

## triple-s

### Direct support post-construction to rural water service providers

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#### POINTS FOR ACTION

##### → For Governments

- Recognise the importance of structured, systematic support and make it an integral part of community-based management service delivery models
- Define clear models for support, identifying institutions and their mandates
- Ensure sufficient resources – in the range of US\$1 to \$3 per water user per year. Public funding will likely be needed to cover part of the cost

##### → For NGOs

- Coordinate with relevant agencies to ensure that newly established service providers continue to receive support beyond the project

##### → For Researchers

- Study support systems and determine the cost-effective levels of support for different country contexts
- Identify, document and publish good practices in post-construction support

##### → For Donors & International Financing Institutions

- Make loans and other investment in rural water supply contingent on appropriately funded and implemented post-construction support systems

Community-based service providers need regular, structured support that goes beyond ad hoc technical assistance. With effective support, their ability to fulfil administration, operation, and maintenance functions improves and the sustainability of water services becomes more likely.

Support can come from local government, central government, NGOs, or associations of service providers, or combinations of the above. Findings suggest that effective direct support costs in the range of US\$1 to \$3 per water user per year.



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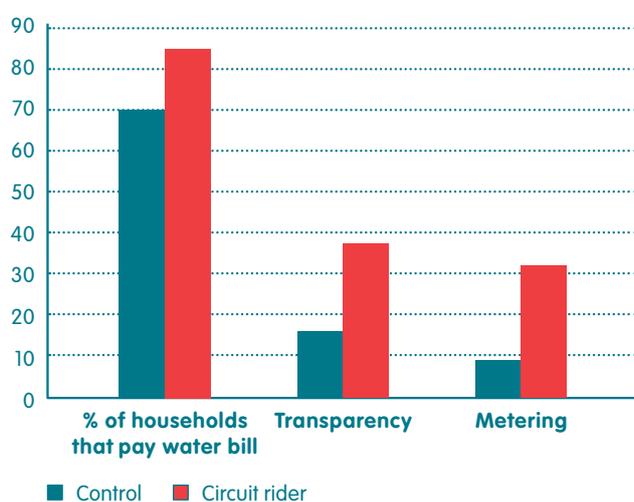
This note focuses on direct support – structured, systematic help that enables service providers to fulfil their mandates, not just by solving immediate problems they cannot fix themselves but also by preventing future problems. Direct support, for example, can help prevent poor maintenance from turning into a major problem that threatens sustainability. It may include the following types of activities:

- performance monitoring,
- technical advice and information,
- administrative support (e.g. help with tariff setting),
- organisational support (e.g. to achieve legal status),
- conflict resolution, identifying capital maintenance needs (including advice on financing),
- training and refresher courses.

Most community-based service providers seek and receive some degree of support (Whittington et al., 2009), though often in an ad hoc manner, typically when they encounter a problem. While on-demand support is important, service providers also need more structured and systematic support in order to anticipate and avoid problems.

In addition, there is need for indirect support to build up and sustain the legislative, policy, and institutional framework within which service providers operate. It includes policy formulation, planning, regulation, sector level monitoring, and institutional arrangements, unrelated to a particular programme or project. It also includes capacity support for service authorities – the

**FIGURE 1** COMPARISON OF SERVICE PROVIDER PERFORMANCE INDICATORS WITH AND WITHOUT CIRCUIT RIDER SUPPORT, EL SALVADOR



Source: Adapted from Kayser et al., 2010

oversight institutions legally responsible for WASH sector planning, coordination, regulation, and technical assistance.

## BENEFITS OF DIRECT SUPPORT

System failures in rural water service have long been attributed to a lack of on-going direct support for rural water service providers. More recent evidence shows the flip side of this observation: direct support can improve the quality and sustainability of rural water services in several ways.

### Improving the performance of service providers

Direct support can help service providers professionalise their activities – for example, by establishing a service provider as a legal entity, switching to computerised bookkeeping, or contracting with a dedicated operator. In El Salvador, circuit riders provide support in the areas of administration, operations and technical assistance. Service providers that received regular visits from the circuit riders performed better than the control group, which did not receive support (see Figure 1) (Kayser et al., 2010). A recent study of post-construction support in Colombia observed similar findings: community-based service providers that received support performed significantly better than those that didn't receive support (Smits et al., 2012). And in Ghana, WATSANs (community-based service providers) that regularly received monitoring visits had higher scores on some key performance indicators.

### Maintaining or even improving service levels

Outside agencies can spot small leaks, errors in bookkeeping, or other problems that might threaten services if not addressed. In Honduras, circuit riders do not wait for calls for help; they pay regular visits to service providers. Thanks to this approach, the percentage of water systems classified at the highest level of performance rose from 7% in 1986 to 41% in 2007 (López, 2011). However, evidence from Colombia and Ghana suggests that post-construction support is not the only factor impacting service levels. As seen in Table 1, service providers in Colombia that received support performed better but provided services that were only marginally better, and not at a statistically significant level (Smits et al., 2012).

**Managing assets.** Inadequate capital maintenance is a critical gap in the life cycle of many services. Direct support helps community service providers identify the need for capital improvements and replacements and can help them access the required financing.

All these benefits have implications for the bottom line. Stopping leaks, for example, reduces wasted water;

**TABLE 1** PERFORMANCE OF SERVICE PROVIDERS WITH AND WITHOUT DIRECT SUPPORT IN COLOMBIA

	Number of systems	Average performance score of the service provider (on scale of 0-100)	Average score for service level (on scale of 0-5)
Systems linked to post-construction support model	29	61.1	3.63
Systems without structured post-construction support	11	48.1	3.52

Source: Adapted from Smits et al., 2012.

making service providers more efficient cuts administrative costs and improves fee collection; and preventive maintenance extends the life of infrastructure. The money thus saved can make service delivery more financially sustainable in the long run.

### DIFFERENT INSTITUTIONAL MODELS

Smits et al. (2011) compiled information on the institutional models for providing direct support, based on case studies in 10 countries (see Table 2).

Which model is most appropriate or cost-effective depends on the country context. Nevertheless, where direct support is a function of local government, as in Ghana, Mozambique, and to some extent Honduras, lack of capacity and lack of dedicated resources prevent it from being deployed systematically. More professional agencies, such as those in Chile and South Africa, are more expensive but also more effective. Case descriptions of different approaches follow.

#### Local government: Ghana, Andhra Pradesh, and Mozambique

Direct support in these three cases is the responsibility of local government but is in fact often delivered by different line agencies. In Mozambique, under a pilot programme called PEC Zonal, district governments may now contract with NGOs or private firms to provide

direct support for water and sanitation interventions (Lockwood and Smits, 2011).

#### Regional utilities: Chile

The government contracts regional urban water utilities to give direct support to rural community-based service providers. The utilities provide technical assistance and advice and support the identification of capital maintenance projects. Since the utilities were contracted, there has been an overall increase in performance, looking at technical, financial and administrative factors, but with differences between regions (Fuentealba, 2011).

#### Specialised agency under contract to central government: Mali

In Mali, the National Water Department contracts operators trained in the use of *Suivi Technique et Financier* (Technical and Financial Follow-up), a management information system for monitoring the functionality of water facilities in small towns and rural areas. The operators provide advice and assistance to service providers (both community-based and private) and information to service authorities (communes). As well as monitoring, the operators are responsible for formulating recommendations to improve functionality and planning. Systems that receive support have higher water usage, reduced water losses, lower water prices and tariffs, and networks with twice the life expectancy (MMEE/DNH 2009).

**TABLE 2** INSTITUTIONAL ARRANGEMENTS FOR DIRECT SUPPORT

Direct support by local government	Local government is formally mandated to support external service providers and fulfils the support agent function internally, for example through local government technicians.
Local government subcontracting a specialised agency or individuals	Local governments contract an urban utility, a private company or an NGO to provide support. They may also contract individual entrepreneurs, such as hand pump mechanics, who provide a mix of direct support and operation and maintenance activities.
Central government or parastatal agencies	National government provides direct support from a national level, or via deconcentrated offices, or sub-contracts a specialised agency to provide support.
Association of community-based service providers	Community-based service providers establish an association and then provide support to each other or hire a technician to support members of the association.
NGOs	In many cases, support provided by NGOs is ad hoc. Still, there are a few examples where NGOs have specific direct support programmes.

Source: Adapted from Smits et al., 2011

### Central government through local offices: Namibia

Namibia adopted a policy of community-based management for all rural water schemes in the 1990s. In each area, a water point committee is responsible for the day-to-day operation of the infrastructure as well as the collection of tariffs. Technical support is provided by the local offices of the Directorate of Water Supply and Sanitation Coordination, which receive requests for major maintenance on an ad hoc basis, as problems arise and are reported. They provide administrative support but no preventive direct support. A 2010 evaluation identified substantial and growing backlogs in attending to requests. Maintenance work was considered effective but was often late because of delays in receiving spare parts and the lack of a travel budget (Gibson and Matengu, 2010).

### Government agency support for associations of service providers: Brazil

The Integrated System for Rural Sanitation (SISAR) supports rural water and sanitation in three states in north-eastern Brazil. In the state of Ceará, eight SISARs each cover between 15,000 and 72,000 users. Each SISAR provides technical and administrative support to associations of community-based service providers and helps them set and collect realistic tariffs. SISARs also manage capital maintenance expenditure and promote hygiene education. Community operators receive a



Photo: IRC

monthly payment from the SISAR, based on the payment rate by users. This approach to funding ensures that each service provider has the resources to maintain its operations and be financially independent, although larger rural systems subsidise smaller communities to some extent (Meleg, 2011).

### Specialised agency under contract to local government: South Africa

In South Africa's nine-year-old support programme, the Support Services Agency contracts with an engineering firm and defines the specific requirements it must meet. Maluti GSM Consulting Engineers provides technical and institutional support to community-based providers serving 429 villages and 67,437 rural households in two Eastern Cape district municipalities. Maluti visits each service provider every month, trains local operators, and prepares monthly reports, as well as delivering technical support, material, spare parts, and diesel (Gibson, 2010).

### NGOs: El Salvador

The Salvadorian Water Services Association (ASSA) employs trained circuit riders to make monthly visits to 170 rural and peri-urban communities and train community-based service providers and operators in water disinfection, water source protection, and budgeting (Box 1). The community-run water supply systems visited by circuit riders showed higher rates of drinking water disinfection, lower rates of micro-biologically contaminated water, improved operator knowledge about treatment, higher rates of community payment for water service, greater financial transparency, and greater rates of household water meters (Figure 1) (Kayser et al., 2010).

### Combined support: Honduras

In some cases, various support models exist in parallel to each other. A case study in the municipality of Chinda, Honduras found complementary and overlapping support mechanisms (Smits, 2011). Water committees have joined the Municipal Water Committee Association (AJAM), which monitors the performance of members and coordinates between committees and the municipality. Members support each other by reviewing financial accounts, providing advice, and buying materials in bulk. A surcharge of US\$0.05 is added to the monthly water bill of each household to finance the AJAM. A municipal technician with a motorbike and computing equipment is supposed to visit communities on a regular basis but in reality goes only when problems arise. In addition, a circuit rider from the National Autonomous Water and Sewerage Service (SANAA) visits each community every eight months. Various line agencies have technicians who visit on specific issues.

### BOX 1 CIRCUIT RIDERS IN EL SALVADOR: BIG IMPACT ON A SMALL BUDGET

The ASSA (the Salvadorian Water Services Association), a network of community-based service providers, employs six circuit riders to service some 170 communities. The circuit rider programme was set up with support from the International Rural Water Association (IRWA), a USA-based nonprofit. The ASSA has an annual budget of around US\$50,000, the bulk of which is still provided through IRWA.

Through regular support in areas such as bookkeeping, chlorination, pump operations and tariff settings, ASSA has enabled its members to provide better, more sustainable services. For example, the community of Las Flores had a flat tariff of US\$0.50 when they joined ASSA in 2002. At the time, their system functioned poorly since the tariff was not sufficient to cover pumping costs. With the circuit rider's help they were able to not only calculate a tariff that enables them to cover costs and build up a small reserve for the eventual replacement of the pump, but also implement gradual increases to reach that level (US\$5 per family per month).

Estimates of the total costs of ASSA's support are somewhere in between US\$0.25 and 0.47 per water user per year, figures well below the recommended range of US\$1-3. How are they able to keep their costs so low? They operate on a shoestring budget, for example circuit riders travel to communities by bus instead of using dedicated vehicles. This type of savings would not be possible where communities are very dispersed or public transportation service is not good. Also they do not offer support in all fields. Still, the circuit rider model, whether provided through an Association, NGO or government has proved successful in the USA, Canada and a number of other Central American countries and could complement other models.

Sources: Kayser et al., 2010 and Smits, 2012.

## WHAT MAKES SUPPORT EFFECTIVE

Knowledge about which aspects of post-construction support are the most significant for sustaining services is still evolving. Here is what we know thus far:

**Mandate and responsibilities:** The institutional mandate for the support provider ultimately determines how effective the support is. Some countries, like South Africa, assign institutional mandates. Where governments pass a more generalised duty to local government, the extent and quality of support depends on local capacity. In Colombia, the more institutionalised support models performed better than those without a clear mandate (Smits et al., 2012).

**Form of support:** In demand-driven support, help is provided only when the service provider requests it, often in response to a problem. More structured, systematic approaches, consisting of regular monitoring of service performance and routine support activities, increase the chance that problems will be prevented or picked up at an early stage. While this type of support may not be welcomed by communities that fear regulation, it can improve sustainability by identifying factors such as neglected maintenance or low financial reserves that may lead to a breakdown in service. Thus it would appear superior to the reactive, demand-driven model, but so far, no conclusive evidence exists on which performs better. Whittington et al. (2009) did find that on-going training for water committees was more effective than carrying out repairs directly.

**Frequency of support:** The frequency of support matters, to an extent. If a community-based service provider receives support only once a year, obviously fewer problems can be tackled than when the support is



Photo: IRC

**TABLE 3** SERVICE LEVEL RECEIVED AND AVERAGE DIRECT SUPPORT EXPENDITURE IN THREE DISTRICTS IN GHANA

District	Water service delivery received (% of population)		Total direct support expenditure (US\$/person), 2010
Bosomtwe	Standard	34	0.65
	Sub-standard	61	
	No service	5	
Ketu South	Standard	13	0.54
	Sub-standard	84	
	No service	3	
East Gonja	Standard	10	0.45
	Sub-standard	85	
	No Service	5	

Source: Nyarko et al., 2011

more frequent. But beyond a certain minimum, greater frequency does not necessarily mean better performance. The Colombia study found that those service providers that were visited more frequently performed slightly better, but not at a statistically significant level. Schweitzer and Mihelich (2011) found duration of the support visit was also a factor in determining the effectiveness of support.

**Networked support:** In Colombia, the support entities that link service providers to other kinds of help and refer them to specialised entities, such as vocational training centres, have a better record (Smits et al., 2012).

Not surprisingly, there does seem to be a connection between level of spending on direct support and level of service provided, but the evidence is incomplete. A study of three districts in Ghana found that the district that spent the most on post-construction support also had the highest rate of acceptable service according to government standards, and the district that spent the least also had the lowest rate of acceptable service (Table 3) (Nyarko et al., 2011), but as countervailing examples show, there are many other factors that come into play.

### SPENDING ON DIRECT SUPPORT

Table 4 provides an overview of expenditure on direct support in the cases described in this brief. It is difficult to compare costs across cases because of differences in accounting and in the intensity and quality of the support. Moreover, many of the support arrangements studied didn't perform effectively because they are under-resourced, so the actual expenditure provides little guidance on ideal levels of cost.

**TABLE 4** EXPENDITURE (\$US/PERSON/YEAR) ON DIRECT SUPPORT IN SELECTED CASE STUDIES

Mozambique	0.0015
El Salvador	0.25
India (Andhra Pradesh)	0.32
Mali	0.34
Ghana	0.78
Honduras	0.90
Namibia	1.12 – 2.76 (actual) 2.59 – 5.49 (estimated requirement)
South Africa	1.60 – 3.93
Chile	3.44
Brazil	3.63

Source: Adapted from Smits et al., 2011

Where less than US\$1 per person per year was spent on direct support, case studies report that the relevant agencies were unable to fulfil their mandate with the possible exception of El Salvador. The cases from South Africa, Chile and Brazil on the other hand, with an expenditure of between US\$2 to US\$3 per person, all reported reasonable levels of institutional functioning.

Post-construction support costs may represent a significant percentage of the total life-cycle costs of water services. In the cases from South Africa and Brazil, for example, US\$2 may be 20% to 32% of the total recurrent costs, though it would represent only 4% to 8% in the case of Chile.

Not surprisingly, the middle income countries studied dedicated more funding to direct support, while the least developed and lowest-income countries studied spent less than US\$1 per person per year. With lower levels of rural water coverage, the need to extend services may outweigh the need to invest in direct support. In addition, users in lower-income countries have less ability to contribute through their fees.

External donors currently play only a minor role in covering the costs of direct support, limited to the establishment of support agents. The costs of direct support are borne largely by the public sector, with more successful examples being fully financed by national or local governments. Only in Brazil is direct support financed primarily by user contributions through tariffs.



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## Steps to setting up effective support

The studies done to date suggest several key steps for establishing a system of direct support to improve sustainability.

**Define clear mandates for support agents.** The essential first step for providing direct support is to identify roles and responsibilities. Clear definition of the mandate makes it possible to hold support agents to account for their actions (or lack of actions).

**Provide sufficient funding.** The support providers need the resources to fulfil their mandate. This includes human and material capacity but comes down to cash. A minimum level of investment is required to provide adequate direct support; in areas with high population densities where economies of scale can be achieved, US\$1 per user per year is probably sufficient, and in areas with dispersed, remote populations, costs will likely be closer to US\$3 (Burr and Fonseca, 2011). In countries where expenditure is currently clearly too low, modelling exercises can help determine target levels of funding.

**Identify financial sources.** Where the cash comes from is a question to be answered at a country level. User payments through water tariffs can contribute but in most of the cases studied were not sufficient to completely cover the costs of direct support. Governments may need to provide the bulk of the financing. Potential outside investors in rural water infrastructure need to ask whether the financing mechanisms for direct support are clearly defined and adequate; if not, their investment is unlikely to be sustainable or provide the envisioned level of benefits.

It may be possible to improve cost-effectiveness by experimenting with different institutional arrangements. This may entail developing appropriate budgets and cost models (as proposed in Namibia and South Africa), or contracting out direct support services through competitive bidding processes, and defining benchmarks for the performance of support providers.

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### About IRC

IRC is an international think-and-do tank that works with governments, NGOs, businesses and people around the world to find long-term solutions to the global crisis in water, sanitation and hygiene services. At the heart of its mission is the aim to move from short-term interventions to sustainable water, sanitation and hygiene services.

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This briefing series was developed under IRC's Triple-S project. It is intended as a resource for people who make decisions about rural

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For more publications in this series, go to: [www.ircwash.org/buildingblockbriefings](http://www.ircwash.org/buildingblockbriefings)

### About this Brief

This brief is based on a WASHCost and Triple-S desk review (Smits et al., 2011) of support for rural water service providers in ten countries in Latin America, Africa, and South Asia and the studies of the rural water supply sector in 13 countries carried out under Triple-S (Lockwood and Smits, 2011).

For additional resources on direct support go to: [www.ircwash.org/topics/local-support](http://www.ircwash.org/topics/local-support)

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