried up ([Whittington et al. 2009](#)). This raises questions regarding the sustainability of the projects as well as whether NGOs are availing a complete package that address sustainability of their installed infrastructure.

Study objective

This study seeks to assess such issues of community managed WASH services' sustainability using Chivi rural district in Masvingo province of Zimbabwe. The objective of this

paper is to assess the sustainability of the community managed WASH facilities, which coincidentally in the area under study are all provided by NGOs. The question guiding the study is, what are the challenges threatening sustainability of the community managed WASH services and what can be done to overcome them? The study took a sample of three wards, ward 18, 19 and 20 with an estimated population of 15,625, with 45 boreholes and 11 shallow wells all constructed by NGOs.

Profile of the study area

Chivi district is situated in the drought-prone section of the country, north of Mwenzi district and west of Masvingo district. It is a semi-arid district characterized mainly by poor quality soils and is mountainous thus making other areas relatively inaccessible (Chitsika 2016). The area falls under the dry agricultural regions four and five of Zimbabwe. The district lies in the Lowveld area of just less than 900 m above sea level. The area is very prone to erosion with low annual rainfalls of around 500–600 mm which is erratic, undependable and unevenly spread (Raphael 2013).

The district is also identified by a number of stress factors that have thrown the community into deep poverty. These include droughts, climate unpredictability and inadequate access to safe water. Communal farming is the chief source of livelihood in the district but the rain-fed agriculture is greatly exposed to the vicissitudes of climate change (Mudzonga 2002).

METHODS

Sustainability of WASH services was assessed in order to gain a deeper understanding of challenges in the community managed WASH services in the area. This study embraced a qualitative methodology with the study population, including households of Chivi district who are beneficiaries of NGOs' WASH services. The researcher took a sample of three wards and 53 respondents out of Chivi district. Wards 18, 19 and 20 were chosen for study because they have many WASH facilities provided by NGOs compared to the other wards. The three wards were purposively sampled because these were the wards where NGOs were

most active in WASH activities; this adds to the limitations of the study, hence the findings of the study should be used with caution beyond these wards. Semi-structured interviews were conducted with a sample of 53 units that included 45 households, three water point committees, one from each ward, one school per ward, a local government official and the area clinic serving the selected wards to get their views, perspectives and experiences regarding the services. The three wards according to the census of 2012 had an estimated population of 15,625 (ZIMSTAT 2012).

Ethical considerations

The researcher first got ethical clearance from the Govan Mbeki Research and Development Centre. During the field visit, the researcher provided the participants with information about the study, its purpose, as well as the researcher's identity. In addition, in line with the informed consent principle of ethical research, the participants were made aware of their right to withdraw their participation from the study at any time. The findings of the study are structured in a manner which protects human dignity, integrity, rights and confidentiality of the respondents and avoided any reporting which stigmatizes, demeans, harms or disintegrates the community under investigation. All data acquired in the course of this research are considered confidential material and will not be openly divulged in any manner that would identify any individual or organization without their consent.

RESULTS AND DISCUSSION

Local governance mechanisms

The management of WASH-based services in Chivi is vested in the village head who then oversees the operations of village water point committees. A village in Chivi is made up of households ranging from 100 to 150 headed by a village head. Village heads are chosen on the basis of tradition which is governed by hereditary, rather than contemporary democratic principles. The village head duties comprise the maintenance of an up to date register of the inhabitants of the village, promotion of good social conduct and sound

morals among village members. The village heads run the village traditional courts that mostly preside over disputes among villagers, especially land disputes. The village heads have got limited powers of enforcing villagers to contribute towards the maintenance and repairs of water facilities. Village assemblies meet usually once every three months and it is in these meetings that the water point committee members are nominated. These village assemblies act as the democratic liaison point between villagers and the water point committee and the Village Development Committee. The Village Development Committees reviews and approves village development plans before they are submitted to the Ward Development Committee to be incorporated into Ward Development Plans. These two committees have no powers to enforce villagers to make contributions, neither do they have development funds at their disposal to intervene in challenges facing the rural WASH sector. There are other related committees, namely, church committees, school committees and health committees which have tried, but in vain, to find solutions to the area's WASH challenges. In a number of instances, the same committee members were involved in more than one committee, causing conflicts of interest as well as reduced commitment.

NGOs and types of installed water points

The study established that in Chivi NGOs are installing boreholes and in a very few instances, shallow wells aimed at combating the prevailing water challenges. The NGOs that are most active in WASH include CARE, World Vision Zimbabwe (WVZ), Zvishavane Water Project (ZWP) and the Red Cross. These are the NGOs that were providing WASH services in the area of study for a period extending to more than a decade up to the time of the study. Apart from ZWP, the rest are not local NGOs, they operate once-off WASH financing investment programmes and after a pre-specified duration they hand over the management of facilities to the communities. Table 1 shows the total number of boreholes in the study area.

NGOs' exit strategy

Part of the NGOs' exit strategy is to place more attention on the capacity building of the community members with the

Table 1 | Total number of water facilities in the study area

Ward	Functional hand pumps	Non-functional hand pumps	Non-functional boreholes	Total
Ward 18	3	6	2	11
Ward 19	3	8	2	13
Ward 20	4	10	7	21
Total	10	24	11	45

ultimate aim that they will be able to carry out maintenance and repairs without direct involvement of the NGOs. It emerged that although the NGOs' services provided pump repairing skills through training, the training was provided to only a few community members. After the training of pump minders and expiration of the project period, NGOs hand over the maintenance and repairing functions to the communities. Such an exit strategy is, however, not proving to be viable, as in most villages, those who have been trained in pump minding have since left the area for greener pastures due to the dire socioeconomic situation prevailing in the rural areas of Zimbabwe. There is no contract binding those trained to always avail themselves when their services are required and there are no incentives to motivate them to do so.

Government and water point committee's roles in Chivi WASH sector

Established from interviews with officials from the rural district council and the water point committee members, it was plainly evident that the central government was not directly involved in any WASH services in the area. The central government is only responsible for the establishment and execution of policies and enactment of regulatory systems for WASH services provision. The district council is very much aware of its sector responsibilities; however, capacity, both financially and technically, to undertake these responsibilities was cited as a major cause for concern. At the time of the study, there was not even one water supply facility that had been installed by the government.

The study established that management of WASH facilities was the responsibility of the recipient communities. Discussions with the water point committees highlighted that they are responsible for ensuring the safe custody of

these facilities. Table 2 shows the roles of government and water point committees in the study area WASH sector.

The training being given to water point committees by NGOs concurs with submissions by the UNDP (2008), which in its WASH decade report, alluded to the fact that realizing lasting paybacks from WASH services should involve far more than the provision of structures and amenities. It should also give focus to the importance of including the community in every facet of service delivery, including capacitating communities to manage those amenities. The report further emphasized making use of appropriate and suitable technologies, and ensuring the role of government as the service promoter. In the same report, it is further revealed that in many instances, NGOs and governments assume that communities somehow 'manage' their facilities without assisting them in building capacities nor even have the commitment to do so. This then leaves communities to manage the facilities using traditional approaches that do not ensure sustainability.

Newson (2008), from another angle, also expressed the same notion that management of WASH facilities is very critical for sustainability as evidence indicated that facilities that are managed very well usually outlive their expected life span. The management of WASH facilities should encompass, among other critical elements, participation, which is seen as a very important tool for enhancing the efficiency of services. It is also viewed as a fundamental right that communities should have a voice on services that impact on

their lives. Participation should be undertaken at different levels from planning, selection of technology and site identification, labour provision and the selection of the type of management.

Specific duties of the water point committees

Different specific duties played by the water point committees are categorized and listed in Table 3 below.

Challenges faced by water point committees

All of the interviewed water point committees indicated a myriad of challenges they are facing in management of these water points. In the case of major breakdowns that require spare parts to be procured, the spare parts were not available in the local market. Some of the spare parts needed to be imported from neighbouring countries like South Africa. This finding contradicts the findings from the external evaluation report of the Action Contre la Faim (ACF) (2013) programme funded by the European Commission in Mberengwa district in the same province. Apart from training pump minders and providing them

Table 2 | Roles of government and water point committees

District council	Water point committees
Coordinating planning and implementation of water supply and sanitation services	Enacting rules and regulations for operating water points in consultation with villagers
Coordinating the formulation of district sector plans	Guaranteeing cleanliness of water points
Exercising periodic monitoring of sector activities	Ensuring repairs are done in case of breakdowns
Updating of inventories of all the WASH sector facilities	Collection of financial contributions for the repairs Regulating and facilitating water rationing during the dry season or whenever water yields are low

Table 3 | Duties of water point committees

1. Operation and monitoring of facility usage

- Setting up of a facility operation plan
- Monitor citizen operation of facilities
- Ensure the security of facilities against misuse, vandalism and damage
- Ensuring water use efficiency

2. Management duties

- Training attendance
- Fundraising (including collection of fees and contributions)
- Book keeping
- Report writing
- Representing community members in meetings involving WASH

3. Repairs and maintenance

- A regular check of facilities
- Regular servicing (including oiling and lubrication)
- Cleaning of facilities
- Changing of fittings and repairs

with tool kits the programme also provided spare parts kits. This was not the situation in the area under study where communities were required to procure spare parts.

The committees were concerned about the resistance they face from the villagers who willingly avoid implementing what they themselves would have agreed on during village meetings. There were cited instances of clashing between water point committees and some villagers when the committees give directives not to utilize water from the point for purposes of, for example, gardening and livestock watering, but then villagers would engage in these activities during the dead of night. This finding also emerged in a study by [Baumann & Danert \(2008\)](#) in rural areas in Malawi. In Malawi, they then introduced locking of the boreholes during the night as that is the time most of those who abuse the facilities operate ([Baumann & Danert 2008](#)). It turned out in other villages under study that some villagers never bothered to attend water point committee meetings thus making it difficult to enforce what was agreed in these meetings. If people do not abide by the recommendations of the committee, the water point committees can, if they identify, for example, those that violate water usage policies, bring them to the village courts, where in most cases they are fined and rebuked. However, they have limited options in dealing with non-contributors as in most cases those who do not contribute are the poor with no capacity whatsoever to make those contributions.

Schools

Schools were also not spared regarding the problem of mobilizing finances as well as labour for repairs in cases of water point breakdowns. In some instances, the communities surrounding these schools use the same water points together with the school, but in the case of breakdowns they avoid contributing for repairs and maintenance works.

Households

The study established that 39 of the interviewed households had latrines while six had no latrines. Of the 39 that had latrines, 27 had built them with material assistance from NGOs and 12 had built on their own. Those who had no latrines admitted to visiting their neighbours for latrines.

Household interviews also provided data on the management of these sanitation amenities. At household level, they themselves decide on who and when to clean their latrines. This was the trend in all the interviewed households with latrines in all the studied wards. The majority of households said they clean their latrines daily during bathing. This showed that the people were aware of the worth of having clean latrines. This high level of awareness was cited to be as a result of the role that NGOs are playing in education, information dissemination and massive awareness campaigns.

Area clinic

The clinic officials indicated that the district has higher levels of awareness as far as latrine use and handwashing behaviour is concerned as evidenced by low incidences of diarrhoea and other hygiene-related illnesses. This they owed to the previous and ongoing hygiene promotion activities by the NGOs. The area clinic indicated that they play no role in water supply in the area apart from some education and awareness exercises.

Sustainability

Findings indicated that sustainability, i.e., ongoing functioning of WASH services in the area was compromised by several factors, including those internal to communities and those related to project design and those that are external to the community context. [Table 4](#) shows the reasons for non-functionality in the study area.

At the time of the study, 78% of the water supply facilities in the study area were not functional; 14 of the non-functional were just neglected completely after having major breakdowns that required major repairs and technical

Table 4 | Reasons for non-functionality of boreholes

Ward	Major breakdown	Needed minor repairs	Dried up	Total
Ward 18	4	2	2	8
Ward 19	5	3	2	10
Ward 20	5	5	7	17
Total	14	10	11	35

expertise. Ten of the non-functional were in need of minor repairs and the affected villages had not raised the required finances. Eleven of those that were not functioning were as a result of the dry season. The functioning ones were likely to survive at least for the short term, as they remain threatened by lack of proper and consistent maintenance. Those that were functional were the result of factors including a vibrant water point committee fully committed to its responsibilities, the water point still being new, supportive village leadership, nature of water usages and population density of the area. In any case, capacity to do maintenance and repair works was found to be limited despite having a motivated water point committee or supportive leadership.

Chivi is a sparsely populated district and a typical village in Chivi, on average, is made up of between 80 and 100 households with a household population of between four and six people. This means that the village population ranges between 320 and 600 people. In many instances, one village had one water pump; however, in some instances, there is an overlap of use with one water pump serving households from two different villages.

Findings established that after the installation of the infrastructure, there is no further institutional support from the NGOs, all is left to the poor villagers to manage the facilities with a few villagers trained as pump minders and health officers. There is no institutional monitoring of the services in the long run. Awareness of responsibility at community and water point committee levels is evident but hampered by capacity constraints such as the lack of financial resources and lack of cooperation from other villagers. Because communities are obliged to meet repair and maintenance costs during the breakdown periods, others are abandoning the installed facilities altogether and returning to the old unprotected water sources comprising rivers, unprotected ponds and dams. The majority of communities did not have any savings, nor carried out monthly contributions for operation and maintenance (O&M). Almost all were reactive in that they only contributed when the water point was broken. The question arising is whether this method of financing would sustain a water point over time.

The lack of monthly savings was often related to mistrust between villagers and the water committees and also a lack of prioritization of an improved water supply over other household needs. In other cases, water committees

were accused of collecting money to buy spare parts, yet not informing villages how much had actually been spent. This finding of community resistance to finance O&M activities is not peculiar to the study area, as [Terry et al. \(2015\)](#) in a study on improving the effectiveness of Ugandan water user committees (WUCs) also noted a similar scenario. Several WUCs were poorly functioning because of lack of community participation which resulted in inability to raise funds to maintain the services. In a more extreme situation, [Terry et al. \(2015\)](#) cited Mukono district in Uganda where WUCs faced abuse including physical attacks from villagers when they attempted to collect funds. The same scenario was also noted in similar studies in Malawi ([Kafakoma & Silungwe 2003](#)) and Rakai district in Uganda ([Ssentaba 2009](#)). [Terry et al. \(2015\)](#) cited the lack of knowledge of rights and responsibilities on the part of water committees and their respective communities as a key factor undermining sustainability. The researchers advocated for the provision of a user friendly handbook that assists both the literate and illiterate community members to learn their rights and responsibilities. This, they argued, will assist in improving the functionality of WUCs and consequently the managing of WASH services at the community level ([Terry et al. 2015](#)).

Furthermore, the lack of technical capacity to carry out major repairs and maintenance at community level was cited as a problem. The NGOs had trained local pump minders from the communities and these pump minders are part of water point committees. However, in several committees, the only member who had been technically trained had left and others had no capacity. The need for external technical support, including spare parts, to communities was raised in discussions and was evident from communities' experiences. The respondents were calling upon the government to intervene with repairs, especially in cases where the NGO had left the country. This is supported by recommendations in a paper by [Action Contre la Faim \(2013\)](#) on ensuring sustainability of WASH services. The ACF called for integration, which involves combining the work of different WASH sector players in ways that provide synergies which result in greater impact and results than when working separately. This integration and partnership approach has been effectively applied in various ACF programmes in many diverse contexts, demonstrating greater benefits and sustainable service delivery ([Action Contre la Faim 2013](#)).

It was notable that NGOs focused on the provision of safe water for domestic use purposes with the systems not necessarily designed for multiple productive water demands. It was evident that focus on provision of water for productive activities was absent in the design of the NGOs' service provision as they are targeting mainly domestic water use but the same facilities were being used for other unintended productive activities like gardening and brick moulding thereby threatening the sustainability of the facilities.

CONCLUSIONS

The WASH sector is one area which has suffered from the effects of deteriorating socioeconomic conditions in Zimbabwe. It is very unfortunate that the community managed WASH facilities by NGOs are experiencing sustainability challenges due to lack of support from government. Thus, it can be deduced that new ways of reaching the poor in terms of WASH services must be entrenched in ensuring sustainability. In general, this calls for the setting out of clear partnerships and well-coordinated collaborative efforts between government, NGOs and communities. There is need to clearly define the roles of different sector players and to ensure there is commitment from every partner to carry out its roles and responsibility if sustainability is to be achieved. Listed below are specific recommendations emanating from the analysis of the findings:

- Various challenges the water committees are facing in their current setup suggest that the current setup does not present an ideal model for the sustainable management of water supply facilities. Communities themselves must move away from approaches that rely entirely on voluntarism and informality. The study recommends that water committees be allowed to become a legal entity. This suggestion calls for the enactment of a constitution that outlines the responsibilities, legal, operational and accountability framework for water committees. In such a way the water committees become community based organizations (CBOs). The CBO constitution should give it a strong institutional capacity to enforce O&M policies. The constitution must clearly spell out

the powers and authority of the CBO in relation to finances and fundraising, partnerships and contracts, conflict resolution, staff hiring and employment, signatures, discretion, indemnity, legal personality, required skill and education levels of its membership and it should also address social issues of age and gender dimensions. Skills of CBO members are very fundamental as their role will involve very complex processes, operations and decisions. CBO members must be equipped with various skills from basic book keeping to income and expenditure tracking skills, among others. The skills of CBO members must be continuously enhanced, including the setting of minimum education and skill levels for members. CBOs membership can be pegged, for example, to at most ten, including chairman, secretary, treasurer, their deputies and pump minders.

To ensure good governance, the CBOs must adhere to community participatory approaches from the stage of drawing up the constitution, remuneration and monthly contribution setting. There is a need to shift attention away from paying for maintenance of facilities to paying for the actual water. Those households without the ability to pay the monthly contribution should at least have the willingness to work (WTW). WTW refers to the measure of demand, where instead of paying monthly cash contributions they contribute time dedicated to unskilled labour (10 hours a month per household). Given the absence of WTW, it has to be within the CBO constitution to bar the household from utilizing the facilities. The village headman court must work hand in hand with the CBOs in ensuring enforcement of the constitution.

It is important that CBOs provide income generating activities, for example, a vegetable garden near the water source. It is in these gardens that households with WTW will provide labour. The garden produce should be sold to communities, generating cash that goes to the coffers of the CBOs. CBOs can partner local banks and create accounts that enable them to earn interest on money deposited, among other favourable services like overdrafts, borrowing powers, loans or grant advancements. The CBOs must be mandated to invest cash collected into other low risk profit ventures, for example, opening village tuckshops. Such a

model, if properly managed, will allow the availability of funds whenever there is a requirement for spare parts or the need for hiring technical experts. A reasonable remuneration is also recommended for the CBO members. A voluntary and informal arrangement for community members' participation in water services management proved that it is not conducive to optimal delivery. A reasonable incentive for services rendered cannot be overlooked, and it should be factored into the monthly contribution. Incentives should also comprise participation in learning, exemption from contribution payments, exchange programmes, local level appreciation awards for community service, and gifts like bicycles or motor cycles and retraining.

- It is again important for NGOs providing services to carry out a demand-responsive approach (DRA) to complement the community management approach. DRA aims to ensure that the water supply levels are matched with the community (economic) demand. This demand is reflected in community willingness to get involved in contributing to the construction costs (at least 10%), and in technology choice and to assume O&M responsibilities. Safe water demand will determine willingness to pay for it by users and, therefore, the price that can be charged for it. Service levels should not respond to the arbitrary number per pump but to the perception of need among the user community. DRA will then ensure that NGOs provide services at a supply level that meets levels for which communities are willing and able to pay. A reduction in the deviation between supply and demand levels will ensure long-term sustainability as it is likely that communities will be able and willing to pay in the long run. However, tailoring service supplied to community effective demand, in reality, is not always a straightforward activity, but at least it needs consideration. There are factors other than economic demand that play a role in determining supply service levels, for example, human rights and health-based criterion that have pushed a number of NGOs to disregard the notion of economic demand.

Moreover, NGOs should put more effort into engaging local intermediate level actors in their projects and ensuring that the communities know where to go for assistance in the event that a problem they are unable to solve

arises. NGOs should also ensure that their projects include a budget to cover follow-up back-stopping assistance to previous projects. NGOs should seriously consider working in partnership as a standard working modality, assisting in building the capacity of the local institutions while again taking lessons from local people's experiences, knowledge and links. In this way, they leave behind stronger local institutions when they depart.

- As noted 11 of the non-functional boreholes had dried up. The drying up of boreholes was attributed to successive droughts in the area. This calls for the need to do extensive geological surveys before a facility is installed. This is one area where government needs to intervene using its expertise. NGOs must utilize the Department of Geological Survey, which already exists in the government and is fully equipped with experts. The communities need to be empowered with water conservation as well as pump adjustment expertise to assist them in managing boreholes during periods of drought.

In conclusion, in many instances, NGOs have been found to prioritize their self-interests of satisfying their 'feel good factor' (moral or religious well-being of donors) through construction of many facilities and largely ignoring sustainability issues. In fact, it has been argued that low sustainability is fundamentally good for them in justifying funding for future rehabilitation projects and therefore their continued existence. NGOs put self-interests ahead of sustainability, hence they avoid assessing willingness to pay or stakeholder consultations when initiating their programmes. It is necessary for NGOs to avoid these selfish interest manoeuvres that undermine sustainable water supplies. NGOs must not simply leave communities to manage the facilities, but must develop an interdependent framework where rural water supplies are sustained through appropriate support, which is then gradually reduced with time, depending on the local conditions.

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