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Community-managed water supplies in Africa: sustainable or dispensable?

Peter A. Harvey and Robert A. Reed

Abstract Over the past two decades, community management has become the prevalent model for management of rural water supplies throughout sub-Saharan Africa. Despite its widespread popularity among donors and implementing agencies, low water supply sustainability levels throughout the sub-continent indicate that it is not the panacea it is often presented to be. There is a strong need to distinguish between 'community participation' which is a prerequisite for sustainability and 'community management' which is not. If community management systems are to be sustainable, they require ongoing support from an overseeing institution to provide encouragement and motivation, monitoring, participatory planning, capacity building, and specialist technical assistance. If such support is not available, alternatives such as household water supplies and private sector service delivery should be considered.

Introduction

The concept of community management has gained widespread acceptance throughout the international development sector and is currently applied in the vast majority of rural water supply projects and programmes in sub-Saharan Africa (IRC, 2003). The basic principles behind this concept are that the community that benefits from an improved water supply should:

- have a major role in its development,
- own the water system or facility, and
- have overall responsibility for its operation and maintenance (O & M).

In general, this is fulfilled through the formation of a community water committee that is responsible for operating the system, setting and collecting water tariffs, and managing maintenance and repair activities.

Community members are normally expected to contribute to initial system installation costs and to meet all ongoing maintenance and repair costs through the regular payment of appropriate water tariffs.

Despite the blanket application of community management of rural water supplies in sub-Saharan Africa, the sustainability of such interventions remains woefully inadequate. It is currently estimated that 35% of all rural water systems in sub-Saharan Africa are not functioning (Baumann, 2005). Recent figures from individual African countries indicate operational failure rates of between 30 and 60% (Hazelton, 2000; DWD, 2002; Sutton, 2005). Many of the reasons for low levels of sustainability are related to community issues, such as limited demand, lack of affordability or acceptability among communities, perceived lack of ownership, limited community education, and limited sustainability of community management structures (Carter, Tyrrel, and Howsam, 1999). Unless sustainability levels can be vastly improved, the Millennium Development Goal target to halve the proportion of people without sustainable access to safe water by the year 2015 will not be achieved.

Given this situation, it is important to understand why community management has been applied in so many cases and why it has had such limited success. This paper, based primarily on research in Ghana, Kenya, Uganda, and Zambia, attempts to question the widespread faith placed in community management, to determine whether, and under what conditions, it contributes to sustainable rural water services and whether there are alternative solutions that are largely being ignored at present.

Historical perspectives

The theoretical frameworks that underpin community management are various, including neoliberal perceptions on reduced state involvement, water as a basic human right, water as an economic good, and people first and empowerment approaches (IRC, 2003). However, although such development-based principles may have contributed to the prevalence of community management, in the opinion of the authors, these are secondary to three fundamental reasons:

1 Poor service delivery and performance by government institutions.
2 Suitability to the project approaches adopted by non-governmental organizations (NGOs) and donors.
3 Western 'cultural idealization' of communities in low-income countries.

Prior to the introduction of community management in the 1980s, most rural water supplies were 'supply-driven' and delivered and managed by

government institutions. The efficiency of such management systems was generally poor because of limited government capacity and commitment. Consequently, sustainability levels were low and it was widely recognized that there was a need to develop more effective mechanisms for management of ongoing water supply O&M. The community management concept appealed to many governments, who were already committed to decentralization and overstretched in attempting to deliver and maintain rural services, as it relinquished them of their responsibility for O&M (IRC, 2003).

The second reason behind community management was the 'project approach' adopted by most bilateral organizations and NGOs, whereby the implementing agency would construct a number of water systems as part of a project and then leave the project area after several months or years. Community management, therefore, became a convenient concept for shifting responsibility for ongoing O&M, and hence sustainability of services, from facility-provider to end-user. By sensitizing and mobilizing the community to instil a sense of ownership and responsibility, and handing over the water facility to them to manage, agencies were able to abrogate responsibility with a clear conscience.

The third reason is related to the hegemonic nature of development. Community management was a concept developed predominantly in the West, where there has undoubtedly been a tendency to idealize communities in low-income countries, and to view them on the basis of simplistic 'cultural differences' rather than to judge them by our own standards and values (Pilger, 2002). Rural water systems in high-income countries are not generally managed successfully by communities, so why should there be an automatic expectation that they can be in low-income countries? Although it is accepted that some rural communities in sub-Saharan Africa have a history of community co-operation and ownership which is accordant with the concept of community management, this is by no means true of all rural communities. The community management model, however, has been applied to all communities without such distinction, based on an idealized generalization.

Community 'participation' versus 'management'

The importance of community participation and community management in rural water supply is often emphasized, yet perceptions of what these terms mean vary greatly. Community participation is a consultative empowerment process designed to establish communities as effective decision-making entities. This broadly means that the community to benefit from an improved water supply is involved in information

sharing, consultation, decision-making, and initiating action (Guijit and Shah, 1998). Community participation can be stimulated by a community itself, or by others, and begins with dialogue among members of a community to determine who, what, and how issues are decided, and to provide an avenue for everyone to participate in decisions that affect their lives. Information sharing is essential so that the community is able to make informed decisions and act upon them.

An essential component of community participation is to define the 'community' and to establish an appropriate mechanism for decision-making. In relation to rural water supply, a community is likely to be defined by the area to which a given water system can realistically serve. This is not necessarily the same as a pre-existing community defined by village, ethnic, or family groups. Many communities benefiting from a water supply will be made up of people of different families, clans, ethnic groups, religious groups, and socio-economic groups. Therefore, it should not be taken for granted that a group of people has the internal resources, common interest, or sense of solidarity to either initiate action or sustain the management of a facility (DeGabriele, 2002).

Community participation involves 'mobilizing' a community to become involved in planning and implementing a water supply project. This may take considerable time and should not be rushed. Some communities may become actively involved in water supply activities within a matter of weeks; others may take several months or years. Community participation (including the simplest level of involvement) from early on in a water supply project enhances the future sense of ownership, but ongoing motivation is required for continuing participation (Batchelor, McKemey, and Scott, 2000). This is of key importance; just because a community has participated in the planning process does not mean that it will sustain participation in ongoing service delivery or that it will successfully manage its water supply. Community participation does not *automatically* lead to effective community management, nor should it have to. Services that are not to be managed by the community should still follow on from effective community consultation and participatory planning. Community *participation* is a prerequisite for sustainability, i.e. to achieve efficiency, effectiveness, equity, and replicability, but community *management* is not.

Community management can be viewed as a form of community participation (Wegelin-Schuringa, 1998), but is distinct as illustrated in Figure 1. Community management is a bottom-up development approach whereby community members have a say in their own development and the community assumes control – managerial, operation, and maintenance responsibility – for the water system (Doe and Khan, 2004). This means that the beneficiaries of the water supply have full responsibility, authority, and control over it

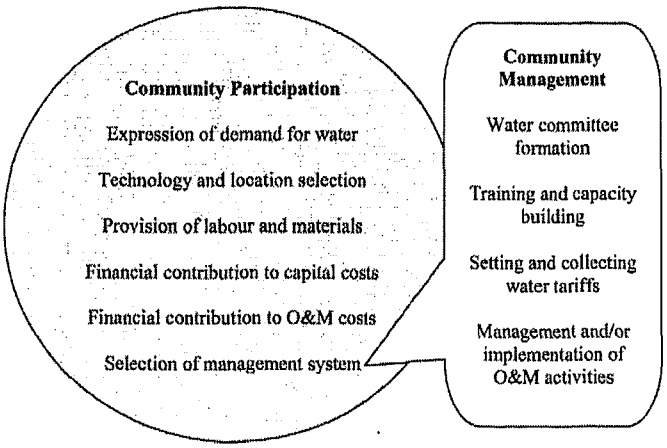

Figure 1 Segregated Aspects of 'Participation' and 'Management'

(McCommon, Warner, and Yohalem, 1990). Community involvement in system construction began in the 1970s, which developed into community participation in decision-making and maintenance in the 1980s, which then developed into community management in the late 1980s and 1990s (IRC, 2003). During this process, the responsibility for service provision has gradually moved from national government to local people. Community management usually relies on the formation of a water committee which is responsible for all management issues related to water supply in the community. Where projects use existing community management structures, such as community co-operatives, development committees, or traditional leadership structures, the sustainability of the water point is better than where a new committee is set up (Batchelor, McKemey, and Scott, 2000). An essential role of the implementing agency is to facilitate the formation of an appropriate management body and enable the community to take care of its system after they have left (IRC, 2003).

Some commentators argue that the main reason for advocating community management is that the people for the projects should have a major say in how the scheme is constructed and managed (McCommon, Warner, and Yohalem, 1990; Wood, 1994; Mayo and Craig, 1995). If this is the case, then they should also be free to decide that they do not wish to manage the system themselves, in which case there is active community 'participation' but not 'management'. Doe and Khan (2004) claim that community development is operationalized through community management, but this need not be the case. Community development is operationalized by empowering communities to take control of their development. This means that they should also have the right to choose not to manage their water supply should they so wish.

Limitations

The fact that low rural water supply sustainability levels remain throughout sub-Saharan Africa indicates that there are severe limitations to current approaches to community management. Most problems with community management do not occur immediately after the commissioning of an improved water supply but sometime later, normally within 1–3 years. The reasons for the breakdown of management systems are numerous. In a survey of several hundred communities in the study countries, the six most commonly cited causes were as follows:

1 Community management often relies on voluntary inputs from community members, which people may do for a while but are reluctant to do in the long term; there are often no long-term incentives for community members.
2 Key individuals on the water committee leave the community or die, and there is no mechanism to replace them with trained individuals.
3 The community organization charged with managing the water supply loses the trust and respect of the general community. This may be related to a lack of transparency and accountability, and lack of regulation by a supporting institution (e.g. local government).
4 Failure by community members to contribute maintenance fees leads to disillusionment among committee members who abandon their roles. This may be due to a lack of legal status and authority of the water committee or lack of community cohesion.
5 Communities have no contact with local government (or the implementing agency) and feel that they have abrogated responsibility for service provision; they therefore feel abandoned and become demotivated.
6 Communities are too poor to replace major capital items when they break down.

Another key limitation to community management is the widespread perception that 'ownership' is a prerequisite for community management and is the key to sustainability (Knudsen and Tidemand, 1989; Cotton and Taylor, 1994; Niedrum, 1994; Bossuyt and Laporte, 1995). The prevailing wisdom supports the idea that ownership of the water supply facility will lead to a responsibility for its management, which will lead to a willingness to manage, which in turn will lead to a willingness to meet ongoing O&M costs. In reality, the research showed that there is no *automatic* relationship between these aspects. Just because a community owns a facility does not necessarily mean that it will acquire a sense of responsibility for its management, nor does it guarantee a willingness to manage or pay for its O&M.

The reverse of this can also be said to be true, i.e. the fact that a community is willing to pay for O&M does not necessarily mean that they have a strong sense of ownership. Of sixty communities visited in Zambia, 82% expressed a strong sense of ownership of their water supply, but the operational failure rate among these communities was not lower than among those that did not express such a sense of ownership. Although it is accepted that the term 'ownership' is often applied in a broader sense than legal ownership of an asset, it is essential that implementers are disabused of this common misconception. Although these links may exist in some cases, ownership in itself is not the 'key' to sustainability.

The issue of communal ownership is very different to individual ownership, yet it is a common mistake to view them in the same way. Where an individual owns a water system, for example, responsibility for its maintenance is clear and he or she is likely to ensure that it keeps going to maintain a ready supply of water. Where a community owns the system, the same logic does not necessarily hold true, for the following reasons:

- There may be no definition of what constitutes the 'community' and it may have no clear or legal identity.
- The location of the facility is unlikely to be equidistant from all users and hence true equity is impossible to achieve.
- The ability to pay for the service may vary greatly within the community and the fact that each household should contribute the same amount may be seen as 'unjust' by some.
- Disagreements and distrust between different families or individuals can make the very concept of 'community' difficult to accept.
- The facility or system may be installed on land which belongs to an individual or the government, resulting in a widespread perception that it does not truly belong to the community.
- Some members of a community may believe that water supply should be a government service and disagree with the concept of community ownership and responsibility.

It is crucial to note that ownership is not in itself the answer to sustainable community-managed water services. Rather, it is a complex issue which requires in-depth consultation to understand. Where ownership issues are difficult and it is unlikely that a community will establish a strong sense of ownership of a particular facility (due to legal, land-ownership, or community constraints), it may be more effective to abandon the desire to achieve community ownership and to develop a *sense of responsibility* for financing the upkeep of the facility. Instilling an understanding of the need to pay for water is one way in which this has been achieved in parts of Ghana, Kenya, and Uganda, where communities pay a caretaker each time they

collect water from the system. This can be applied whether community ownership is strong or not, and even in cases where the water system is owned by a private individual or enterprise (Harvey and Reed, 2004).

Potential solutions

The potential solutions to the limited success of community-managed rural water supplies can be divided into three key categories:

1 Provision of institutional support to communities,
2 Provision of household and small user-group water supplies, and
3 Implementation of private sector service delivery models.

Institutional support to communities

The assumption that supporting community-managed O&M is a less onerous task than running a centralized maintenance and repair system has not been borne out in the field (WHO, 2000) and at present there is little evidence to suggest that governments have facilitated community management effectively on their own (Colin, 1999). This may be because government authorities and support agencies do not understand the need for appropriate support systems, perhaps in part because there has been a widespread misconception that services can be managed autonomously by communities and that governments can be side-stepped in the process of service delivery by external support agencies. This common lack of understanding among governments also explains why many government policies do not give sufficient attention to this issue. This can be seen from the rural water supply strategy documents of all four study countries which stress that it is communities only, not governments, that are responsible for management, operation, and maintenance of water supplies. The national policy for water resource management in Kenya goes as far as to state that water systems should be 'self-sustaining' and beneficiaries should 'take full responsibility' (MWR, 1999). Given that access to water is a fundamental human right (World Water Council, 2002), governments should not neglect their responsibility to enable communities to realize this.

Evidence from each of the study countries shows that community management is sustainable only where a strong local institution is in place to support communities. The highest operational sustainability levels were recorded in specific districts in Ghana, Uganda, and Zambia, where local government and/or NGOs play a dynamic role in supporting communities. Appropriate institutional support comprises the following components:

- encouragement and motivation,
- monitoring and evaluation,

- participatory planning,
- capacity building, and
- specialist technical assistance (including financial support where required).

An appropriate institution can provide ongoing support to help preempt many of the problems associated with community management and to find solutions to them by working in partnership with communities. Such support might include regulation of management committees, developing sustainable and transparent incentives for committee members, refresher training for existing members, training of new members, consultation with disenfranchised groups and individuals within communities, conflict resolution, and designation of committees as legal entities. Provision of technical expertise by such an institution is also essential to ameliorate complex technical problems that are beyond the management and financial capabilities of the community. In one area of Ghana, where a strong local NGO made visits to all communities on a quarterly basis to provide this support, 86% of all rural water systems in the forty-four communities surveyed were functioning. Similarly, districts in Zambia with strong district water and sanitation teams (consisting of government and NGO personnel), which met and monitored communities regularly, demonstrated significantly higher sustainability levels than those of districts with weaker institutional set-ups.

In general, stronger institutions than at present are needed to promote and support community management, and adequate funding is still required for agencies to be able to perform their essential supportive role (Davis and Brikké, 1995). This is backed up by new strategies developed by implementing agencies that recognize the need for institutional support and the need to budget for this accordingly (Nedjoh, Thogerson, and Kjellerup, 2003). Such support is not a stopgap or short-term measure, but should be indefinite.

The term 'scaling-up community management' is now increasingly used to refer to the need to increase sustainability and coverage by creating institutional frameworks for community-managed services, using a learning approach which includes all relevant stakeholders and allows for local context (Schouten and Moriarty, 2003). This requires political support and involves calculating the full costs of implementing the community management model; promoting appropriate low-cost technology; building capacity at all levels; and providing adequate financing from communities, government, and the private sector (Lockwood, 2004). Institutional support is best provided by a local government institution, although where this is not possible, for example, where there is no effective government, an NGO or stakeholder group can fulfill this role.

Household alternatives

Community members are often less willing to contribute a modest amount to the cost of a community water supply than they are to pay a significantly greater amount for a private household supply (Sutton, 2003). Although it is not possible to provide household options in all instances, where it is, the obstacles to sustainability created by lack of trust, cohesion, and co-operation within communities can be greatly reduced through their development.

Many African countries report low coverage rates for access to safe water, yet the many millions of people who are 'unserved' rely on water from traditional sources that they have found or developed for themselves. These include hand-dug wells, scoop-holes, and surface water sources such as rivers and streams. It is estimated that some 33% of people (140 million) in rural sub-Saharan Africa rely on traditional hand-dug wells (Sutton, 2005). Such water sources may be household-based or used by small groups (consisting of several families). These can often be developed and upgraded to provide sustainable access to safe water by improving and protecting traditional sources, encouraging household water treatment, and promoting simple alternatives such as rainwater harvesting. Comprehensive information on all feasible options should be provided to community members in order for them to decide on the most appropriate technology and service level for them. In many cases, low-cost household or small-group options are preferred (Breslin, 2003; Harvey and Kayaga, 2003). Such an approach offers greater security to the poor while reducing dependency on remote technologies.

Private sector alternatives

Simply because a community owns a water supply facility, makes an initial contribution to its installation, and finances O&M does not mean that it must manage the supply facility. Implementers should take a flexible approach to management and investigate alternative options to community management. Current low levels of sustainability in South Africa, where government management of low-cost rural water systems (such as hand pumps) persists, suggest that a return from community management to centralized public sector systems would not lead to an increase in sustainability (Harvey and Kayaga, 2003). However, private sector management options may provide more sustainable frameworks in some cases. Such options should be discussed with communities who may be only too happy to relinquish control. This should not be seen as disempowerment, because the community still has the freedom to express its preferences and, if it chooses, to regain control.

A survey of rural communities in Uganda revealed that although 69% of communities thought they should own the water system, 88% expressed

no general objection to it being managed by a local private sector enterprise, although 59% expressed no objection so long it did not cost more to the community. Although this was based on only a small sample size, it illustrates the fact that communities may not be as opposed to private sector involvement as is often believed. Interestingly, there was far more resistance to indigenous private sector involvement from government officials than from communities. Evidence from the small number of African countries where private sector management models have been implemented suggests that in some cases it may be a more viable alternative than community management and that further application is warranted (Bernage, 2000; van Beers, 2001).

Conclusions

In answering the question 'Community-managed water supplies in Africa: sustainable or dispensable', although community *participation* remains indispensable for sustainable rural water provision in Africa, community *management* does not. In some cases it is indeed 'dispensable', because there are alternative management models that can be effectively applied. That is not to say that community management should be discarded in all situations, but rather that it can only become *sustainable* with appropriate institutional support, which is currently lacking in most cases.

- Community management of rural water supplies in Africa has not delivered satisfactory levels of service sustainability. Donor practices and government policies commonly fail to recognize that communities cannot be isolated to manage their own water supplies and that in many cases there are viable alternatives.
- Greater agency accountability and greater government accountability are needed in the ongoing provision of rural water services. This means that implementing agencies, both governmental and non-governmental, must recognize the need for long-term support for community management and develop strategies to provide this accordingly. All implementers should desist from following the project approach of the past.
- There is a need for realism rather than idealism when working with rural communities in sub-Saharan Africa. Communities and individuals within communities should be judged by the same standards that their educated middle-class compatriots and those in the West judge themselves. Recognition of community heterogeneity and the rights and preferences of individuals is paramount to this.

- Current misconceptions relating to ownership need to be challenged. Although ownership may contribute to sustainability in many cases, it should not be made a goal in itself with the implicit assumption that it is the principal prerequisite for sustainable water provision. The differences between communal and individual ownership must also be understood.
- Incentives for community management should be assessed for individual communities, and household and private sector options should be explored where there is resistance to community management or limited capacity for its successful implementation.

If user communities are to be truly empowered and granted true decision-making authority, they should be given comprehensive information needed to make informed decisions, without being pressured to follow the preferences of the facilitator. Communities and households should be free to select technology and service levels that suit them. They should also be free to select the most appropriate management system for O&M, including the option not to manage this themselves should they so wish. Unless such an approach is taken, use of the term 'community development' in relation to rual water supply will remain rhetoric rather than reality.

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