

# **TOOLS** FOR **Safe WATER** **STATIONS**

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**A guide to providing  
clean water for healthier  
communities**



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# FORWARD

When people are denied access to daily, safe drinking water, efforts to alleviate poverty inevitably hit a wall. Today, an estimated 783 million<sup>1</sup> people—2.5 times the population of the United States—remain without access to clean water. Billions have been spent towards reducing this indignity through conventional donor-beneficiary approaches, but an inadequate focus on sustainable solutions means that long defunct systems continue to deliver substandard water throughout the developing world.

Because of this, millions still die each year from preventable water-borne illnesses. Evidence now reveals that the application of pro-poor, market-based, and innovative strategies that galvanize individuals and other stakeholders to take responsibility for—and find solutions to—the water crisis in their communities can go a long way towards solving them. ***Tools for Safe Water Stations*** is one such strategy. Its aim? To guide the implementation and delivery of safe drinking water to communities around the world.

Development professionals are only now beginning to recognize that the ingenuity and entrepreneurship of the poor constitute a rich asset. Nevertheless, only rarely have these resources been mobilized to overcome the challenges of ensuring access to safe drinking water—including operations, inclusiveness, ownership, quality assurance, affordability, and financial sustainability.

Through our field programs, the Safe Water Network (SWN) has developed, tested, and adapted methods that are demonstrating that communities do indeed possess the capacity and know-how to address these challenges. By utilizing this rich fount of experience gathered through years of research and testing, ***Tools for Safe Water Stations*** can help to provide water to millions—thereby saving lives and assisting peoples all over the world to escape poverty and the ravages of chronic illness.

The challenge of providing safe water to the millions in need is far too complex for any one organization to address alone. In order to more widely disseminate solutions that work, we are making our experience available to those organizations and communities similarly committed to meeting this challenge. These Tool Kits offer

a structured, comprehensive step-by-step approach to developing the cost-effective, reliable and, local operating capability necessary to provide safe drinking water to those populations most in need. Unlike conventional approaches, Safe Water Network Toolkits incorporate private sector best practices into participatory development models with the aim of achieving a sustainable impact on livelihoods and health.

These tools are designed to shift control and ownership of decentralized Safe Water Stations to those most likely to benefit from a long-term and sustainable water supply—communities and socially-engaged local entrepreneurs. This Toolkit is based on our considerable experience operating and advising water projects in Ghana, Kenya, and India.

Moreover, the decision to share this expertise couldn't be more timely: Rapid urbanization, desertification, and climate change are seriously undermining access to safe water and the poor are quickly running out of options. Thus, ***Tools for Safe Water Stations*** is intended to contribute to the larger mission of helping the poor exercise leadership about how best to improve their communities and quality of life. We hope that by applying these techniques, your community will experience the same transformation that we have witnessed over and over again when the power of market principles are engaged to meet critical water needs—thus transforming poverty into progress and improved health for all.

Safe Water Network

<sup>1</sup> WHO/UNICEF Joint Monitoring Programme 2012



# PREFACE

## Why This Tool Kit?

Conventional approaches to public service delivery are not meeting the needs of hundreds of millions of people around the world who are desperate for safe water. Market-based solutions, on the other hand, are proving to be an innovative, viable, and equitable path toward creating pro-poor ownership of necessary public services such as electricity, solid waste management, and access to affordable and safe drinking water.

Although the commercial provision of safe drinking water is expanding globally, the steps required to teach communities how to establish financially viable and sustainable drinking water operations are not readily available. This Toolkit provides a step-by-step guide designed to assist implementers to provide safe drinking water to the world’s most impoverished populations through decentralized, locally owned Safe Water Stations. Included within is a distillation of private sector and development professional best practices as well as practical solutions

garnered through Safe Water Network field initiatives and technical advisory (TA) engagements. We believe this kit will help transform the dream of a community-based safe drinking water supply into a reality for millions of the world’s most poor and marginalized.

The Tool Kit is designed to establish safe water systems known as a “Local Operating Unit”. This consists not only of the physical infrastructure, but also the human relationships, capacities, knowledge, and processes necessary to keep it successfully operating over the long term. The Local Operating Unit is made up of the physical Station; the station operator; education programs; local volunteers; and relationships with educators and schools, health care providers, social and religious organizations, commercial entities, and other community leaders and influencers.

The ownership and management of the Local Operating Unit can take many different forms—from a community-based, cooperative structure to a private concern.

Figure 1: The Local Operating Unit



## Contents of the Tool Kit

This Tool Kit is designed to guide communities and local entrepreneurs through the activities required to set up a safe drinking water enterprise. These include analyzing *options*, establishing community ownership and *governance*, obtaining access to a sustainable water *source*, installing technology for *purification*, running a business to *sell* water, *distributing* safe drinking water to large populations, ensuring that water is safe to *drink*, and expanding community *demand* for the continued purchase of safe drinking water for daily needs. Each step in this sequence is vital to establishing a system that comprehensively addresses and protects water sources and the people who use them every day. The Tools to accomplish each step are introduced on the following page.

**Table 1** (p.10) includes a list of tools. Each step must be followed exactly in order to establish a Local Operating Unit and then determine the most viable form of ownership and management.

## Origin and Use of the Tools

The Safe Water Network was established in 2006 to develop, test, and deploy new approaches designed to break the cycle of illness and poverty caused by the inability to obtain safe water. We have committed significant resources to addressing challenges to local sustainability; establishing a fact base for what does (and does not) work; and standardizing approaches to facilitate broad scale replication. This Tool Kit is a critical output—intended to guide communities and entrepreneurs to establish locally adapted versions of the Safe Water Network’s commercially-operated, decentralized Safe Water Stations. It is the result of years of experience acquired from sound, on-the-ground analysis combined with the successful delivery of safe drinking water through community-managed commercial enterprises. Although originally developed in India and Ghana, these tools transcend geographic or cultural limitations and are presented in such a way as to maximize adaptation to local conditions.

## Functions of a Local Operating Unit

A Local Operating Unit fully engages the community to provide clean water and thereby improve health. It begins with a collaborative analysis of both need and the potential ways to address that need. It continues through the reliable, locally led provision, distribution, and use of safe drinking water across the spectrum of an entire community. The ultimate goal is clean, uncontaminated water that promotes health and prosperity. The critical sequence by which water flows through the Unit is illustrated in **Figure 2** (p.9).

The Safe Water Network has established a set of Key Performance Indicators in order to quantify the operation of each sequential unit step as shown on page 9. The achievement of each Indicator means each step has been successfully implemented. In order to work however, each Safe Water Station must report on these Indicators regularly to the Country Office to validate improvements and to ensure that the Local Operating Unit is fully functioning. The Safe Water Network has also included tools for metric measurement and reporting. We hope others will adopt and expand upon these in order to establish agreed-upon standards of performance for these types of operations.

## Principles of a Local Operating Unit

Three basic premises underlie the Safe Water Network’s establishment of a Local Operating Unit.

*Firstly, that the community targeted commit to the equitable, local control of drinking water in order to facilitate long-lasting improvements before the Local Operating Unit is established.*

The greatest of all development resources lies in the creativity, initiative, ingenuity, desires, values, and motivation of the individual beneficiaries themselves. Our Local Operating Units mobilize these ‘human’ resources to ensure that the development of safe water supplies is a locally-led solution to a locally-prioritized challenge. The Tools offered here are intended to help agencies and organizations identify and harness these resources.

*Secondly, safe drinking water must be made affordable and available to the widest possible number of people.*

It is unacceptable for the wealthy to enjoy access to safe drinking water while the poor are forced to do without. No community can be fully healthy unless all members have daily access to the same safe water, which is of the same quality. This Tool Kit provides strategies to help generate demand for safe, cost-effective drinking water that meets and serves the needs of the entire community—both rich and poor.

*Thirdly, the investment in safe drinking water must be socially, environmentally, technologically, and financially sustainable.*

Poor communities struggle against unimaginable challenges. In order to shoulder the work necessary to make safe and sustainable water a reality, they require incentives. This Tool Kit targets each aspect of sustainable service provision and designs the Safe Water Station accordingly. This means offering the incentives necessary to ensure financial, managerial, and operational sustainability—including training, education, locally generated revenue, and ownership.

Figure 2: Processes Completed through the Local Operating Unit



<b>Key Performance Indicators</b>	<ul style="list-style-type: none"> <li>Local decision-making by a representative and recognized committee</li> </ul>	<ul style="list-style-type: none"> <li>Consensus and local commitment to provide the water source</li> <li>License to use source</li> <li>Source water management (supply and quality)</li> </ul>	<ul style="list-style-type: none"> <li>No microbial or chemical contaminants</li> <li>Local youth trained to be operators</li> <li>Affordable local technology</li> <li>Minimal wastage of the water produced</li> <li>Consistent operations</li> </ul>	<ul style="list-style-type: none"> <li>Operate 12 hours per day</li> <li>Locally affordable product</li> <li>Cost and operating expenses covered</li> <li>Capital expenditure recovered</li> </ul>	<ul style="list-style-type: none"> <li>Entrepreneurial incentives to create widespread and “last-mile”—i.e. the final stage of delivering water to the end consumer—distribution of safe water</li> <li>Travel less than 500 meters to reach the Safe Water Station</li> <li>Ensure that a high percentage of the nearby population uses the Station</li> </ul>	<ul style="list-style-type: none"> <li>High customer retention</li> <li>Promote safe hygiene practices that reach the entire population</li> </ul>
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## Sharpening the Tools

With this Tool Kit, the Safe Water Network is transitioning away from conventional donor-beneficiary relationships to a new way of helping millions worldwide to do something that we in developed nations take completely for granted: enjoy a glass of safe water. Safe Water Stations are not meant to be a prescription—nor are they a perfect fit for every community and location. The final version that you choose will invariably reflect the particular social, cultural, environmental, economic, and political realities facing the community in which you live.

We look forward to learning from your experiences as you adapt the Tool Kit and the operation of decentralized Safe Water Stations according to your own community context. Today, these Safe Water Stations are increasingly being adopted and improved by growing numbers of development professionals. The ultimate goal behind the promotion of pro-poor drinking water enterprises is to relinquish control and facilitate the growth of others. This Tool Kit is consistent with our vision and we anticipate further improvements with your input.

## Conclusion

Owning and operating a Safe Water Station extends well beyond the brick and mortar structure that dispenses treated drinking water in some remote village: It is a collective journey and the culmination of the hopes and aspirations of hundreds of thousands of villagers to enhance not only their own lives, but those of generations to come. A Local Operating Unit is comprised of those individuals and communities who are pledging to pay for water instead of for medical bills—and women and men who are committed to transforming the lives of their children. By committing their meager resources to this project, they will transform what was once a dream into a reality: a cup of clean and sparkling water uncontaminated by human waste, pesticides, or other chemicals.

The Safe Water Network has witnessed the burst of self-confidence that comes when communities take leadership of enterprises built upon a foundation of local knowledge, information, and expertise. We invite you to tell us about your own achievements and experiences while using these Tools, and we encourage you to share with us how you’ve adapted these to suit the needs of your own communities.

We wish you and your community and partners, success, prosperity, and the best of health.

Table 1: A step-by-step guide to using Safe Water Tools to establish a Local Operating Unit

Tool Name		Establishing a Local Operating Unit for a Safe Water Enterprise
<b>1. SCREENING</b>		
1	Village Quick Review	Identify potential Safe Water Station locations and those partners capable of meeting market demand and operational requirements
2	Village Partner Analysis and Evaluation	Select a local partner with credibility, an entrepreneurial focus, a sound record of success, and established local relationships
3	First Village Meeting	Establish local commitment and shared financing
4	Detailed Village Analysis	Gather critical demographic, water-related, market demand, and community data to guide decision making
<b>2. COMMUNITY</b>		
5	Second Village Meeting	Document agreements as to governance structure, financial responsibilities, and establish an action plan in order to prepare a Safe Water Station
6	Third Village Meeting	Establish a Safe Water Station Committee to provide local leadership and investment decisions
<b>3. SOURCE</b>		
7	Water Resources Assessment	Select a Safe Water Station source from all potential water sources
8	Water Quality Monitoring	Quantify information to guide technology selection and establish long-term testing protocols
<b>4. PURIFY</b>		
9	Fourth Village Meeting	Choose a management structure, formalize operator commitment to civil works, select the appropriate water treatment technology, and dedicate a Station water source
10	Closing with an Operator	Select an operator, bank initial funds, and obtain local government support
11	Signing a Memorandum of Understanding	Establish a legal agreement describing terms, conditions, roles, and responsibilities for the operation of the Safe Water Station
12	Bore Well Installation	Install a water supply that meets engineering best practices and that provides sufficient water to the Station
13	Civil Works Planning	Design the electrical, physical, and piping layout of the Safe Water Station
14	Choosing a Station Supervisor	Review of the basic skills required of the Supervisor necessary to run a Safe Water Station
<b>5. SELL</b>		
15	Household Survey Form	Train surveyors to collect statistically-valid data to describe the community status before the introduction of safe drinking water
16	Safe Water Station Pilot Run	Operate the Station under a variety of differing conditions and settings while closely monitoring quality, performance, and operator skills
17	Decoration and Promotion	Develop an enticing visual display of promotional information that is presented on the outside of the Safe Water Station to enlist customers and encourage good hygiene
18	Inauguration	Launch the commercial operation of the Safe Water Station through a highly visible, fun, and participatory week-long series of Inauguration activities
19	Fifth Village Meeting	Instruct the community concerning “truths” versus “myths” about safe drinking water. This will also help to identify core messages and the target audiences necessary to generate demand
<b>6. DISTRIBUTE</b>		
20	Using Safe Water Storage Containers	Introduce “narrow neck” containers to Safe Water Station customers to improve health and also to establish another viable income stream for the Station
21	Establishing Distribution Channels	Develop and initiate a strategy to maximize market demand and size by investing in locally available distribution systems and promoting the use of safe water storage containers
22	Financial Practices and Control	Understand and use standard procedures for financial planning, bookkeeping, and accounting that can be verified by external auditors
<b>7. DRINK</b>		
23	Communication for Hygiene Improvement	Document the understanding of actual and potential consumers to organize a focused program promoting key hygiene behaviors and purchasing behavior
24	Communicating Fundamentals of Water and Health	Establish why the body needs safe water, common drinking water contaminants, what diseases that result from them, and the role of safe water in preventing disease and enhancing health
25	Approaches to Hygiene Promotion	Promote the most important hygiene behaviors, the community’s role as communicators, and ways they can engage children, teachers, and health care professionals to promote adoption of the key hygiene behaviors
<b>8. DEMAND</b>		
26	Establishing a Safe Water Station “Footprint”	Determine the appropriate branding scheme for the Safe Water Station and its products and begin promoting each to key influencers within the community
27	Generating Demand Among New Customers	Develop an action plan that promotes the Safe Water Station to the entire community based on an understanding of their aspirations, hopes, priorities, and resources