



Water and sanitation in the rural USA – scaling up through NGO technical assistance

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Many dispersed rural communities in the USA face similar problems with water and sanitation services to those in developing countries. The solution is also similar – NGOs play a critical intermediary role between government agencies and communities.

Whether in developing countries, or in a nation that is among the world's richest and most powerful, having sufficient, safe water is critical to public health, the quality of life and socio-economic development. The assumption for many is that potable water and sanitation in the USA is so abundant as to be taken for granted by its citizens. There is some truth in this of course, as more than 99 per cent of the US population has water and sanitation plumbed directly into their homes. Still, the USA is a worthy case study for understanding the scaling up of water and sanitation provision for several reasons.

First, the US water system is decentralized – with water being delivered through 54 000 community water systems, 85 per cent of which serve populations of fewer than 3300 people.^{1,2} Many of these systems deliver safe and adequate water to customers only because institutions and NGOs provide assistance, as will be explained here. Second, an examination of the history of water infrastructure in the USA (see Table 1) demonstrates that not long ago the USA was not very different to many middle-income developing countries today. The USA has made progress in this regard not only through financial resources, but also through the development of an organizational network of agencies and assistance providers. Third, despite the successes of the USA, there are still gaps in our current delivery of water service. Nearly two million people still lack a water service in the USA, and there are growing concerns about whether rural communities in

Table 1. Percentage of US houses lacking plumbing facilities, 1950–2000

Type	1950	1970	2000
Rural	56	14.5	1.0
Rural – farm	55	NA	1.2
Urban	11	3.1	0.5
Total	27	5.9	0.64

particular have the resources and expertise to maintain and upgrade water infrastructure to continue delivering safe water and an adequate supply.³

Facing and capitalizing on geographic realities

Because of the geography of the USA, while public money has been essential in capitalizing dispersed rural community water and waste systems, communities have been left to implement and manage these systems themselves (occasionally through contracting to do so). To facilitate this process, the US Government has implemented an organizational system to help communities access the information, technical assistance and financing necessary for modern water and wastewater systems. This system has been based on the development of partnerships with NGOs and university-affiliated institutions that both play the role of critical intermediaries that can reach communities and represent the needs and interests of communities to agencies that set implementation strategies and policy.

The US model

Since the 1930s, special government programmes have existed to improve

basic infrastructure in the rural USA. In the 1960s and 1970s, these programmes were increased as part of the 'War on Poverty' started by the Lyndon B. Johnson administration. In the late 1960s, the government began to fund NGOs to work on poverty alleviation to address persistent problems of access to water and sanitation infrastructure. This model was successful in reaching communities that were systematically excluded from access to resources and thus in improving infrastructure and, one hopes, the quality of life.⁴ Over time, NGOs formed to provide multiple levels of technical assistance (TA), from highly technical operator support to the development of community capacity through, for instance, training locally elected water oversight boards.⁵

Since many communities lack the economies of scale to raise resources through bonds or other community-financing mechanisms, most of the financing provided to rural communities for small water systems has come in the form of low-interest loans from the US Department of Agriculture Rural Development office (USDA RD), with grants to ensure that financing will not lead to unaffordable water rates. TA contracts to these NGOs are funded as a portion of the grant dollars allocated by Congress. It is notable that less than 1 per cent of communities receiving small-system loans over the last 30 years have defaulted.

Over time, the US Congress has created other funds to support community water infrastructure in other federal agencies, such as the Department of

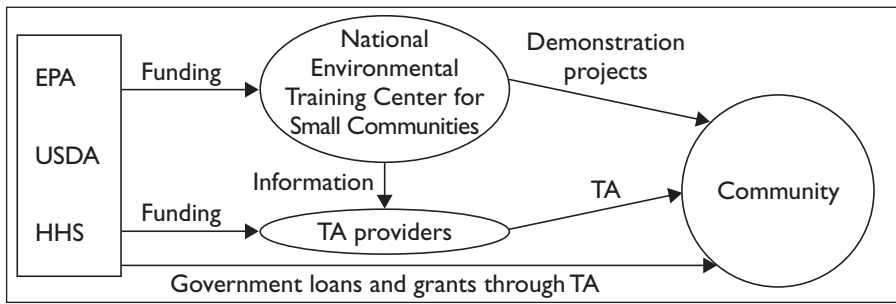


Figure 1 Institutional model for delivery of technical assistance

Housing and Urban Development, the Department of Health and Human Services (HHS), the Environmental Protection Agency (EPA), and the Indian Health Service. One of the critical roles of TA providers is to help communities to navigate funding possibilities as they seek financial resources to support installation and improvement in water and waste infrastructure (see Figure 1). TA providers often help communities to develop rate-planning structures that will anticipate and cover operation and maintenance and capitalization costs. Their additional role is to represent small community and water system interests in forums where infrastructure resources are discussed.

The EPA and their companion state health and environment departments are responsible for ensuring wastewater system quality in relation to the environment and public health. In

addition, the Safe Drinking Water Act of 1974 mandates the EPA to set, monitor and enforce drinking water quality standards (through listing contaminants and allowable levels) as well as performance of community water systems. The Act assigns to the EPA the job of working with communities to prevent pollution of drinking water sources. NGO TA providers play an important role in working with communities to protect source water and enable compliance with water quality standards. They co-ordinate with EPA-funded university-based research organizations that develop, adapt or consolidate technologies to facilitate optimal management by small water systems.⁶ NGO TA providers also play a critical role in representing the voice of small water systems in national stakeholder forums around the establishment of water standards and regulations.

The NGOs are able to work effectively as brokers between government and communities precisely because they are non-governmental. There is significant mistrust in many low-income rural communities about the role of government. One Rural Community Assistance Partnership (RCAP) employee who emerged from the mayor's office in a rural Kentucky town found herself surrounded by rural residents angrily wanting to know what she was doing there. The situation calmed down when the mayor explained that she was not from the government, but from an NGO that helps rural communities. The non-governmental affiliation often allows TA providers to facilitate agreements within or among communities as well, as the case study shows.

Nine Mile, Wyoming

Prior to the assistance, there was no central water or wastewater system at the Nine Mile community, Wyoming. Groundwater was generally unsuitable for drinking and most residents hauled their drinking water from Laramie. The RCAP TA provider worked with a steering committee to form a special district in 1998, which gave the community the legal status it needed to qualify for affordable funding for water development projects.

The Nine Mile Water and Sewer District was created by the Albany County Board of Commissioners in 1998 and RCAP staff assisted the board with development of by-laws, rules and regulations.

A water service agreement with the City of Laramie allows the district to tap a transmission line from its water treatment plant for use by district members. The Wyoming Legislature authorized funding for the studies necessary for the construction phase. Construction began in late August 2002. RCAP assisted the district with the preparation of the application documents, helping them to apply for funding from USDA RD to provide critical resources for water distribution within the community. Staff also completed the required environmental report for the project and continue to provide assistance and training in operation of the new water system.



The water operator for Whitmer, West Virginia (population 150), stands next to the ageing town water tank. The Rural Community Assistance Program has helped the community to organize, finance and install upgrades to the town's water system

Conclusion

The case study demonstrates the critical role of NGO TA providers in the US water system. They are able to help local organizations decide on action, advocate and acquire resources for improved water services. They also provide training for implementation and management of the water system once in place. They often also play the role of intermediary to secure funding on the one hand and technical/ engineering support on the other. The organizational system that has led to the scaling up of water systems in the USA is certainly attributable to the availability of resources, but those resources are more effectively directed to communities that need them through NGO intermediaries between government and local communities, who lay the ground work for improving quality of life in the rural USA.

References

- 1 National Research Council (2003) *Safe Water from Every Tap: improving water service to small communities*, Washington, DC: National Academy Press.
- 2 EPA (2004) 'Public drinking water systems facts and figures', <http://www.epa.gov/safewater/pws/factoids.html>.
- 3 See, RCAP, forthcoming, *Still Living without the Basics in the 21st Century*, Washington, DC: Rural Community Assistance Partnership.
- 4 Warner, Dennis and Jaris S. Dajani (1975) *Water and Sewer Development in Rural America: A study of community impacts*, Lexington, MA: Lexington Books
- 5 See, for instance, information on the Rural Community Assistance Partnership (RCAP), <http://www.rcap.org>, and the National Rural Water Association (NRWA) <http://www.nrwa.org>, accessed 6 July, 2004.
- 6 For more information visit <http://www.ndwc.wvu.edu>

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waterpoints

Corruption: draining the water sector

Each year, participants of the World Water Week in Stockholm debate current water issues. This year the Stockholm Water Prize was awarded to Professors Sven Erik Jørgensen, Denmark, and William J. Mitsch, USA, for work on understanding how lakes and wetlands function.

Jørgensen and his co-workers developed modelling software for the United Nations Environment Programme to support planning and decision making for the management of lakes and wetlands in developing countries. The software provides an easy-to-use tool that allows for a better understanding of eutrophication, as well as preventive and remedial measures. For the last nine years Jørgensen has been responsible for a project in Tanzania using wetlands for buffering and water purification. Professor Mitsch was the inspiration behind the Olentangy River Wetland Research Park at The Ohio State University, a world-class wetland research and education facility. There, among other focus areas, research on the ecological restoration of the Mississippi-Ohio-Missouri Basin is being spearheaded.

Corruption in the water sector was one of the issues tackled at the event (16–20 August 2004, www.siwi.org). Conditions of scarcity and monopoly present ideal opportunities for corruption in the water business, said Hansjörg Elshorst, of Transparency International. An audience kept on their toes by BBC World presenter Nik Gowing, heard how corruption stifles development. Martha Karua (Minister of Water Resources Management and Development, Kenya) claimed that 40 per cent of government expenditure went on corruption before the new Kenyan administration came to power, and had greatly undermined the country's ability to provide water and sanitation services.

In the lively panel debate, some major causes of corruption were identified: big capital-intensive projects; the vested interests in large projects of con-

tractors, government and donors who encourage or ignore bribery; and low wages in the public sector that encourage civil servants to seek extra sources of income. Some myths were also dispelled. Although the private sector is often pilloried, the public sector was identified as a major transgressor, and NGOs can be corrupt and lack accountability. Not all corruption is kickbacks paid to insiders on big projects. Examples of corruption at the local level include consumers paying meter readers to falsify readings, bribes and coercion to site waterpoints close to the households of community leaders, and protection money paid by the unregulated emptiers of pit latrines in Kibera, Kenya.

Multi-pronged solutions are needed, it was concluded: to fight the culture of impunity, to raise public sector wages, to establish better business practices, and to 'decentralize corruption' to levels where there is more scrutiny and accountability. Piers Cross (Water and Sanitation Program, World Bank) said there is less corruption when communities are involved in management and smaller projects should be preferred. The Swedish contractors Skanska have adopted new business practices to steer clear of corruption, reported Axel Wenblad, avoiding certain high-risk projects. However they would like to see more incentives for good private sector practice: they don't often get asked for their anti-corruption credentials.

Several members of the audience stood up at the end of the debate to confess examples of corruption in which they had been involved. For them, there should be a Stockholm Bravery Award.

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Delhi: increase in groundwater level in rainwater harvesting sites

Rainwater harvesting can recharge the declining groundwater levels in cities.