



Beyond the Pipe:

Sustainable Community Safe Water Solutions for India

2013 Forum
Background Materials for Event Sessions
October 31st, 2013

Acknowledgements

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The support of Merck Foundation has enabled us to expand our field initiatives, develop a new approach to activate consumer demand, complete our 2013 Review on Community Safe Water Solutions, and host our “Beyond the Pipe” Forum. PepsiCo Foundation and Navajbai Ratan Tata Trust contributed foundational support to establish and refine our initiatives in India. Together, these organizations helped us to develop a replicable model for provision of safe drinking water to Base-of-the-Pyramid populations.

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Lastly, we wish to acknowledge the contribution of Accenture and Tata Strategic Management Group whose research and analysis helped to shape this document.

About Safe Water Network India

Safe Water Network has been active in India since 2008, and to date has established systems that provide affordable safe water access for nearly 200,000 people through community Safe Water Stations in 35 villages in Andhra Pradesh and Uttar Pradesh as well as rainwater harvesting initiatives in 55 villages of Rajasthan. With the support of our partners from the private and public sectors and the engagement of local NGOs, Gram Panchayats and communities, we develop successful safe water delivery models that can be locally sustained and scaled up over time. The focus of all our work is to achieve lasting impacts on human health and development.

Our work is undertaken within the framework of national and regional government priorities, regulations and market conditions. Through our “Beyond the Pipe” forums—attended by leadership from government agencies, funders, NGOs and private sector implementers—we share best practices and encourage system-wide change.

Introduction

This document provides an introduction to the potential of Community Safe Water Solutions to serve the needs of the rural poor in India. We define a Community Safe Water Solution as a locally-owned and operated water system where operational costs and, where feasible, capital costs are recovered through affordable water tariffs from consumers.

Based on insights from our assessment of various Community Safe Water Solutions, along with our field implementation experience, this document:

- Presents trends, innovations and new ideas in Community Safe Water Solutions.
- Documents findings on what has worked and what hasn't.
- Outlines the key challenges to local sustainability and scale, and puts forward proposed options to address those challenges.
- Identifies next steps toward a coordinated agenda to drive sustainable models forward.

Our 2013 Review of Community Safe Water Solutions¹ will further refine these ideas, combining insights from research completed by Safe Water Network and our knowledge partners, Accenture and Tata Strategic Management Group, with ideas that emerge from the Forum.



¹ To be released in December.

Inaugural Session

Session Objectives

- Dimension the need for access to safe drinking water in India, particularly in rural areas
- Provide the rationale and key success factors for Community Safe Water Solutions
- Describe the barriers & challenges to local self-sufficiency & scale
- Put forward a proposition to advance Community Safe Water Solutions in India

Situation Assessment

In India, over 80% of rural households depend on untreated water sources²—over 40% of which are contaminated, according to a recent survey³. In addition to widespread microbial contamination, groundwater in over 120,000 rural habitations has been found to be contaminated by fluorides, chlorides, nitrates, iron and arsenic and other dangerous chemical pollutants⁴. The resulting impact on human health is staggering: according to WHO estimates, some 87 million Indians are affected by waterborne diseases every year, of which over 75% are children.

One increasingly important approach to addressing these entrenched problems is Community Safe Water Solutions. Such water treatment facilities provide access to treated water to those unserved or inadequately served by piped systems.

These solutions are generally flexible, with low up-front costs relative to utility infrastructure. Because they are demand-driven and responsive to local conditions, they are also well-suited to meet the needs of rural areas, where population is sparse and where the terrain may be too difficult for piped installations.

Key Challenges

To realize the promise of Community Safe Water Solutions requires addressing a range of challenges, in areas including policy, financing, local operating and servicing capacity, quality control, consumer demand, and economic sustainability.

Advancing an agenda for meeting the needs of the poor through Community Safe Water Solutions starts by building upon what has worked in the field, and in fully understanding the market. Our inaugural session will introduce a proposition for advancing a coordinated sector agenda, which will be further detailed in our concluding plenary session on “Partnering for Scale.”

Proposed Option for Discussion

Bring together and apply the full capabilities and expertise of different stakeholders to develop local ownership, financing/funding, and local capacity to build, support and sustain Community Safe Water Solutions.

² R Srikanth 2009. Challenges of sustainable water quality management in rural India. Current Science

³ 2012-13. Conducted by state ministries and compiled under IMIS program of the Ministry of Drinking Water and Sanitation.

⁴ Central Ground Water Board 2010. Ministry of Water Resources, Govt. of India



Questions to Consider

- How do we ensure that the appropriate incentives are in place to motivate various stakeholders to participate in Community Safe Water Solutions?
- Under what conditions do Community Safe Water Solutions become a more cost-effective approach relative to other solutions?
- Given the relative independence of Community Safe Water Solutions, how can proper governance be established to enable their continued development and expansion while maintaining standards for quality, inclusiveness and affordability?
- What critical data gaps remain regarding the role and effectiveness of Community Safe Water Solutions, and what can be done to address them?
- What can we learn from successes and failures in other related sectors, including sanitation and energy?

Session 1: From Concept to Execution: Safe Water Solutions at the Community Level

Session Objectives

- Provide a practitioner's perspective on what is working and what is not, the barriers and challenges faced, and what is needed to achieve success.
- Respond to the proposition to advance community Safe Water Solutions in India put forward in the inaugural session.

Situation Assessment

The past two decades have seen a range of organizations operating Community Safe Water Solutions, including APMAS, Bala Vikasa, Byrraju Foundation, Healthpoint Services, Naandi, Rite Water, Sarvajal, Satya Sai Trust, SMAAT Aqua, Spring Health, Sulabh International, Water for People, Water Life, WaterHealth International, and Safe Water Network. These key players operate under a range of ownership and operating models defined by how the safe water units are funded, managed and owned. These models can be broadly classified as:

- **Public-Private Partnerships**, where the system is operated through a partnership of government and one or more private companies, with funding provided through a competitive bidding process. Government support enables these initiatives to more easily operate and access large-scale funding.
- **Community-managed systems**, where the local community manages the system. Startup funding is generally provided by Government, companies, or NGOs, with the community contributing a percentage in many cases. Local involvement helps to reduce costs and promote sustainability through a local sense of ownership.
- **Entrepreneurial systems**, in which an entrepreneur or a private company fully owns and operates the water system as a business venture. The clarity of ownership and clear profit motive can promote efficient and sustainable service, and the control of the entire value chain by a single entity can simplify operations.

Key Challenges

Each of these models brings its own set of challenges.

- In Public-Private Partnerships, the tendering process favors the lowest bidder and not necessarily the highest water quality or best service. There can also be a degree of ambiguity around ownership, which can undermine sustainability.
- In Community-managed systems, total reliance on local entities may create challenges as a result of local skill deficits. Management is often informal and voluntary, which can lead to unreliable oversight and lack of adequate reserves.
- In Entrepreneurial systems, profit pressures and a lack of external oversight can lead to unaffordable prices and unreliable quality.

In addition, with any of the above models, the economics of operation can be challenging if the local population has insufficient willingness, or ability, to pay at a level that enables the system to sustain itself.

Proposed Option for Discussion

- Develop policies and a framework for governance that enable different models to operate fairly and effectively in various types of communities.



Questions to Consider

- For each of the models, what is the proper role of government at various levels (national, state, and local)?
- How can the sector be organized to provide monitoring, oversight and facilitation to the many informal actors in the sector?
- How can each of these models be adapted to enable access for the poor that is both affordable and sustainable?
- How can government offload the responsibility of operations to appropriate/competent agencies so it is free to focus on policy, facilitation, funding and governance?

Session 2A: Systems that Last: The Economics of Sustainability

Session Objective

- Identify key factors and practical approaches to make enterprises economically sustainable and self-sufficient while ensuring affordability and inclusiveness, especially for the poor.

Situation Assessment

The field has many examples of projects that start well, but ultimately fail. The failure of systems to sustain over time is attributable to a wide range of economic challenges in the areas of Technology, Operations, Consumer Engagement, and Environment.

Technology Challenges

Challenges include selecting appropriate treatment solutions (given water challenge, costs, maintenance requirements, local capacity, etc.), and reducing costs of technology while maintaining robustness.

Proposed Options for Discussion

- Develop standardized technology selection matrix based on criteria including contaminant assessment, costs, local capacity and environmental considerations.
- Evaluate the use of solar and other alternative fuels (either as a standalone power source or as a supplement to grid-based electricity) to reduce electricity costs and improve reliability.
- Instill automatic cut-offs for extreme voltages or temperatures.
- Standardize technologies so they are adaptable and less dependent on external services.

Operational Challenges

Operational challenges include establishing cost-effective approaches to training, monitoring, quality control and technical servicing.

Proposed Options for Discussion

- Deploy water systems in geographic clusters, with trained local technicians to ensure servicing and reduce costs.
- Install remote monitoring systems to track key operational metrics, enabling rapid response to problems and preventing failures.
- Partner with local technical institutes to develop operator and technician training curricula that build on existing educational programs.

Consumer Challenges

Pervasive poverty, limited awareness, and a history of “free” water provision have created significant challenges in both the willingness and the ability to pay for safe water at a level sufficient to cover costs.

Proposed Option for Discussion

- Apply techniques from commercial marketing, such as consumer branding, to spur local interest and accelerate demand and usage, transforming beneficiaries into consumers.

- Engage local influencers such as teachers, health workers and others with targeted messaging explaining how they can contribute to improving the health of their communities through safe water. Engagement can take advantage of new formats and media such as tablets to make the message as compelling and consistent as possible.
- Evaluate high-margin, value-added products & services such as delivery to homes and nearby hamlets, chilled water, and others to address consumer needs and activate further demand.
- Facilitate processes for communities to make pricing decisions that will ensure economic sustainability while maintaining affordability.
- Explore options to subsidize poor households along the lines of the food security program.

Environmental Challenges

Key challenges are ensuring the security of supply and appropriate disposal of waste.

Proposed Options for Discussion

- Integrate environmental criteria into initial site selection through a Decision Support Tool which depicts the impact of water withdrawal in the community.
- Engage with the local community to identify opportunities to harmonize water usage for different purposes, including drinking water, domestic use, livestock, agriculture, business and environmental needs.



Questions to Consider

- How do we achieve greater inclusion and household penetration?
- What are some of the best examples of cost-effective approaches to demand generation, training, environmental management and technical services?
- What is the appropriate role of external subsidies in Community Safe Water Solutions?
- How can local influencers (such as health workers) be involved in the process without adding significantly to their already-heavy workloads?

Session 2B: Catalyzing Investment and Allocating Funds for Scale

Session Objective

- Determine how to catalyze investment and allocate funds to scale Community Safe Water Solutions

Situation Assessment

Sources of funding for water systems in India generally fall into four categories. The first two, *Government Funding* and *Commercial Finance* show the clearest potential for scale. The third, *Foundation Grants* (from organizations including the Michael and Susan Dell Foundation, Tata Trusts, and the Bill and Melinda Gates Foundation and others) have helped to support the development and testing of new models, while the fourth, *Corporate Social Responsibility (CSR)* represents a growing opportunity as a result of the new requirement that corporations allocate 2% of net profits toward such purposes. Each of these funding categories has its own set of challenges.

Government Funding Challenges

- Although the National Rural Drinking Water Programme has allocated INR 764 billion (US \$12.2b) to rural areas⁵, this funding has emphasized piped distribution; the government generally allocates only a small proportion of funds for non-piped solutions.
- The lack of a mature market makes the tendering process unsuitable for Community Safe Water Solutions, particularly those that focus on quality of service rather than lowest cost.

Commercial Finance Challenges

- To date, investments from the commercial sector (including equity and debt investments where a return on capital is expected, as well as patient capital investments through social impact investors, Public Sector Banks and Development Banks) has been low due to a limited number of proven commercially viable projects that can provide a return on investment.

Foundation Challenges

- To date, the level of funding allocated to safe water solutions in India has been small.
- Foundations generally allocate more funds to sanitation than safe water.
- Funding for safe water is divided between community and point-of-use systems.

CSR Challenges

- Top funding priorities are generally education and health, rather than safe water.
- Where funding is provided, allocation of funds is usually according to the company's strategic objectives and geographies rather than according to greatest need.
There is little long-term focus on a specific initiative to achieve substantive impact.

Proposed Options for Discussion

- Community safe water solutions need to be recognized as a priority among funders.
- There needs to be a mechanism for transparent reporting on sources and uses of funds.
- There needs to be better coordination among the various types of funders and types of funding to allocate funding appropriately to the various needs.

⁵IMIS Report, NRDWP (<http://indiawater.gov.in/IMISReports/NRDWPSubMain.aspx?Rep=64&t=C>)



Questions to Consider

- How can implementers best make the business case to commercial financial institutions for funding, given the requirement for patient capital?
- How can a stronger case be made for the economics of Community Safe Water Solutions in rural areas?
- How can implementers access CSR funding? Is there the capacity to absorb large amounts of funding (for example 5% of CSR)?

Concluding Plenary Session: Partnering for Scale

Session Objective

- Summarize key insights from day's discussions and put forward ideas for partnership engagement that could enable scale.

Situation Assessment

The previous sessions explored the landscape of community safe water solutions in India, the key challenges they face in sustaining and scaling their operations, and some proposed options for addressing those challenges.

Advancing an agenda for community safe water solutions that address the vast unmet need in India will require coordinated action among many critical stakeholder groups, with each partner working in the area where they have the greatest ability to contribute. These include:

- **Implementers**, whose daily operations give them a deep understanding of the realities on the ground, and whose nimbleness enables them to rapidly innovate to identify and test promising new approaches and focus on specific geographies.
- **State and National Governments**, who can provide guidance, set standards, provide funding and subsidies, and build an enabling environment and governance structure that allows Community Safe Water Solutions to thrive. The Government also bears the ultimate responsibility for responding to the needs of its citizens by providing widespread access, and ensuring that underserved and vulnerable populations are reached. The logical next step is the provision of safe, potable water.
- **Financial Institutions**, who can mobilize investor capital toward expanding safe water access at a significant scale—provided that a viable proposition is suitably developed, and provided that sufficiently patient sources of capital can be identified.
- **National and Multinational Corporations**, whose large scale and business expertise enable them to rapidly scale up models that have been proven successful.
- **NGOs (global and local)**, whose scale, social credibility, and in-country relationships leave them, like large corporates, well-positioned to scale-up proven models.

Each of these stakeholders has the potential to contribute tremendously to the cause of refining and scaling up community safe water solutions. Partnerships may be as simple as knowledge sharing or as complex as sharing of operating resources. What is certain is that key players including policymakers, investors, communities, and others will need to come together to put into practice a transformation towards scaling up sustainably. This transformation will create a way forward for small water enterprises to succeed in India.

Challenges:

- It is challenging to convene, organize, and reach agreement among different entities with diverse views, philosophies and ways of working.
- Even with agreement, funding support, and an enabling policy environment, the capacity to scale up would require strong partnership engagement and take time to develop.

Proposed Options for Discussion:

- Safe Water Network proposes to establish a working group, bringing together representatives of organizations from various sectors to enable them to organize around a unified agenda for advancing Community Safe Water Solutions.
- Safe Water Network and some other organizations have a mandate to share their specific topic expertise through technical assistance to other organizations (such as government and large NGOs) that have the capacity to implement programs at scale. Such partnerships have the potential to enable a rapid expansion to the thousands of Indian communities currently in need.



Questions to Consider

- How could a new model of private/public partnership be employed to leverage the contributions of the various stakeholders?
- What are the greatest obstacles to engaging various stakeholders and ensuring their effective cooperation and how might those be addressed?

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