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How Can INGOs Help Promote Sustainable Rural Water Services? An Analysis of WaterAid's Approach to Supporting Local Governments in Mali

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ABSTRACT: This paper examines how the international NGO WaterAid supports decentralised local governments in Mali to fulfil their role of service authorities within a service delivery approach for rural water services. WaterAid provides capacity support to local governments by creating and financing municipal WASH Technical Units that, in turn, provide direct support to community management of rural water supply. The paper compares this model to another approach for supporting rural water service providers in Mali in terms of the activities, scale and costs of direct support provided through each model.
The paper finds that the model of WASH Technical Units promoted by WaterAid provides a more comprehensive set of support activities than the alternative approach suggested in national policy. The costs of the Technical Units are within international benchmarks for the expenditure on direct support suggested to be necessary for basic sustainable rural water services, but it is not yet clear how local governments in Mali can finance the costs of such an approach in the long term. Therefore, greater debate is needed in the national water sector about which aspects of support to rural water service providers are most important and what combination of actors can provide and finance this support.

KEYWORDS: Rural water supply, service delivery, direct support, life-cycle costs approach, WaterAid , Mali

INTRODUCTION

Mali is one of many countries where community-based management of rural water supplies is a core element of national policy, accompanied by decentralisation reforms that emphasise the role of local governments in ensuring that communities are adequately supported (DNH, 2007). A key issue in the Mali rural water sector is to determine exactly what forms of direct support to communities are required to ensure sustainable service delivery, and how this support can be provided and financed (World Bank, 2008; USAID, 2010).

This paper seeks to answer two questions related to this challenge. First, how does WaterAid's work in Mali aim to promote sustainable rural water services? In particular, the paper examines how WaterAid works in partnership with decentralised local governments to develop approaches for expanding coverage and providing ongoing direct support to community management of rural water supplies through a model of municipal WASH Technical Units. WaterAid also engages in national level advocacy to encourage the use of similar models by other actors.

Second, how do the approaches promoted by WaterAid compare to policy and practice in the wider Mali rural water sector? Although WaterAid and the sector have not explicitly adopted the idea of a service delivery approach as described by Lockwood and Smits (2011), the model of municipal government involvement that WaterAid supports is broadly equivalent to the role of service authorities within a service delivery approach to rural water supply. However, given the lack of national consensus

on the exact roles and responsibilities of different actors, there are differences between the arrangements for direct support to community management used in WaterAid's approach and the arrangements suggested by national policy. This paper therefore discusses both approaches.

As part of the debate regarding sustainability and support to community management, this paper also discusses how the recurrent costs of rural water services are shared between different actors in WaterAid's areas of intervention, in policy and in practice. Understanding, planning for, and financing the full life-cycle costs of services is a key element of sustainable service delivery (Fonseca et al., 2011; Lockwood and Smits, 2011). This issue was identified by WaterAid and its partners as a particular challenge in their own work with local governments and for the wider rural water sector in Mali.

This paper uses the definitions for the different cost components of water services proposed by the WASHCost project from the IRC Water and Sanitation Centre, referred to as the 'life-cycle costs approach' or LCCA. These categories are summarised in Fonseca et al. (2011) and shown in Table 1. Evidence is included from work on analysing recurrent costs and how they are shared in key areas where WaterAid supports local government.[1]

Table 1. Component costs of water services (Fonseca et al., 2011).

Capital expenditure – hardware and software	Expenditure on fixed assets such as physical infrastructure (for initial construction or system extension), and the accompanying 'software' such as capacity-building.
Operating and minor maintenance expenditure	Expenditure on labour and materials needed for routine maintenance which is needed to keep systems running, but does not include major repairs.
Capital maintenance expenditure	Renewal, replacement and rehabilitation costs which go beyond routine maintenance.
Expenditure on direct support	Costs of ongoing support to users and local stakeholders, for example, on local government or district support staff.
Expenditure on indirect support	Costs of higher-level support, such as government planning, policy-making and regulation.
Cost of capital	Costs of servicing capital such as repayment of loans.

The analysis presented in the paper is based on research undertaken in collaboration with WaterAid in Mali in 2011, as the organisation introduced its own *Sustainability Framework* (WaterAid, 2011) as a tool to help understand and address the challenges to delivering sustainable rural water services. Follow-up remote research was undertaken in 2012 to understand the further progress made and the additional challenges posed by the uncertain political situation following the coup d'état in Mali in March 2012. Research was undertaken in four rural municipalities where WaterAid works. Three of these municipalities were chosen because they were the first three examples of WaterAid's approach to setting up rural municipal WASH Technical Units, which began in 2008. Research on costs and financing was also undertaken in an additional municipality where WaterAid still works through a local partner NGO rather than a municipal Technical Unit. This municipality was selected because, together with the other three municipalities, these were the four areas where WaterAid has begun to support municipalities to seek further funding from other actors.

[1] Further details on the application of the WASHCost life-cycle costs approach to this case study are included in Jones (in press).

It is important to note that, based on rural water supply coverage figures, Mali appears similar to the so-called 'group 2' of countries identified by Lockwood and Smits (2011) where coverage is between 50 and 70% and expanding, but with a high risk of 'slippage'. 'Slippage' occurs when coverage stagnates or even falls, in spite of new investment, because existing infrastructure fails at least as fast as new infrastructure is built (Reddy et al., 2010). Mali's average coverage in rural areas is 71% according to national figures (DNH, 2010), but 51% under JMP figures (WHO/UNICEF, 2012), which are based on usage rather than on coverage. Taking these figures as approximate upper and lower bounds suggests that Mali is in this challenging 'danger zone'. As Lockwood and Smits (2011) argue, such countries experience "an in-built tension between pursuing increased coverage (with inadequate budgets and growing populations), while at the same time addressing sustainability in a more structured way".

The paper acknowledges this tension and its influence on the sector in Mali. However, in the four municipalities used as case studies for this paper, estimated levels of coverage were 90% or above (according to surveys by WaterAid's partners in November 2011), i.e.; higher than the average for rural Mali. Therefore, these municipalities could represent areas where attention can shift further towards addressing sustainability as the imperative to increase coverage becomes relatively less important compared to other areas. Examples of good practice from these municipalities could provide useful future lessons for other parts of Mali. The paper concludes by suggesting lessons for WaterAid and other NGOs seeking to promote sustainable service delivery for rural water supplies in Mali and elsewhere.

THE MALI RURAL WATER SECTOR

Before discussing the details of WaterAid's own approach, an overview of the wider Mali rural water sector is presented. The history of the sector and the current institutional framework and key actors are summarised and related to the themes of the paper: direct support to community management, and sharing the recurrent costs of rural water services.

The evolution of the sector

There are four key periods of interest in understanding the historical evolution and current state of the drinking water sector (including rural water supply) in Mali. The first of these periods was from the first democratic presidential elections in 1992 to the first local government elections in 1999. This was a key time in preparing the legal framework for decentralisation and identifying the relevant administrative areas which would later be given responsibility for water supply within their boundaries (Lemelle, 2008). (At the time of these first elections in 1999, the only powers transferred to local governments were those of general administration, such as registering births, marriages and deaths, rather than responsibility for any more extensive public services.) The national water directorate (DNH) was also created in 1999.

The following phase of development, from about 2000 to 2004, was the period when the first key policies and laws bringing together decentralisation and water were introduced, through the adoption of the first National Drinking Water Strategy and the Water Code (law 02-006). This law defined the operational framework for drinking water supply and the accompanying financing policy. In rural areas, this gave local governments ultimate responsibility for ensuring the planning, implementation and running of drinking water services but required them to delegate actual day-to-day operation to private operators or users' associations. Likewise, municipalities became responsible for oversight and monitoring of the operators, although these functions could also be delegated to another private body (Diarra et al., 2004). A further decree was passed in 2002 to officially hand over these powers and responsibilities for drinking water (as well as health and education) to local governments.

The Water Code recognised the continued role of the state (through the national water directorate and its deconcentrated regional offices) in helping municipalities fulfil their own roles, and in providing

some support to the management of rural water supplies. However, the exact details of this support were not specified. In regard to the responsibility for financing water services, the law specified that there should be full recovery of operating costs and partial recovery of investment costs from users in rural areas (République du Mali, 2002). However, the law did not specify whether the costs of providing direct support to service providers in rural areas were considered part of operating costs (and therefore the responsibility of users) or not.

From 2004 to 2012, the focus for the water sector was then on trying to put these policies into practice. In particular, there was the aim of strengthening local governments and the water sector as a whole through gradual moves towards a sectoral approach of coordination between international donors (who provide about 80% of sector financing), the national water directorate and its regional bodies, and the newly decentralised levels of government. The 2004 National Plan for Access to Drinking Water (PNAEP) was adopted to identify the investment required to increase access to water from a coverage level of 62% in 2004 to 82% in 2015, and in the same year a system of round-table meetings of donors began in order to accompany this investment plan and improve coordination (AMCOW, 2010). Despite this recognition of the need for increased financing, one of the elements of water policy emphasised in Mali's second generation Poverty Reduction Strategy Paper, for 2007-2011, was to "reduce the burden of the water sector on public finance through sharing of expenses between government authorities, local authorities and users" (République du Mali, 2006: 54).

Further moves towards a more coordinated approach were made in 2006 and 2007 through the creation of the Sectoral Programme for Water and Sanitation (PROSEA), a revision of the National Drinking Water Strategy to take into account the Water Code and decentralisation (World Bank, 2008), and the first Joint Sector Review with the state and donors. PROSEA is an attempt – at least in theory – to link planning and budgeting at all levels into a national financing plan in the form of a Medium-Term Expenditure Framework (see DNH, 2008), even if the full implementation of the desired sector-wide approach and direct budget support to the sector had not been achieved by 2011 (AMCOW, 2010).

The challenge to full sector coordination and harmonisation of different approaches is illustrated by the fact that in recent years levels of disbursement by the water directorate have been only about 60-70% of allocated budgets because of a lack of alignment between national and donor requirements for budget procedures (World Bank, 2008; WaterAid Mali, 2009). A programme of joint Danish-Swedish support planned for 2011-2014 was due to be the first funding fully in line with PROSEA and the Paris Declaration on aid effectiveness and was intended both to support the water directorate in preparing for future direct budget support and to act as an example to other donors of how to support a sectoral approach.

Unfortunately, the coup d'état and subsequent political crisis in Mali in 2012 have created further challenges to progress. In the immediate aftermath of the coup, priorities for the water sector changed towards humanitarian relief for those displaced by rebel conflict in the North, and supporting urban water services in Bamako which have been under increased pressure due to the arrival in the capital of internally displaced people fleeing the fighting. At the same time, many donors pulled out their long-term aid to the water sector and the national water directorate has seen its budget drop by 90% (WaterAid Mali, 2012).

Despite these problems, even shortly after the coup there were national-level discussions about the sustainability of water services, for example through a workshop involving the national water directorate and NGOs including WaterAid in November 2012 (DNH, 2012b). The published recommendations from these debates included undertaking an assessment of the state of decentralisation reforms concerning the water sector (including both decentralisation of local government administration and deconcentration of state technical services for water) and a review of the actual practices concerning the organisation and financing of maintenance of infrastructure.

This review of the history of the water sector therefore emphasises the tension, as Lockwood and Smits (2011) observe in similar countries, between investing in infrastructure to increase coverage and focusing attention on issues of sustainability. Despite the historical dominance of donors over sector budgets and the pressures to increase disbursement, the recent discussions since the coup show that there is a clear recognition in the sector that the issues of sustainability and how to support local governments and service providers, especially community management bodies, must be addressed. However, the combination of ongoing processes of decentralisation to local governments and deconcentration in the form of regional water services highlights the challenge of clarifying the roles and responsibilities of different actors for financing and delivering the support required.

Institutions and actors

This section sets out the key institutional arrangements and actors for the rural water supply sector in Mali that have emerged from the historical processes described above. The official institutions and roles as defined under decentralisation legislation and national policy are described (principally based on the Water Code and the National Drinking Water Policy introduced above) and areas are highlighted where policy is less tightly defined and leads to differing interpretations in practice.

The institutional framework in Mali broadly matches the three levels of a service delivery approach for rural water identified by Lockwood and Smits (2011): decentralised local governments act as the service authority but cannot legally manage the day-to-day running of water services. Instead, they should delegate operational management to voluntary water management committees or water user associations, or for-profit private operators, to act as service providers. National-level policy is set by the national water directorate (DNH), part of the ministry for water and the environment. There are also regional offices of the water directorate, and some subregional offices at district level (known as *cercles* in Mali).

Table 2 shows the administrative levels of decentralisation in Mali and their associated responsibilities according to the legal framework and national drinking water policy, and how these compare to the institutional levels and functions of a service delivery approach (Lockwood and Smits, 2011). Table 2 also shows the official financing roles of different actors, classifying their responsibilities according to the national frameworks and the international definitions for the different components of life-cycle costs of water and sanitation services (Fonseca et al., 2011).

Examination of the intended roles and responsibilities of different actors within this institutional framework and the historical context of the water sector highlights key issues to address regarding sustainability. In particular, the exact elements of ongoing direct support to service providers and which actors are responsible for these are not precisely defined. This raises the question of how external actors such as NGOs can help local actors clarify these roles and support them in fulfilling their responsibilities.

The lack of clarity over how exactly municipalities and other actors should support community management bodies and other service providers is reflected in ambiguity concerning the responsibility for financing the recurrent costs of rural water services. Official government policy specifies that users should pay for maintenance and management, replacing parts less than 20 years old, technical and financial monitoring, and any relevant taxes (DNH, 2007). As summarised in Table 2, these correspond to the recurrent cost categories of operating and minor maintenance expenditure, capital maintenance expenditure, and some direct support costs, according to the definitions of the WASHCost project shown in Table 1 (Fonseca et al., 2011).

Table 2. Institutional levels, actors and functions in Mali.

Institutional levels	Actors and functions for rural water supply according to legal framework and national policy (DNH, 2007)	Comparison to institutional levels and functions of a Service Delivery Approach for rural water supply (Lockwood and Smits, 2011)	Financing roles for rural water supply according to legal framework and national policy (definitions based on Fonseca et al., 2011)
National	National Water Directorate (DNH): Policy, setting norms and standards, macro-level investment planning, national infrastructure inventory, technical advice to lower levels.	National level – policy functions: Policy, legal and institutional frameworks, macro-level investment planning, learning and innovation.	• Capital expenditure. • Capital maintenance expenditure after 20 years of an infrastructure's life. • Indirect support costs. • Cost of capital (interest).
Regional (8 *regions*)	Regional Water and Energy Directorates (DRHEE): Regional-level planning, monitoring and technical advice to lower levels.	Intermediate level – service authority functions: Planning, contracting, monitoring, ongoing direct support, learning.	• Indirect support costs, possibly some direct support.
District (49 *cercles*)	Subregional Water and Energy Services (SSRHEE): District-level planning, monitoring and technical advice to lower levels.[2]		• Indirect support costs, possibly some direct support.
Municipality (703 *communes*)	Communes: Local planning, coordination, contracting of infrastructure development, ongoing technical assistance to communities, monitoring.		• Up to 3% of capital expenditure. • Direct support costs.
Community /users	Water management committees or users associations: Day-to-day management, tariff collection. Note: The service provider can also be a private for-profit operator.	Local level – service provider functions: Day-to-day operation, administration and maintenance.	• Up to 2% of capital expenditure. • Capital maintenance expenditure for 20 years of an infrastructure's life. • Operating and minor maintenance. • Some direct support.

[2] In reality, SSRHEE exist in very few districts of Mali because of lack of funds (World Bank, 2008).

However, despite this policy that users are responsible for all costs for up to 20 years, national strategy also states that the government and the communes should make some provisions for supporting "partial renewal of some facilities with less than 20 years of life" (DNH, 2007). Therefore, national policy is still ambiguous about when exactly municipalities or central government can or should contribute for the costs of renewal or replacement (elements of capital maintenance expenditure) (Jones, in press). In the face of this ambiguity, actors have interpreted the policy in different ways, adapting it to their local contexts as suggested by the idea of 'bricolage'[3] (Cleaver, 2012), as discussed later. The next section discusses how WaterAid has addressed these issues by trying to develop models for direct support to community management by municipalities, and how these approaches compare to the main option suggested in national policy.

WATERAID'S APPROACH

This section examines WaterAid's approach in Mali in relation to the wider history and institutional context of the rural water sector described above. This involves considering: WaterAid's approach to providing capacity support to municipalities so that they can fulfil their role as service authorities; the specific activities undertaken by WaterAid's partner municipalities to provide direct support to community management and how these arrangements compare to other options in national policy; and the specific issue of how the recurrent costs of rural water services are shared between different actors.

Supporting and advocating for municipalities as service authorities

WaterAid's work in Mali sits mainly within the organisation's wider programmatic approach in West Africa, the Local Millennium Development Goal Initiative (LMDGI). The LMDGI approach was developed to encourage and support decentralised local governments in taking responsibility for meeting the Millennium Development Goals for water and sanitation, by planning and seeking financing for local equivalents of the MDG targets in their areas. WaterAid's support was designed to improve the capacity of local governments to plan, finance and implement the required interventions, and to improve the ability of citizens to participate in these processes (WaterAid, 2008). Underlying this approach is the fact that local governments in Mali, as in much of West Africa, have overall legal responsibility for ensuring the delivery of drinking water supply to their populations, but lack the necessary capacity and financial resources (WaterAid, 2007; Mehta and Mehta, 2008).

In Mali, WaterAid's current key approaches and areas of work developed along with the LMDGI concept as part of its second official country strategy from 2006 to 2011 (WaterAid Mali, 2010). WaterAid now works in 15 rural municipalities, in partnership with local NGOs and the municipal governments themselves. In line with the LMDGI aims and national policy in Mali, there is a strong focus on supporting municipalities in planning, securing financing and coordinating the implementation of new infrastructure development. However, WaterAid also emphasises the role of municipalities in providing ongoing direct support to community management, such as monitoring, technical support and conflict resolution (WaterAid Mali, 2008).

Since 2008 WaterAid has begun introducing a system of direct budget support to its partner municipalities to create a WASH Technical Unit within each of these local governments. The WASH Technical Unit is the model proposed by WaterAid as a way of allowing local governments to act as

[3] 'Institutional bricolage' is a concept used by Cleaver (2012) to describe the way that institutions for managing natural resources such as water supply tend to develop as a mix of existing social and cultural practices with the introduction of new (often more formal) ideas from organisations which intervene in a community, such as NGOs or government. Community bodies typically adapt innovations from elsewhere to fit their particular context. For example, water management committees might take formal state-endorsed ideas of water tariffs but then change the rules on tariffs to suit local traditions.

service authorities and provide direct support to communities. The process is also a form of capacity support from WaterAid to the municipalities: WaterAid's rationale is that setting up Technical Units can help local governments to develop increased capacity for coordinating rural water services, and that the local governments can then demonstrate their improved capacity to other actors such as donors and central government. The theory runs that these other actors will then be convinced that local governments are able to fulfil their role as service authorities provided that they receive the necessary financing and support from higher levels. WaterAid engages in a variety of advocacy activities at national level to promote this idea. This advocacy includes, for example, holding a Forum of Mayors to help local governments lobby central government for the transfer of more funding to local levels through intergovernmental transfers, and using WaterAid's Regional Learning Centre to support learning and capacity-building in the sector around approaches for decentralised service provision.

The Technical Units themselves are each made up of one to two members of paid staff (usually a WASH coordinator and a field agent), who are employed as civil servants of the municipality and report to the elected mayor. However, their salaries, and the overheads (such as office equipment and transport costs) of the Technical Unit, are financed by WaterAid through a system of direct budget support to the municipality. The staff of the Technical Unit work for the municipality in the planning and implementation of new infrastructure, and provide ongoing direct support to community management. Before the introduction of the direct budget support approach, this work on implementation and direct support to community management bodies was undertaken by members of staff of local NGO partners of WaterAid in each municipality. This previous approach is still used in 12 of the rural municipalities where WaterAid intervenes, because the arrangement of direct local government partnership and budget support has been introduced so far on a gradual rolling basis since 2008.

A key challenge is how the costs of the Technical Units can be covered in the long term. The key sources of funding available to municipalities in general are local taxes, intergovernmental transfers from central government, and 'off-budget' funds in the form of projects financed by NGOs or other donors (Diarra et al., 2004; Coulibaly et al., 2010). For the majority of rural municipalities the key source of tax revenue is a local development tax of about US$4 per adult per year (25% of which is allocated to the district and region above); this revenue is usually only enough for supporting the overheads of a municipality's basic administrative functions rather than any further public services (Coulibaly et al., 2010). Funding from intergovernmental transfers is likewise generally for basic overheads or occasional investment projects (Diarra et al., 2004). As Coulibaly et al. (2010: 29) pessimistically observe: "there are not currently any significant prospects for modification of Mali's intergovernmental fiscal system, with respect either to decentralisation of tax authority or the automatic assignment of certain revenue transfers to the sub-national governments". Therefore, these sources are unlikely to contribute significant finances to the recurrent costs of public services, such as WASH Technical Units, in the near future; funding from NGOs and other donors is likely to remain more important.

WaterAid's approach therefore provides one example of how INGO funding could be used at least in the short term to support local governments, although it is not clear over how many years this should be continued. WaterAid has committed to work with the same local government partners in Mali until at least 2015, based on the time frame of its current country strategy and the Local Millennium Development Goal Initiative. Cotton et al. (2013), in an evaluation of the work of seven other WaterAid country programmes, suggest that WaterAid in general needs to do more work on developing exit strategies. But given the uncertain context and additional challenges since the military coup in Mali, it seems difficult to put a time frame on an exact exit strategy.

However, WaterAid's capacity support to municipalities (in terms of training and advice for the Technical Unit staff and for elected officials) places a strong emphasis on additional fund-raising by the municipalities themselves. The training includes how to develop detailed municipal WASH Sector Development Plans, how to use these plans to seek further funds from other donors (predominantly for investment in new infrastructure), and how to manage the subsequent projects and donor

relationships. In addition to this fund-raising objective, the process is intended to improve the coordination of NGO and donor activities with the priorities of the municipality that are set out in the Sector Development Plan.

Interviews were undertaken on this process with local government officials in the four municipalities (three municipalities which have municipal Technical Units and one other municipality where WaterAid still partners with a local NGO), which had so far received training and support from WaterAid for this fund-raising process. These respondents reported that WaterAid's support to developing the Sector Development Plans and promoting the idea of other NGOs and donors working more closely with the municipalities have had some beneficial effect in terms of local coordination. Representatives in two of the municipalities gave the example of another INGO working on water and sanitation which had previously developed relationships with particular selected villages, but without consulting representatives of the municipality or considering the municipality-wide priorities described in the Sector Development Plans. The interviewees explained that this INGO had now begun to start consulting municipal representatives, and had provisionally indicated that in future it would work in line with the priorities expressed in the Sector Development Plans that WaterAid helped the municipalities to develop.

Although the municipal representatives reported this possible benefit to improved coordination, almost all interviewees said that it was difficult to find new NGO or donor partners and financing because of a lack of knowledge of whom to contact and lack of funding for the travel and other activities required (Jones, in press). These observations highlight the challenge for INGOs such as WaterAid in trying to provide capacity support to local governments. The evidence suggests some success in helping move away from what Olivier de Sardan (2011) calls 'project-based' and 'associational' ways of delivering public services, where donors and NGOs represent the main sources of investment but with low levels of coordination. WaterAid's approach to capacity support recognises the importance of donor funding, but tries to help local governments provide the desired coordination in investment and service delivery, even if municipalities' own resources remain limited.

Providing direct support to community management

As discussed above, the model of WASH Technical Units promoted by WaterAid is intended to help municipalities ensure ongoing support to community management as well as the implementation of new infrastructure. This approach is what Smits et al. (2011) term an internal arrangement for direct support, where the support is provided by agents of the local government service authority itself (even if they are funded by WaterAid). However, external arrangements – where the support comes from a different entity to the service authority – also exist in Mali. The key example to highlight is the STEFI (Technical and Financial Monitoring) system (Faggianelli et al., 2009; Smits et al., 2011). The STEFI system involves a private operator commissioned by municipalities to undertake monitoring and give technical advice to service providers of small piped systems. Therefore, the STEFI system is categorised as an approach of local government subcontracting to a specialised support agency (Smits et al., 2011). STEFI is the main model suggested by national policy in Mali for providing support to community management (DNH, 2007).

In addition to the differences in the arrangements of the Technical Unit and STEFI approaches (agents within the municipal staff compared to subcontracting to a specialised agency), there are three other key differences which require examination. These differences help demonstrate why WaterAid has chosen to promote a different approach for direct support to that suggested in national policy (in addition to the reason of directly funding municipalities as a form of capacity support discussed above). These three differences are the actual support activities that are undertaken by the Technical Units or the STEFI operator; the scope of the different approaches in terms of their geographic scale and the types of water supply infrastructures that they support; and the costs and financing of the two

approaches. These differences raise questions about exactly what forms of support communities (or other service providers) require and what combination of actors can provide and finance this support.

The first area of difference is in the actual support activities undertaken. Table 3 lists the typical activities which can be provided as part of direct support arrangements, based on those identified by Smits et al. (2011) and WaterAid's *Sustainability Framework* (WaterAid, 2011). Table 3 then compares the activities which form part of the work of the municipal Technical Units supported by WaterAid to the activities performed in the STEFI approach. The chief role of the STEFI system is as a monitoring service to provide information and recommendations to service providers and municipalities, concerning the technical functioning of water systems and the financial performance of the operators (Faggianelli et al., 2009).

Table 3. Types of support to community management.

	WaterAid: Municipal WASH Technical Units	National policy: STEFI (Technical and Financial Monitoring / Follow-up System)	National policy: Regional and sub-regional water directorates (collab. with municipalities)
Types of water points supported:	All 'modern water points' in rural areas: hand pumps, modern wells, small piped systems	Small piped systems only, hoped to extend to hand pumps (Faggianelli et al., 2009)	Hand pumps and modern wells until these are integrated into the STEFI system
Activities as part of direct support (Smits et al., 2011; WaterAid, 2011):			
Monitoring of water service	Y	Y	Y
Technical advice on operation and maintenance	Y	Y	Y
Administrative support, e.g.; help with tariff-setting or auditing accounts	Y	Y	Y
Organisational support, e.g. advice legal status and contracts	Y		
Conflict resolution	Y		
Support in capital maintenance	Y	Government after 20 years	Government after 20 years
Training and refresher courses	Y		
Provision of information such as guidelines and manuals	Y	Y	Y
Resource mobilisation, e.g.; helping communities raise funds for recurrent costs	Y		
Support to local supply chains	Y		
Additional support to 'externalities' such as environmental change	Y		
Approximate cost per user per year (US$ 2011):	0.5-1.5	0.34	Unknown

As is clear from Table 3, the mandate of STEFI is more limited than the Technical Units. The Technical Units also undertake the activities of monitoring, technical advice and administrative support, but in addition they perform a number of further possible support functions too. For example, some provide more intensive support to community management committees over issues such as conflict resolution, refresher training courses, legal registration and contract administration, and contributions to some recurrent costs such as capital maintenance expenditures (discussed more in the next section).

The second key difference between the WaterAid-supported approach and the STEFI system is in their scale and their scope in terms of the types of water supply infrastructures supported. The municipal Technical Units in WaterAid's areas of intervention support the management of all types of 'modern'[4] water supply systems in rural areas: boreholes fitted with hand pumps, modern wells and small piped systems. However, as discussed above, the approach of municipal Technical Units supported with direct support by WaterAid has been introduced so far into only three municipalities. Similar forms of support are provided in the other 12 rural municipalities where WaterAid works, but these are through a local partner NGO rather than via agents of the municipality.

In contrast, the STEFI approach covers a much wider geographic area but only provides support to small piped systems within these areas, not to other types of water supply. The national strategy intends for the system to be extended to cover hand pumps in future, but the mechanism for doing this has not yet been determined (DNH, 2007; Faggianelli et al., 2009). In the meantime, the equivalent functions of STEFI for hand pumps and unserved areas are supposed to be provided by regional and subregional offices of the water directorate, in collaboration with municipalities (DNH, 2007). However in practice this is extremely limited because of the lack of staff at subregional and municipal levels (World Bank, 2008; Koestler and Toubkiss, 2010). Table 4 summarises the scale of implementation of WaterAid's approach of Technical Units and the STEFI system for providing direct support. To put these figures in perspective, in total in rural Mali there are over 15,000 boreholes fitted with hand pumps, over 10,000 modern wells and over 800 small piped systems (DNH, 2007; Faggianelli et al., 2009).

Table 4. Comparison of the relative scale of two approaches for providing direct support to service providers.

	WaterAid: Municipal WASH Technical Units	National policy: STEFI (Technical and Financial Monitoring / Follow-up System) (Faggianelli et al., 2009)
No. of municipalities where used	3	103
No. of water points covered	137 hand pumps 63 modern wells 4 small piped systems	103 small piped systems
Approximate population covered	63,000	About 500,000

The third area of difference relates to the costs and financing of the two approaches. In the three municipalities with Technical Units supported by WaterAid in this case study, the cost of direct support to communities using this model ranged from US$0.5 to US$1.5 per person per year (Jones, in press, all

[4] In Mali, water sources defined as acceptable for drinking water use are referred to as 'modern water points' (DNH, 2007). These include small piped systems which distribute water to public tapstands, boreholes fitted with handpumps, and concrete-lined wells (known as modern wells).

values in 2011 US$). The costs per user are sensitive to the population of the municipality since the absolute cost of each Technical Unit is similar. Currently these costs are funded through direct budget support to the municipalities from WaterAid. The STEFI system costs US$0.34 per person per year, a lower figure than the Technical Units because of its more limited mandate and less intensive form of support. This cost is financed from part of the user tariff for water with further contributions from the municipalities and government (Smits et al., 2011).

These figures illustrate the tension between what forms of support the different possible approaches can provide, and what can be financed from within the Mali sector itself, i.e.; from taxes and tariffs according to 'the 3Ts' framework (OECD, 2009), rather than 'transfers' (funding from international donors such as WaterAid). Recent international benchmarks proposed by the WASHCost project suggest that expenditure of US$1-3 per person per year is required for the direct support necessary for sustainable basic rural water services (WASHCost, 2012). Therefore in the smaller municipalities where WaterAid's approach was used in this study (costs up to US$1.5 per person per year) the expenditures for the WASH Technical Units are within the WASHCost benchmarks. The costs of the STEFI system are below the proposed WASHCost benchmarks, but, as discussed above, the STEFI approach has a more limited mandate than a full system of direct support which encompasses all the possible activities.

Therefore, a debate is required in Mali about what combination of direct support activities is really needed and how these activities can be financed. Although the assessments of the performance of the STEFI system so far suggest that it has helped improve the functionality of the services it covers (Faggianelli et al., 2009), this only applies to small piped systems so its potential to improve the sustainability of services from hand pumps is difficult to assess. Similarly, since the WaterAid approach of municipal Technical Units only covers a small number of municipalities, it is hard to assess the impact of this more intensive and costly approach. As discussed in the next section, the experiences of WaterAid's partners so far suggest that the success of the Technical Unit approach to direct support may depend in particular on the factor of sharing the recurrent costs of operating and minor maintenance expenditure and capital maintenance expenditure and how this issue is addressed.

Sharing the recurrent costs of rural water services

The previous section considered the costs of direct support to communities in relation to the different models of support promoted. This section discusses the recurrent costs of operating and minor maintenance expenditure and capital maintenance expenditure, which were identified as a key challenge during the discussions between WaterAid's partners regarding the *Sustainability Framework*. A full explanation of the methodology and detailed costs analysis is described in Jones (in press).

In principle, WaterAid and its partners work according to the national policy that users are responsible for the recurrent costs of operating and minor maintenance expenditure and capital maintenance expenditure. However, in practice they admit that most communities are either not able or not willing to pay the contributions necessary to cover the costs of all types of repairs to water infrastructure. Most communities raise sums of money which are five to nine times lower than national policy guidelines for operating and minor maintenance expenditure and capital maintenance expenditure (Jones, in press).

However, surveys by WaterAid's partners showed that some communities were able to afford to repair major breakdowns, so the partners actually undertake many of their interventions on a case-by-case basis so that they can try to assess informally what is realistic in each community. Although there is this case-by-case element to the approach, representatives of WaterAid's partners were eventually able to agree, after extensive discussions during a series of workshops, on four different categories of repairs, shown in Table 5 (adapted from Jones, in press). The objective of defining such categories was to help future monitoring of recurrent costs and expenditures. However, there was not yet complete

consensus on who actually should pay in each case. This lack of clarity over the exact division of responsibilities between users and other actors reflects both the ambiguity in national policy concerning capital maintenance expenditure and the responses of WaterAid's partners to different levels of willingness and ability to pay amongst different communities.

Table 5. Classifications of repairs and costs developed with WaterAid's partners (adapted from Jones, in press).

Classification and description of types of repair according to WaterAid's partners	Typical frequency	National policy on who should pay (DNH, 2007)	Opinion of WaterAid's partners on who should pay	Equivalent life-cycle costs approach component (Fonseca et al., 2011)
'Small repair': Spare parts and labour costing up to US$100	Every 1-2 years	Users	Users, although some WaterAid partners do contribute	Operating and minor maintenance expenditure
'Major repair': Spare parts and labour costing more than US$100	Every 2-5 years	Users	Users if possible, but more often WaterAid's partners	Capital maintenance expenditure
'Rehabilitation': Complete replacement of the lifting mechanism and/or the surrounding super-structure, e.g.; replacing a hand pump or a pulley on a well and/or replacing the surrounding concrete walls.	Less frequent than every 5 years	Users, but local and central government are supposed to make some provisions for supporting "partial renewal of some facilities with less than 20 years of life" (DNH, 2007). In practice, from 2004-2010, 29% of the water points financed by central government were in fact rehabilitations of existing points (DNH, 2012a).	Usually WaterAid's partners. Users only occasionally cover these costs (despite what official policy suggests).	Capital maintenance expenditure
'Major rehabilitation': Complete rehabilitation of the whole facility, e.g.; clearing a borehole or excavating a collapsed well.	Up to every 20 years		WaterAid's partners or central government	Capital maintenance expenditure

This flexible approach and the recognition by WaterAid's partners that national policy may not be realistic in many communities represent a local approach that accepts the existence of 'institutional bricolage' (Cleaver, 2012). WaterAid's partners understand that the 'mainstream institutionalist' view of water management committees and water users' associations (ibid) – that these bodies act as formalised entities enforcing national policies on paying for water – is often inaccurate. Instead, such institutions are a mix of previous informal practices (such as village agricultural associations) with some

more formal elements from policy or NGO ideas. An illustrative example is the case of WaterAid's partner in the municipality of Dandougou Fakala (discussed further in Sidibé and Jones, 2011).

In Dandougou Fakala, the WASH Technical Unit has adopted a specific interpretation of the national policy regarding the responsibility of who should pay for the costs of operation and minor maintenance and capital maintenance. As discussed previously, there is some ambiguity in the national policy which defines who should pay for the costs of capital maintenance. The local interpretation by the WASH Technical Unit of Dandougou Fakala defines more clearly the relative responsibilities of communities and the municipality by setting a maximum amount that users should contribute to any repair, and agreeing that the municipality will cover costs in excess of this (Jones, in press).

In addition to this attempt to formalise parts of national policy into a local context, through contracts between water management committees and the municipality, the Technical Unit has also promoted a mix of formal and informal mechanisms for users to pay these contributions, instead of the simple payment by volume or regular tariff prescribed by national policy (Sidibé and Jones, 2011). These include the use of contributions from different village associations (including women's groups and agricultural associations). The amounts of the contributions may vary in size and frequency depending on the season and the availability of cash, but are designed – with the help of the Technical Unit – to cover in total the costs determined by the cost-sharing system developed. The Technical Unit reports that the introduction of this method since 2008 has gradually helped to encourage users to pay their contribution to repairs, and therefore to reduce downtime of infrastructures and contribute to an improved functionality rate for hand pumps of 90% (WaterAid survey data, November 2011). However, for the moment the approach is still reliant on intensive support from the Technical Unit in terms of community visits, discussion and follow-up, and on funds which are part of the direct budget support from WaterAid to the municipality.

The debate described above and the example given demonstrate how WaterAid's partners implicitly acknowledge the challenges in how the recurrent costs of water services are defined and shared, especially regarding capital maintenance expenditure. A possible next step could be to link these issues more into WaterAid's advocacy work in Mali to promote greater national-level debate about the definitions and financing of these costs. As WaterAid's *Sustainability Framework* argues as part of its commitments to sustainability, the organisation must engage with other actors, including governments and donors, to debate the 'merits and scalability' of WaterAid's own innovations and approaches (WaterAid, 2011).

CONCLUSIONS

This paper has analysed two key elements of WaterAid's work in trying to promote sustainable rural water services in Mali. The first is WaterAid's approach of providing capacity support to local governments through setting up municipal WASH Technical Units that, in turn, provide direct support to community management of rural water supply. The second is how the recurrent costs of rural water services are shared between different actors in the areas where WaterAid works. Both these issues are key challenges for the wider rural water sector in Mali in developing clear roles and responsibilities for financing and delivering services.

The model of municipal WASH Technical Units promoted by WaterAid provides a more comprehensive range of direct support activities to communities than the privately operated STEFI system proposed in national policy. The Technical Units also provide support to all types of drinking water supply infrastructure in rural areas (hand pumps, modern wells and small piped systems), whereas the STEFI system supports services from small piped systems but has not yet been extended to point sources. The cost of direct support through the WASH Technical Units (US$0.5 to US$1.5 per person per year) is higher than the STEFI approach, which costs US$0.34 per person per year (Smits et al., 2011). The upper range of the costs of the WASH Technical Units is within the international

benchmarks proposed by WASHCost (2012) for the expenditure on direct support which is necessary for sustainable basic rural water services. However, it is not yet clear how municipalities can finance these costs in the long term without WaterAid's support. Therefore, greater national level debate is required in the sector about which aspects of direct support to rural water service providers are most important and what combination of actors can provide and finance this support. There have been recent acknowledgements from the national water directorate that there is a need to reflect on the progress of decentralisation in the water sector (DNH, 2012b). This could represent an opportunity for discussing more openly the pros and cons of different possible forms of direct support.

Analysis was also presented of how the recurrent costs of operation and minor maintenance expenditure and capital maintenance expenditure are shared within WaterAid's areas of work, as part of direct support to community management. There are differing local interpretations of national policy regarding the definition and responsibility for paying capital maintenance expenditure. Therefore, this is another issue where debate is needed in the sector to clarify roles and responsibilities. As a recent global review of financing practices for capital maintenance of rural water supply systems concludes, a key first step in improving capital maintenance is to clarify responsibility and the long-term financial implications (Fonseca et al., 2013). Both the issues addressed in this paper are areas where WaterAid could develop further links between the experiences of its partners in service delivery and the organisation's advocacy work at national levels.

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